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Together in integrative medicine

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## Dear colleagues from all over the world in Integrative Medicine

It is a great honor to present the book of abstracts for the XII European Integrative Medicine Congress, co-organized by the European Society of Integrative Medicine and the Spanish Society of Health and Integrative Medicine.

First of all, and from the ESIM and SESMI boards we would like to thank everyone for being here and for your great work to spread and improve the principles and application of Integrative Medicine.

Integrative Medicine does not pretend to be an alternative to anything or anyone. Its primary objective is to improve medicine, its approach, its vision from other points of view, its teamwork, the understanding of human being in a global concept, work in cooperation with different professionals using respectful and less possible harmful methods. And, above all, having always the patient at the center of the process, keeping him well informed and respecting his decision-making power.

Recently, and because of some statements, campaigns and law proposals from some government's administration, we are aware that, either they have not understood us, or we have not been able to explain clearly enough the concept of Integrative Medicine.

In this congress we want to deepen our knowledge and spread the bases and contents of Integrative Medicine.

We will do it from a very clear slogan: ***"Together in Integrative Medicine"***

At a time that moving towards sustainability and ecology is essential to keep our planet alive, a respectful, natural and less medicalized medicine is a must.

In this book of abstracts, you will find summaries for more than 80 papers from relevant Integrative Medicine world professionals, 80 free communications and 100 accepted posters. I will not highlight any of them, as a collective we are all essential to improve medicine through Integrative Medicine.

This congress has been an enormous coordination effort and cooperation work between ESIM and SESMI boards and the scientific and organization committees and secretary, as well. We hope that it will be useful for all participants coming from all over the world.

For us it has been an exciting work full of joy, joy that now we want to share with all of you. ***"Together in Integrative Medicine"***

**A very warm welcome to Barcelona!**

**Dr. Isabel Giral**

*President of Integrative Medicine Congress*

Barcelona 2019

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## 1<sup>st</sup> International Symposium on Integrative Health and Education

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# ABSTRACTS



## OVERALL SITUATION AND FUTURE OF INTEGRATIVE MEDICINE IN GERMANY

**Prof. Dr. Benno Brinkhaus, MD professor of Internal Medicine and Clinical Epidemiology. Charité University Medicine Berlin, Germany.**

Various cross-sectional studies show that more than 60% of the population in Germany use complementary medicine methods, above all naturopathy. A large majority of respondents also support Integrative Medicine, not as an alternative, but as an extension of conventional medicine. In Germany, more than 50,000 doctors offer naturopathic and complementary therapies. In addition, alternative practitioners also offer complementary therapies.

The wish of patients for a change in medicine is still insufficiently taken into account in the German health care system. Although certain complementary therapy methods such as acupuncture, osteopathy, anthroposophic medicine and homeopathy are partly financed by the health insurance funds for defined diseases, most therapy methods, especially in naturopathy, are not financed. Although there is a growing number of professors in Germany in the field of naturopathy and integrative medicine, these subjects are taught only partially and not nationwide and with the same intensity at medical universities in Germany.

In the last two decades, research in the field of naturopathy and complementary medicine has increasingly been carried out at German medical universities with constantly improving quality. The financing of basic and clinical research in the field of naturopathy and complementary medicine remains problematic, so that the scientific evidence in this area is only slowly growing. Particularly critical population groups, on the other hand, are taking action not only in Europe but also increasingly in Germany against complementary therapies in order to discredit them in a targeted manner.

Only if Integrative Medicine can be investigated at the highest quality level, can be evidence-based or at least evidence-informed and subsequently be implemented, it will be able to withstand the increasing cost pressure in the health care system and the targeted hostilities.

## CURRENT SITUATION AND RESEARCH IN INTEGRATIVE MEDICINE IN THE US

**Mary Jo Kreitzer PhD, RN, FAAN**

Integrative approaches continue to be highly utilized in the US. According to the National Health Interview Survey, the use of yoga, meditation, and chiropractors among U.S. adults increased from 2012 to 2017. Of these, yoga and meditation had the largest percentage-point change.

Women were more likely than men to use yoga, meditation, and chiropractors. Additionally, the use among non-Hispanic white adults was generally higher than among Hispanic and non-Hispanic black adults. The pattern of use by age varied for each approach. Yoga was the most popular approach used in 2012 and 2017, with 9.5% (22.4 million) and 14.3% (35.2 million) adult users, respectively. In 2012, seeing a chiropractor was as popular as yoga, followed by meditation; however, the popularity of meditation surpassed that of seeing a chiropractor to become the second most-used

approach among those examined in 2017. In recent years, the practice of yoga and meditation has become more mainstream. Most adults who see a chiropractor have health insurance coverage for this approach.

The Institute for Healthcare Improvement has advanced world-wide what is often referred to as the triple aim of health care – an initiative focused on improving patient care by improving the health of populations, enhancing the experience of care for individuals, and reducing the per capita cost of health care. Recently, a 4<sup>th</sup> aim has been proposed – care team wellbeing. This reflects the importance of improving the work life of health care providers, including clinicians and staff. Another major emphasis in the US is the promotion of non-pharmacological approaches for pain management. This has taken on heightened urgency given the opioid addiction epidemic. The Joint Commission that accredits hospitals now has a requirement that hospitals provide nonpharmacological pain treatment modalities. Both of these initiatives create a context for integrative health to grow and flourish.

Within acute care settings, there is a growth in integrative nursing, a strategy aimed at achieving the quadruple aim and improved symptom management. Integrative nurses bring a whole person perspective to care at the bedside 24/7. One of the core principles of integrative nursing is to use a “least intensive/invasive to most” strategy in addressing symptom management be that pain, anxiety, nausea, fatigue or the myriad of other symptoms patients experience as a result of their disease or treatment. Within clinical settings, a strong business and clinical case can be made for the use of integrative approaches.

The National Center for Complementary and Integrative Health (NCCIH) is the NIH institute with a primary focus on research funding in integrative health and medicine. Current priorities of the Center include the following:

- Advance fundamental science and methods development.
- Improve care for hard-to-manage symptoms.
- Foster health promotion and disease prevention.
- Enhance the complementary and integrative health research workforce.
- Disseminate objective evidence-based information on complementary and integrative health interventions.

## INTEGRATIVE MEDICINE: SITUATION IN ITALY

**Elio Rossi. Homeopathic Clinic of the Hospital Campo di Marte, Lucca (Italy) – Regional center of reference for homeopathy. Coordination center for Complementary Medicine of ASL Tuscany North West**

### **Introduction.**

Complementary Medicine (CM) is being increasingly used by European citizens in order to increase their overall state of health and well-being, as well as to treat various illnesses and diseases. The interest for these therapies has progressively risen also in Italy and

in Tuscany as well.

#### **Aim.**

The aim of this presentation is to describe the pathway and results of the integration process of CM in the public healthcare service in the region of Tuscany (Italy) lasting more than 20 years.

#### **Results**

In Italy the reform of Title V of the Italian Constitution allows each Region to decide how to put into practice and organize the Public Healthcare System. The agreement among the Italian National Government, the Regions, and the Provinces of Trento and Bolzano on the terms and requirements for the quality certification of training and practice of acupuncture, herbal medicine, and homeopathy by medical doctors and dentists, signed on February 2013, sets up rules for education and training in acupuncture, herbal medicine, homeopathy, homotoxicology, and anthroposophic medicine. Some regions, including Tuscany, have decided to include Complementary Medicine in their Essential Levels of Assistance, by creating some structures that integrate the health services into the public structures. Since 1996, the Tuscan Regional Healthcare Plans (RHPs) have been considering the role of Complementary Medicine (acupuncture, herbal medicine and homeopathy). The RHP of Tuscany have started to incorporate several types of CM treatments (i.e., acupuncture, herbal medicine and homeopathy) in 1996. Furthermore, the Region of Tuscany decided to include CM in the Essential Levels of Assistance (ELA) in 2005. Accordingly, a network of 107 public clinics providing CM health services was built and the relative regulations (i.e., laws, bills, resolutions, etc.) were approved by the regional authorities.

#### **Conclusion**

The Italian regulation on education in CM could be a point of reference in the process aimed at defining rules in the European Union. Moreover, the Tuscan experience has shown the feasibility of CM integration into the Public Healthcare Service.

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## **INTEGRATIVE MEDICINE IN AUSTRALIA: RESEARCH AND EVOLUTION**

**Professor Avni Sali (Australia)**

**Integrative Medicine (IM)** provides opportunities to expand the limited boundaries of conventional medicine where the focus is on diagnosis and drug treatment. IM offers the patient a more holistic approach to their healthcare which makes use of all scientifically

validated therapies, both conventional and complementary.

In westernised countries, there are basically two types of medicine: prescription medicine and integrative medicine. In general there has been lack of government support for Integrative Medicine, which has made it difficult to progress this mainstream medicine of the future.

In the USA the momentum of Integrative Medicine has moved at a more progressive pace. In 2014 the American Board of Physician Specialties formally recognised 'Integrative Medicine' as a medical specialty, like any other speciality eg. Surgery or Psychiatry.

In Australia, Integrative Medicine Clinics are increasingly now being established, and run primarily by medical practitioners. In the future all primary care doctors will be expected to have a minimal level of knowledge about Integrative Medicine.<sup>1</sup>

The National Institute of Integrative Medicine (NIIM), located in Melbourne and in another state, is the leading clinical medical Research Centre in Integrative Medicine. We are dedicated to establishing a strong evidence base for effective healthcare treatments and technologies.

National Institute Complementary Medicine (NICM) in Sydney, was established to do research in complementary medicine. This is a Government funded initiative. There are also several Universities who do a small amount of research related to Integrative Medicine.

Naturopathy centres traditionally have been involved predominantly with education, but are now also beginning to do some research.

The major representative bodies in integrative medicine in Australia are - The Australasian Integrative Medicine Association (AIMA) and The Australasian College of Nutritional and Environmental Medicine (ACNEM). AIMA was set-up to represent Doctors who practice Integrative Medicine and ACNEM is primarily focused on education and representation.

1. At NIIM, our vision is to create a medical model for all to experience optimal health and wellbeing through Integrative Medicine. We envisage that one day all medicine will be 'Integrative Medicine'.

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## **PRESENT AND FUTURE OF INTEGRATIVE MEDICINE IN JAPAN**

**Suzuki, K Vice President of the Japanese society of integrative medicine, Chief director of Tokyo Ryo-In Clinic. President of the MOA Health Science Foundation (JP)**

"Japan has its own health problems: population aging, chronic diseases, dependence on the elderly, as well as the environmental impact on people's health. Its geographical situation requires support and prevention programs for natural disasters. Japanese Integrative Medicine works to offer solutions to these problems. There is a deep interest on the part of Japanese society. Japan also has an added knowledge that starts from the tradition in its ancestral medicine along with the deep knowledge of Western medicine. Integrative Medicine relies on both knowledge. An own contribution is the social arm of health and integrative medicine"

## INTEGRATIVE MEDICINE IN SPAIN: ADVANCES IN RESEARCH

**Pere Gascón, Servei d'Oncologia Mèdica Hospital  
Clínic, Universitat de Barcelona, Barcelona**

The situation of Integrative Medicine in Spain can be seen from two viewpoints. First off, there is the growing acceptance of integrative therapies among patients. Nearly 50% of patients already use some type of these therapies. This fact clashes with the scarce acceptance or complete rejection of these therapies by the public health administration and official institutions. We could say that Integrative Medicine is limited to the private sphere. Curiously, the current culture concerning ecological and natural elements has promoted the use of medicinal plants and the growing appearance of stores dedicated to ecological and natural products. In research, little progress has been made. A PubMed review of the last five years shows limited productivity in areas of prevention, inflammation and obesity. There are currently clinical trials on the effect of fungal extracts on metabolic syndrome and on peripheral neuropathy. The lack of funding represents the primary barrier in order to carry out studies within the field of integrative medicine. The current situation of Spanish institutions does not allow us to be optimistic about the future of research in this field in our country.

## ENVIRONMENTAL ONCOLOGY: EXPANDING THE VIEWPOINTS ON CANCER PREVENTION AND TREATMENT.

**Nàtalia Eres. Especialista en Oncología Médica.  
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cológica adyuvante) Consultora de la plataforma  
divulgativa de oncología integrativa de Medsy  
(Medica Scientia Innovation Research).**

The most recent statistics from the IARC (International Agency for Research on Cancer), GLOBOCAN 2018, reveal 18.1 million new cases of cancer worldwide (4 million more than in 2012), with 9.6 million cancer-related deaths.

The advances in our understanding of the molecular bases involved in carcinogenesis confirm that most alterations that contribute to cancer are not inherited, but rather are attributed to somatic mutations and epigenetic changes due to environmental factors. At the epidemiological level, a review carried out in 2014 estimated that 42% of all cancers from America were attributable to risk factors, all of which were potentially avoidable with prevention strategies. What about the other 58%? We currently have a great deal of scientific evidence that directly links cancer to environmental and occupational exposure.

If the current regulation and education policies have not managed to control the impact of lifestyle-associated carcinogens, with regard to controlling environmental and occupational exposure, we are even further away at all levels: legislative reforms to remove regulatory barriers, implementing local policies to eliminate known toxins, recognition of carcinogens that have not yet been accepted, application of key concepts such as the delayed impact of early exposures and the lack of a threshold due to accumulated long-duration exposures at multiple doses.

But what is even more serious; although it may seem paradoxical, cancer therapy - from the environmental health perspective - poses important ethical issues: the same treatments that are used to fight cancer are done through a mechanism of action that is intrinsically carcinogenic, both directly (in terms of genotoxicity, that is in the induction of mutations) and indirectly (in terms of hormonal disruption effects, cytotoxicity, epigenetic changes, inflammation, immuno-disruption), for the rest of the cells of the body. There are studies which confirm the genotoxic capacity of chemotherapy and ionizing radiation, but also hormonal modulators such as tamoxifen and biological therapies. We also cannot overlook the ecotoxic capacity of the metabolites of these drugs. Along these lines, the European Economic Community set up the CytoThreat ([www.cytothreat.eu](http://www.cytothreat.eu)) project in 2011, focused on evaluating the impact of cytostatic drug residue on the environment and the risks for human beings, reaching the conclusion that they are highly dangerous products which require a multidisciplinary action plan.

Speaking of environmental oncology, I would therefore propose highly ambitious, non-immediate goals that would involve the need to create interdisciplinary sectors linked to academic and research institutions. In the meanwhile, in the clinical field, there is sufficient scientific literature

and experience to put recommendations and treatments in place to help at least neutralise the toxic and carcinogenic effects on the body. Both the therapeutic focus of environmental medicine as well as plant-based epigenetic modulation, pharmacogenetics and pharmacogenomics must serve as inspiration until we reach more intelligent therapies and more responsible policies.

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## DO YOU LIVE IN A HEALTHY PLACE?

**Pere León. Architect and geobiologist**

International organizations such as IARC (International Agency for Research on Cancer), or WHO (World Health Organization) among others, recognize the influence and adverse effects of the environmental electric and magnetic fields on our health.

There are currently numerous worldwide scientific studies that confirm the correlation between increase in immune diseases and different types of cancers, and the global electromagnetic spectrum.

As an expert in biohabitability and geobiology, I have observed in more than 3,500 environmental analysis carried out, a significant and troubling raising incidence of electrosensitivity cases with an annual growth of 5%.

We live surrounded by an growing level of electromagnetic radiation and this has a negative impact on our health, related to the increase in cases of current diseases.

We know that when we sleep, all the biological processes of cell repair take place. To guarantee a restful sleep, it's necessary not to be exposed to electromagnetic fields affecting especially pineal gland, the organ in the brain that produces the hormone melatonin, a substance that helps control our sleeping and waking cycle.

My conclusion, based on my experience, is that we must sleep in spaces without electromagnetic fields and pollution to avoid diseases and thus we live more healthy lives.

## ENVIRONMENTAL TOXINS AS A TRIGGER FOR MULTIPLE PATHOLOGIES.

**Dr. Pilar Muñoz-Calero Peregrin**

Summary:

The environment is one of the determinants of the state of health of the population. Environmental pathologies are a set of disorders caused by exposure to chemical and physical products in the environment. In industrialised countries it is estimated that 20% of the incidence of all diseases can be attributed to en-

vironmental factors.

The xenobiotics present in the environment can be inhaled or ingested involuntarily. Heavy metal contamination present in the air, water and food is another very frequent source of contamination to which the human being is exposed and contributes to the alteration of homeostasis, in various aspects of metabolism and the toxicity of macrophages.

Xenobiotics have a tendency to deposit in the central and peripheral lymphoid organs, hindering an adequate immune response to infections. In the presence of environmental pollutants, they can act as cofactors of acute or chronic infectious diseases.

The enzymatic activity of cytochrome P450 is frequently altered, making it difficult to treat these pathologies. It is also common to see a genetic polymorphism caused by environmental pollution generating immunological, carcinogenic or allergic pathologies.

In this presentation we will emphasise the impact of environmental pollution on patients with environmental pathologies with associated chronic infections and chronic immunosuppression. We will also explain our experience with the treatment of some real cases.

## HEALTHY AND URBANITY

### AIR QUALITY AND HEALTH IN THE CITY: THE LANDSCAPE AS INFRASTRUCTURE

**Marc Chalamanch - Miquel Lacasta - Carmen Santana Luis Antúnez 6 - 08006 Barcelona - info@archikubik.com - www.archikubik.com**

#### INTRODUCTION

The industrial civilisation has reached a new level of consumption. According to many scientists, the massive production of garbage and detritus led to mega consumption and human activities has such a huge impact on geological forces that the behaviour of the planet has changed definitively. Our footprint on the environment is so present that impacts are already being experienced day after day: global warming, extinction of certain species, acidification of the oceans, etc. We are entering on the era of the Anthropocene.

On a social level, our civilisation's solidarity and fairness are limited, forgetting millions of individuals, particularly those who are the most in need: children, elderly people, sick and handicapped citizens, or rather, those who are not or no longer productive.

Far from being unavoidable, those impacts are determined by political, economic and ideological choices decided by a very small selection of powerful corporations or individuals.

How can Humanity take a hold of its own destiny?

The architecture that makes our cities is what plays a defining role in answering this question. We are convinced that creating a healthy city starts with the creation of one that is humanised.

#### HUMANISING OUR CITIES

On one hand, we firmly believe that the catalyst for change will be fuelled by the education of the residents.

By implementing education everywhere and not only in

schools and universities. Educating from our cities, from public and domestic spaces as well as those related to production and work environment.

All the while, we must help citizens become aware, thanks to the evolution of technology, of we are all key actors in the production and emission of information.

For the first time in history, we, all concerned as inhabitants on this earth, have the possibility to take power and inverse the order of pre-established processes. Each one, from the youngest to the eldest, must be aware of our actions and their consequences as we are no longer isolated. The way in which we consume, in which we treat one-another (be it friend or stranger) and in which we respect together the fundamental values of Mother Nature and those of real democracy.

It's our duty, now more than ever, as Urbanists and Architects, to HUMANISE OUR CITIES, so as to educate the inhabitant's mannerisms to become more inclusive and respectful, in order to make diversity and tolerance become values in each and every one of us, so we were able to face head on the changes of the paradigm of our world in transition.

On the other hand, the era of political ethics has arrived. We don't have time to spare. We need a truly engaged political class who make this historical transition a priority.

## HUMAN EXPOSURE TO ENDOCRINE DISRUPTORS AN HEALTH CONSEQUENCES

**Nicolás Olea. Universidad de Granada/Hospital Clínico S. Cecilio Instituto de Investigación Biosanitaria ibs.GRANADA Granada**

### Resumen

Human exposure to environmental toxic compounds of very different origin is a well-known and well-documented fact. Despite this, the association between exposure and health effect has not always been established with the depth we believe is necessary. In fact, in the last two decades new data have appeared in specialized scientific literature linking exposure to certain chemical compounds, introduced into the environment by human activity, to the emergence of new syndromes and development of specific diseases, of cause not well known, but involving an alteration of hormonal balance, phenomenon identified as endocrine disruption. Concern about the increasing incidence of this type of alterations has attracted the attention of clinicians and researchers trying to formulate, with greater or less success, new conceptual approaches in the etiology of the disease and endocrine disruption. Endocrine disruptors are found in a wide variety of products such as pesticides, industrial chemicals, utensil and commonly used components, cosmetics and textiles, which have been introduced into the environment by human activity and relate to consumption habits. The EU has established regulations on the use of pesticides and consumer objects that should ensure the protection of the environment, human and animal health. Despite this, there are

still some doubts about the effectiveness of these measures as aspects such as the toxicological assessment of endocrine disruptors is not routine in the process of authorizing pesticides and consumer products, which poses a risk important consumer exposure to conventionally produced agricultural products or through the consumption of objects such as plastics, detergents, cosmetics or textiles.

## PHARMACOGENETICS: THE ROAD TO PERSONALIZED THERAPY

**Juan Sabater Tobella. Member of the Pharmacogenomics Research Network President of Eugenomic®.**

The therapeutic guidelines, in most centers, are based on the protocols developed by their expert committees. With adjustments for age, weight, sex and renal function, they apply to patients with the pathology for which has been developed the protocol. That is to say "one size fits all". But one size not fit all. We are genetically different and therefore, the protocol will have to have decision algorithms to adapt the drugs to the genetics of each patient.

Approximately 70% of the drugs are metabolized by liver enzymes, in order to facilitate their subsequent elimination mainly by the renal route. To reach the therapeutic target they will have to pass through cell membranes, often by means of transmembrane transport proteins, and finally exert their pharmacological action on the therapeutic target. Enzymes, transport proteins and therapeutic targets are proteins, and their structure depends on their respective gene. If this gene has some genetic polymorphisms, they can modify the protein activity and function.

Therefore, the same drug, at the same dose, depending on the patient's polymorphisms may have the expected pharmacological action, or less effect (therapeutic failure) or more effect (toxicity) depending on the genetics of each patient.

Pharmacogenetics, aims to facilitate the implementation of a personalized therapy for each patient based on their genetic polymorphisms.

Currently, for hundreds of drugs, the FDA and the EMA in their technical data sheets already require the incorporation of pharmacogenetics criteria. Therapeutic guidelines are also developed (Clinical Pharmacogenetics Implementation Consortium Guidelines).

In the presentations, the numbers of deaths due to adverse drug reactions are presented, and the g-Nomic®, a pharmacogenetic interpretation software for personalized therapy is presented.

## ACUPOINT TRANSCUTANEOUS ELECTRICAL NERVE STIMULATION IN HOSPITALIZED COPD PATIENTS WITH SEVERE DYSPNOEA: PROTOCOL FOR A MULTICENTRIC DOUBLE-BLINDED RANDOMIZED CONTROL TRIAL.

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#### ABSTRACT:

**Background:** Acute exacerbation of chronic obstructive pulmonary disease (AECOPD) is a major cause of hospital admissions and dyspnoea is its main symptom. Some studies have concluded that a new modality of acupuncture called Acupuncture transcutaneous nerve stimulation (acuTENS) could reduce dyspnoea in COPD patients by increasing beta-endorphin levels, however those trials have mainly been conducted on patients with stable condition. This study aims to determinate if the administration of acuTENS can reduce dyspnoea in patients hospitalized for AECOPD.

**Methods:** A multicentric randomised control trial with patient- and assessor-blinded will be conducted. A sample of 60 patients will be randomised to receive 45 minutes of either real acuTENS or sham acuTENS treatment once a day during 5 consecutive days. The trial will be conducted at the "Hospital del Mar" of Barcelona (Spain) and the "Hospital Sant Joan de Déu de Manresa" in Manresa (Spain). The Borg scale at baseline, and day 1 to 5 will be the primary outcome. Secondary outcomes will be the duration of the hospitalization, quantity of drugs administrated, expiratory peak flow adverse effects and mortality and readmissions at 3 months.

**Discussion:** AcuTENS is non-pharmacological, non-invasive and cheap intervention. This trial will help to understand acuTENS potential role in the treatment of AECOPD.

## AROMATHERAPY: WELLBEING ON LABOUR

**Author:** Cintia La Rosa Muñoz, Midwife at Hospital Del Vendrell, Tarragona

**Words:** Aromatherapy, Essential oils, Midwifery practice, oxytocin release, mood behavior.

#### Introduction:

The use of aromatherapy in the delivery room is overwhelmed by scientific evidence for its enormous emotional benefits. These results encourage the team of midwives at the Hospital del Vendrell to expand its use in other stages of women's care, such as pregnancy and menopause. During the literature search, not only do we find benefits at an emotional level, but a wide range of uses for the hormonal-mimetic effects of essential oils that are so important in labour.

#### Objectives

To determine properties, recommendations, safety doses of each oils.

To introduce a new range of oils that are appropriate, safe and beneficial for the progress of labour

#### Secondary objectives:

To promote the use of aromatherapy among midwives as another

tool to implement on the care of women in labour.

To expand the use of aromatherapy in women health care programs, such as pregnancy and menopause.

Encourage midwives to take part on research in order to obtain further Evidence based that supports the use of essential oils during the process of labour

#### Methodology

We reviewed scientific articles in Spanish and English using databases such as Medline, Pub med and Cochrane.

Furthermore we found a wide range of Aromatherapy authors that already advise the use of essential oils during this period of women lives. However, only one of them was a midwife. On the other hand, recommendations were found described by official bodies such as EMA, Commission E, IFRA, GRAS status recognitions, the council of Europe, EFSA.

#### Results

The results of our research give us safe recommendations for the use of essential oils during labour which shall allow us to improve our protocols and guidelines.

On the other hand it has been observed that the lack of studies is also evident and more research is required.

#### Conclusions:

The initiative of this review not also arise the need to encourage midwives to participate in research that may be more conclusive due to the emotional and hormone like attitude of the essential oils, but also reinforce the use of natural remedies as first lines of health care programs in physiological processes, Such as labour, pregnancy and menopause, prior to use conventional medicine.

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## CULTIVATING WELLBEING IN OUR LIVES AND ORGANIZATIONS

**Mary Jo Kreitzer PhD, RN, FAAN**

Stress and burnout of health care providers is a major public health issue. Clinician burnout is linked with decreased quality of care and increased medical errors, decreased patient satisfaction, and reduced productivity and professional effort. Stress and burnout also impacts the wellbeing of the workforce resulting in increased broken relationships, increased alcohol and substance abuse, depression, anxiety, increased risk of suicide and early exit from the profession.

Healthcare professional “wellbeing” or “care of the caregiver” is a topic that has not been significantly addressed in the education of healthcare professionals. In fact, the culture that has dominated much of education has been one where students have been expected to forego personal needs, endure stressful environments, and emerge from highly competitive and often dysfunctional environments to work in care settings where health and wellbeing is also largely ignored.

Strategies to address health care provider wellbeing need to focus on system issues that generate stress and burnout and approaches that will enhance the wellbeing and resilience of health care providers. Wellbeing leaders:

Understand the value of their own wellbeing, the wellbeing of others, and the impact this has on the organization.

Develop and maintain wellbeing practices and leadership skills in the face of complexity and challenge.

Recognize and work with patterns at a whole person and whole systems level.

Evoke innovative thinking and allow answers to emerge from diverse perspectives.

Take adaptive action that transforms individuals, teams, the organization and the larger community and leads to sustainable practices and results.

Energize positive change by making wellbeing contagious!

In short, wellbeing leaders have the capacity to create cultures of wellbeing within organizations.

The Wellbeing Model developed at the University of Minnesota Center for Spirituality & Healing includes 6 determinants known to impact personal and organizational wellbeing: health, purpose, relationships, community, the environment and safety and security. For more information, see: <https://www.taking-charge.csh.umn.edu/>

## COST AND HEALTH BENEFITS FROM INTEGRATING NEW AGE AYURVEDA INTO U.S. AND EUROPEAN HEALTH SYSTEMS (BY EXAMPLE OF THE METABOLIC SYNDROME)

**Dr. Harsha Gramminger MD, Germany  
President and Clinic Director, Euroved GmbH, Germany & Vice-President of European Ayurveda Association**

General Health Costs are spiraling in all developed and developing nations of the world. In 2013, Germany spent almost € 315 billion on health.

This was an increase of about € 12,1 billion compared to 2012 : 3910,00 € in 2013 vs. 3770,00 € in 2012 per inhabitant.

Type 2 Diabetes, Obesity, Hyperlipidemia, Hypertension & Other “civilization” diseases are the main factors for these costs.

With over 8 million sufferers (in 2009 and growing), Diabetes Mellitus is one of the most widespread diseases in Germany.

Serious “secondary complications” and “associated diseases” / co-morbidities include heart attack, stroke, athlete’s foot etc.

Total costs € 3.817.00 includes three components: Direct - disease (), Indirect () & associated complication ()

Obesity is another new global epidemic and set to become the “number one health problem globally” by the year 2025. In 2013 52% of all Germans were overweight, which is about

Million people! The associated conditions include: Type 2 Diabetes, Hypertension, Vascular diseases, Stroke, Coronary heart disease, Gall stones, Cancer, Sleep Apnea Syndrome, Diseases of the joints and of the skin and more.

Clinical and practical experience is proven, that Ayurveda is able to improve the condition of both Type 2 diabetes and Obesity. Furthermore, it is able by its lifestyle guidance and preventive holistic approach,

to reduce and avoid follow – up diseases and costs.

The presentation will show with facts and figures how the wisdom of Ayurveda can be followed for the New Age to prevent, manage and cure such diseases.

Figures for savings to the European and U.S. Health care costs will be presented and discussed.

The presentation will show with facts and figures how the wisdom of Ayurveda can be followed for the New Age to prevent, manage and cure such diseases.

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## VITAMIN C AND CANCER: TOWARDS AN INTEGRATIVE PATHWAY OF MOLECULAR RESEARCH AND CLINICAL PRACTICE

ÓSCAR AGUILERA

Translational Oncology Unit of the Jiménez Díaz Foundation, Madrid (SP)

*KRAS* mutation is often present in many hard-to-treat tumors such as colon and pancreatic cancer and it is tightly linked to serious alterations in the normal cell metabolism and clinical resistance to chemotherapy.

In 1931, the winner of the Nobel Prize in Medicine, Otto Warburg, stated that cancer was primarily caused by altered metabolism interfering with energy processing in the normal cell. Increased cell glycolytic rates in the presence of oxygen is fully recognized as a hallmark in cancer and known as the Warburg effect.

In the late 1970's, Linus Pauling and Ewan Cameron reported that vitamin C may have positive effects in cancer treatment, although deep mechanistic knowledge about this activity is still scarce.

We describe a novel antitumoral mechanism of vitamin C in *KRAS* mutant colorectal cancer that involves the Warburg metabolic disruption through functional alteration of key metabolic checkpoints in *KRAS* mutant cancer cells. Vitamin C modulates the expression of the citric acid cycle (CAC) inhibitor, Pyruvate dehydrogenase kinase-1 (PDK-1) through downregulation of the Hypoxia Inducible Factor (HIF-1).

## INTEGRATIVE MEDICINE IN ONCOLOGICAL PATIENTS IN A SPANISH PUBLIC HOSPITAL

Abadía Castelló Cristina<sup>1</sup>, Garriga Mora Salut<sup>2</sup>, León Pizarro Concha<sup>2</sup>, García Alonso Dolors<sup>2</sup>, Gispert Anna<sup>2</sup>, Arcusa Lanza Angels<sup>3</sup>, Dalmau Santamaria Ishar<sup>2,4</sup>, Departments of <sup>1</sup>Integrative Health Unit Coordinator <sup>2</sup>Integrative Health Unit, <sup>3</sup>Head of Oncology Department, Consorci Sanitari de Terrassa, <sup>4</sup>Gimbernat and Tomas Cerda University Colleges –UAB. Barcelona, Spain

The use of associated oncospecific treatments with complementary therapies (CT) is well known and highly relevant in terms of their social and medical significance. This study aims to determine if in our environment the use of CT improves quality of life and anxiety or depression levels in cancer patients.

Concurrently offered to outpatients in the course of adjuvant chemotherapy or within six months after this, CT delivered simultaneously with the standard treatment for side effects were: *mindfulness*, biofield therapies, acupuncture and nutritional support, based on a clinical interview by a medical member of our integrative health unit. Patients signed an informed consent and completed the HAD (anxiety and depression) and QLQC-30 questionnaires at the beginning and end of the intervention.

Between May 2016 and April 2017, 52 patients participated in the

study, 63% receiving nutritional advice, 54% acupuncture, 65% biofield therapies, and 12% mindfulness training. Pre- and post-intervention evaluations found statistically significant reductions in the levels of anxiety (HAD-A:  $p=0,002$ ) and depression (HAD-D:  $p=0,04$ ). Quality of life improved significantly in global ( $p=0,02$ ) and emotional ( $p=0,01$ ) dimensions. A reduction in symptoms such as pain, nausea, and fatigue were noted, as well as an improvement in appetite. Patient satisfaction was 100%.

The use of CT improved the quality of life, anxiety, and depression in patients with cancer, a finding in line with other reported findings.

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## AYURVEDA FOR A HEALTHY EUROPE: THE SIGNS AND SCIENCE OF WELLNESS AND LESSONS FROM INDIA'S TRADITIONAL SYSTEMS OF HEALTH AND WELLNESS AND INDIAN TRADITIONAL SCIENCES INFORMING FUTURE EUROPEAN AND GLOBAL HEALTHCARE SYSTEMS, MEDICAL EDUCATION AND RESEARCH

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Man is a metaorganism. Man's health and wellbeing is shaped by complex and dynamic interactions within and without Man's body. Many of these interactions remain mysterious and many more will currently be unfathomable. Despite the complexity of basic biochemical and physiological processes, dominant and recurring themes in all cultures of the world are descriptions of the sense of feeling well and a wish for a state beyond good health. The descriptions of the state and the feelings of wellness and wellbeing has been the focus of much interest formillennia.

India's ancient texts offer graphic descriptions of this state as well as prescriptions of how to achieve and maintain this state and steps to prevent the deterioration of this state. India's ancient system offer comprehensive well-documented procedures and a holistic logic for this state of wellness. The earliestSamhitas

of Ayurveda and Yoga in particular and commentaries that followed celebrate this state and offer some of the most profound descriptions and definitions of this

state. Nagarjuna's 15-fold indicators of wellness are an early example. Dating back to 150 to 200 AD, the descriptions offered by Nagarjuna, the founder of the Madhyamaka school of Mahayana Buddhism and an Ayurveda practitioner and scholar, are both timeless and invaluable. Are these and other rules which have guided many and offered health beyond good health for centuries also valid

for contemporary living now and for the future? What might these indicators look like when viewed through the eyes of contemporary clinical biochemical and molecular descriptors? Can they be refined further to help shape the Science of Wellness?

Advances in biochemistry over the last century, particularly the last five decades have seen the birth and growth of techniques and technologies with resolution that far exceeds what was previously imaginable. Single cells can now be routinely analysed for multiple molecular markers. DNA changes can be 'counted' and enumerated with the help of single DNA molecule resolution. Such technologies are enabling finer, more sensitive and correlated analyses of innumerable biomolecules.

Are the ancient descriptors further refinable for understanding and appreciating better the signs of wellness? Do they hold the key to defining the deep science that governs the inextricably interlinked major themes of food, exercise-fitness and health, the environment and their links to the ethology and pathology of chronic non-communicable diseases?

Ayurveda, Yoga and other ancient Indian systems of health and wellness offer much guidance for the ways ahead.

By drawing on a small number of examples from contemporary scientific research literature - from areas of sleep and health, food, the human microbiome and chronic diseases (obesity, diabetes, cardiovascular diseases, multiple sclerosis), seasons and changes in the human immune system, aging- related changes - I will show how observations in contemporary science are entirely consistent with assertions in the ancient Indian texts about wellness and achieving, maintaining and improving this state.

I will argue that the lessons from the highly refined, filtered and time-tested classical knowledge embodied in India's ancient system of health and wellness not only informs the future but offers the best template for developing the much-needed new Science of Wellness and also for disentangling and defining the four well separated sciences, namely the sciences of Cure, Prevention, Health Maintenance and Health Promotion. These ancient systems also offer us the language, logic and grammar and a scaffold to hold the vast amounts of high-quality data available today. In this way the Indian ancient sys-

tems of health and wellness and in particular Ayurveda offers much for human health and wellness and also solutions to complex problems today that require novel thinking for a healthy Europe.

## INTEGRATIVE ONCOLOGY: INTERNACIONAL AND EUROPEAN PERSPECTIVES.

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Introduction.

Complementary and Integrative Medicine (CIM) use by patients with cancer in Western Europe is estimated to be 37% but varies considerably across the different European countries, with higher prevalence in Germanspeaking (41%) and Mediterranean (39%) countries and lower prevalence in the United Kingdom (32%) and Scandinavia (31%).

Aim.

To define the European integrative oncology (IO) landscape and the experience of integration of Complementary medicine in cancer care in Italy and particularly in the Tuscan Region.

Methods

A 2012 survey reported that around 105 NHS cancer services were offering CIM.

Results

A mapping study conducted in 2013 captured those European cancer services providing IO services. Information from 123 (52.1%) of the 236 cancer centers contacted found that nearly half of the responding centers (47.5%) provided IO services. IO services were predominantly provided by the public health sector (69.9%), followed by a smaller number of privately owned centers (19.6%). The most frequently provided therapy was acupuncture (55.3%). Treatments were mainly directed at reducing adverse reactions to chemotherapy and radiation (23.9%), in particular nausea and vomiting (13.4%), pain (10.9%) and fatigue (10.9%), secondary symptoms of iatrogenic menopause (8.8%), and anxiety and depression (5.9%).

In Italy some regions are integrating CIM into the public hospital systems. In a survey of the region of Tuscany, 91 public clinics providing CIM services were identified. CIM was provided after the payment of a fee similar to the other medical specialties (24€), but it was free of charge for patients with cancer, with the remaining costs being covered by the public health system. Like many pharmaceuticals, natural products incur out-of-pocket costs (eg, homeopathic, herbal medicines, dietary supplements).

Conclusion

The presence of IO services in public and private hospitals across Europe, where oncologists and experts of CIM work side by side, has helped overcome many cultural barriers and mutual distrust.

## VITAMIN C FROM MICRONUTRIENT TO ESSENTIAL MACRONUTRIENT. CHANGING THE PARADIGM

**Arturo O'Byrne MD. Colombia**  
**Profesor de cátedra en Medicina Integrativa. Universidad Javeriana. Colombia.**

Since the work conducted by Levine in the NIH in the USA, 300 mg was considered as the recommended daily allowance for ascorbate. Today we know that these studies were conducted without the knowledge that vitamin C is NOT distributed evenly throughout the body and that there are cells such as leukocytes which have active pumps to obtain vitamin C in states of systemic deficiency.

One thing is the daily need in order not to develop scurvy and another thing is the reference for needs according to the situation or condition that the body is experiencing. Animals capable of synthesising the vitamin have shown that they produce variable amounts based on situations such as illness or physiological demand.

It is therefore a mistake to consider the RDA as the ideal.

Situations such as inflammation and infection require increasing the intake significantly while IV macrodoses are necessary in certain cases such as sepsis.

Another fundamental point is understanding the antioxidant and prooxidant response of vitamin C in relation to the therapeutic dose administered. This is currently one of the biggest points of confusion, especially in cancer treatments.

An important body of evidence supports the need for IV pharmacological use, given that intestinal absorption is a limiting factor for oral doses, where the vitamin only reaches saturation levels of 220  $\mu\text{mol/L}$ . On the other hand the levels can reach up to 13,000  $\mu\text{mol/L}$  when administered intravenously. This shows that the pharmacokinetics is completely different between the oral and intravenous pathways, which must be a fundamental consideration when taking therapeutic decisions.

## INTEGRATIVE MEDICINE ABSTRACT

**Prof. Dr Juan Carlos Crespo de la Rosa**

Climate change is today the most important and serious global environmental problem that the Earth suffers, It has an impact on all its minerals, in all its flora and fauna and also in human health.

Allergies increase. Autoimmune and degenerative diseases at earlier ages. The contamination follows a geometric progression, While human adaptation is an arithmetic progression. We are living in our organism a process of biological adaptation.

We are the generation of history that has seen more changes in a life in all the orders of the history of mankind. We all have an unprecedented biological adaptation process in human history.

We all have 400 to 700 blood trace substances, That 60 years ago nobody had. 30 years ago The normal leukocyte figures were between 2,500-5000, today, some 15,000. A normal patient today, , 30 years ago I was studied.

This problem is due to multiple human activities, of which each country is responsible to a lesser or greater extent. Likewise, its effects are felt by people, communities, and ecosystems around the world.

We must name the food Homotoxicidad. A breath taking industrializa-

tion and refined diet, rich in preservatives, stabilizers, thickeners, antioxidants, dyes, flavourings and a long etcetera with a large number of substances marketed.

The level of chemical intoxication is based on bioaccumulation as a tendency for a substance to accumulate in the tissues of living organisms, To be related to the hydrophobic and lipophilic characteristics.

**There are seven toxicity criteria:** 1. Acute lethality. 2. Sublethal effects on non-mammalian species. 3. Sublethal effects on plants. 4. Sublethal effects on mammals. 5. Teratogenicity 6. genotoxicity/ mutagenicity. 7. carcinogenicity.

All this makes us think, in the new challenge and justification of the social need today of integrative medical care.

Therefore, the proposed integrative medical revitalization presented in the countries of East Asia, north and South America and In some European paese, with a great acceptance and evolution in the practice of more than 25 years.

This method allows us to diagnose and treat, valuing the toxic, structural, functional, metabolic and emotional status of our patient, , from the beginning of their alterations, allowing the practical practitioner, to jump standard protocols and to embody his way and Commitment to the therapeutic process of patients.

This is the proposal of the R.M.I. in 7 guidelines: **1.-Detoxify. 2.-Search for curative obstacles 3.- Regulation of internal organs. 4.0-supplementation level. 5.-Changes in life habits for the promotion of epigenetic changes. 6.-Aesthetic revitalization. 7.-Psychovitality: Modified relaxation techniques and NLP. (A.B.C. Exercises "toolbox").**

The seven phases are explained

## DEVELOPMENTAL ORIGINS OF HEALTH AND DISEASE: THE IMPORTANCE OF THE FIRST 100 DAYS OF LIFE

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**Abstract:** The focus of this communication is on the earliest stages of child development, the period from conception to the end of the child's second year. This period has become known as the first 1000 days. The reason for focusing on this specific period is the growing body of evidence which shows that is the period of maximum developmental plasticity, and therefore the period with the greatest potential to affect health and wellbeing over the life course. Environmental exposures to stress, malnutrition, or toxins during critical period of development can have long term effects on health and wellbeing by programming organs, tissues or body system structures or functions in ways that increase the risk of metabolic, cardiovascular, immunological, and neurobehavioral disorders, and even cancer.

The key concept in the earliest stages of development is: Developmental plasticity and the developmental origins of health and disease (DOHaD) hypothesis. One of the most significant features of human biology is our capacity to adapt to different social and physical environments. This capacity is known as developmental plasticity, and it

is at its greatest in the first 1000 days of life, although we retain some capacity to adapt throughout our lives. This capacity to adapt makes the human both versatile and vulnerable, as these changes may be adapted for the immediate environment, but they can come with long term cost.

Adaptation involves a process known as biological embedding.

The first mechanism for biological embedding and developmental programming is epigenetic change. Epigenetic changes determine whether genes are expressed or not (turned on or off). In human the period of developmental plasticity is the most sensitive to environmental epigenetic changes.

Another form for biological embedding is telomeres length. Telomeres are shaped by our genes, but also respond to how he lives.

The second mechanism whereby environmental experiences become biological embedded is synaptic pruning. The initial surge in synaptic connections between brain neurons occurs after birth. Connections are strengthened through recurrent use, and our experiences and environment determine which connections are used more, and this becomes stronger and enduring, while those that are not used become weak and are fade away (synaptic pruning).

The DOHaD hypothesis maintains that the fetus not only registers the changes in the intrauterine environment. But also used this information as a kind of “weather forecast” from their mother that prepares them for the type of world in which they will have to live, and alters its phenotype accordingly. When the pre-natal and postnatal environment do not match, predictive mismatch can occur.

The new research has revealed whole aspects of biological functioning that were not previously recognized as playing a role in development, such as telomere effects and the role of the microbiome. But also, new research must be focus in integrate environmental influences in the Developmental Origins of Health and Disease (DOHaD) paradigm. Environmental factors that can affect developmental plasticity include not only nutrition, the most studied factor, but also: stress, chemical exposures, infections, drugs, mycobiome.

Conclusion:

Neurodegenerative diseases, breast cancer, cardiovascular disease, metabolic syndrome, infertility, asthma and atopic disease, learning disabilities, childhood cancer, immunological problems... have one thing in common: it is likely that they have their origins partly during development as a result of environmental influences, including altered nutrition, stress, drug, infections, and exposure to environmental chemicals in a period “window of sensitivity”, the first 1000 days of life. Therefore, the interventions in this first 100 days of life can play an important role in improving global health.

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Bisphenol A and cognitive function in school-age boys: Is BPA predominantly related to behavior?

*NeuroToxicology*, Volume 74, 2019

Andrea C. Gore<sup>ab</sup>, Kritika Krishnan<sup>b</sup> Endocrine-disrupting chemicals: Effects on neuroendocrine systems and the neurobiology of social behavior

*Topper VY, Reilly MP, Wagner LM, Thompson LM, Gillette R, Crews D, Gore AC. Mol Social and neu-romolecular phenotypes are programmed by prenatal exposures to endocrine-disrupting chemicals.*

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## THE CONTRIBUTION OF CAM TO REDUCE ANTIBIOTIC USE AND AMR PROF. DR. E.W. BAARS<sup>1,2</sup>, MD, MSc EPIDEMIOLOGY, PHD

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ABSTRACT

**Objectives:** To provide an overview of the evidence of the contribution of CAM to reduce antibiotic use and AMR in general and specifically for acute, uncomplicated respiratory tract infections (RTIs) based on several studies. **Material and method:** A narrative review of CAM-prevention and treatment strategies of infections; a retrospective study on antibiotic prescription rates (CAM/IM vs conventional medicine in the UK); a survey among European CAM experts and a systematic review of prescription rates of CAM treatments to identify CAM best practices for cough and sore throat; a systematic review of systematic reviews of CAM treatment of acute, uncomplicated RTIs; a systematic review of qualitative studies on patient perspective on the use of CAM for the treatment of acute RTIs; the development of information tools for doctors, pharmacists and patients to decide on CAM treatment for UR-TIs as part of shared decision-making and/or self-management. **Results:** Key results of all studies will be presented. **Discussion:** There is a promising contribution of CAM on prevention and treatment of infections, appropriate use of antibiotics, and reduction of antibiotic use and AMR. More high-quality research is necessary.

**Conclusions:** There are promising evidence-based and expertise-based CAM prevention and treatment strategies for infections; and CAM information tools for doctors, pharmacists and patients, supporting the decision-making process. In order for these contributions to achieve their full potential, there is a need for better quality evidence on a

fetyandeffectivenessofCAMtreatmentsforinfections;making use of both CAM expertise and results of clinical research on CAM complex interventions and specific CAM treatment for specific indications; tested and implemented information tools for doctors, pharmacists and patients; awareness raising about risks of inappropriate use of antibiotics and informationwithrespecttosafealternativestrategies,includngdelayedprescription,withorwithout CAM treatments, and-self-medication.

## HOW DOES REFLEXOLOGY HELP CHILDREN WITH CANCER?

**Dr. Bibiana Carrasco Paediatric Surgeon and Reflexologist**

**Hospital Sant Joan de Déu, a university children's hospital in Barcelona, offers many activities to improve the well-being of children. Since 2004 AF-ANOC -the Catalan Association for Children with Cancer- is offering reflexology to children admitted in the onco-haemathology ward, in agreement with hospital officers and oncologists.**

A team of five reflexologists visit the ward every week with the aim of giving a relaxing and pleasant massage and providing a feeling of well-being, at least for a time, to children on oncologic treatment. We are not trying to find a cure to their disease in any way.

In the begining, neither the patients' families nor the health professionals -medical and nursing staff- knew what benefits this technique could offer. Over the years we have gained respect and acceptance from the health workers, and particularly from patients and their families.

The children look forward to our visit and demonstrate their excitement. They realise the changes and feel the benefits they get through reflexology. They don't know how to put into words the effects they feel, but they do say this is one of the best activities in the hospital.

In the nightmare of a hard illness, the families express gratitude for getting the plus of reflexology, such a different and pleasant way of caring.

Along the years of experience we have observed that reflexology provides the following: 1- For the children:

- Relaxation and well-being
- Helps them recover their wishes and desires
- Some improvement in: constipation, sleep, pain, mood

2-For the families:

- Support: feeling that they are not alone

3-For the health professionals:

- Complement and support for other aspects of the childrens' health

4-For the reflexologists:

- Rewarding
- Experience
- Training

We can conclude that reflexology offers a little breathing space during the course of disease, which is a great help in the process of seriously sick children and their families.

## PROMISING NEW INSIGHTS, THERAPIES, AND TESTS FOR AUTISM AND PDD

**William Shaw, Ph.D., Board certified in the fields of clinical chemistry and toxicology by the American Board of Clinical Chemistry.**

New technologies have revealed significant new factors as causes of autism spectrum disorders (ASD) including genomics, proteomics, and metabolomics, and disciplines involved in mass screening of genes, proteins, and metabolic processes in humans. These technologies have already led to new therapeutic trials for ASD. In addition, a number of recent studies have implicated both environmental factors and genetic factors related to detoxification as critical in ASD. One of the most promising discoveries has been the finding that the majority of individuals on the autism spectrum are deficient in cholesterol and have abnormal amounts of cholesterol transport proteins. A recent article indicates that cholesterol supplementation should be considered in all cases of ASD. Treatment of severe deficiency has led to reductions of infections, and improvements in sleep, social interactions, and growth. Behavior improvements include reduction in self-hurtful behavior, temper tantrums, aggressive behavior, and hyperactivity. Cholesterol is a critical factor in myelin production needed for brain growth and development, a cofactor in the brain development protein sonic hedgehog, a precursor of all steroid hormones and bile salts, and a critical factor in the function of serotonin and oxytocin receptors. Oxytocin, a hormone that stimulates social interaction and trust, has been found to be low in the blood of children with autism. Supplementation of oxytocin reduces autistic behaviors; combining cholesterol and oxytocin may be an especially effective treatment.

Learning Objectives:

Learn why cholesterol is an essential nutrient necessary for growth, development, and normal behavior.

Understand the evidence for abnormal cholesterol production and/or transport in different types of autism and treatments that are currently available.

## NON TYPICAL CARDIOVASCULAR RISK FACTORS. EARLY DETECTION IS NOT PREVENTION. FACTORES ATÍPICOS DE RIESGO CARDIOVASCULAR; DETECCIÓN PRECOZ NO ES IGUAL A PREVENCIÓN.

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Introduction

Atherogenesis is a multifactorial pathophysiological process of the arterial vasculature, which is characterized by progression from inflammation and smooth muscle cell proliferation to late stages that

are marked by thrombotic and fibrotic obliterations of the vessels. Examination of the earliest cellular events than occur during atherosclerosis has demonstrated a specialized type of chronic inflammatory response that precedes migration and proliferation of arterial smooth muscle cells. The first observable events include increased accumulation of lipid and lipoprotein particles beneath the endothelium, presumably from increased transport and/or permeability of the lining endothelial cells. This event is rapidly followed by attachment, adherence and spreading of peripheral blood monocytes and T-lymphocytes at sites throughout the arterial tree.

Since Framingham we are assuming that age, smoking, high blood cholesterol, hypertension, diabetes, obesity and family history are the main risk factors for cardiovascular disease, stroke and atherosclerosis. In spite of aggressive strategies, medication for cholesterol, diabetes and hypertension, and low fat diet approach, the incidence of cardiovascular disease is on the rise in western countries.

Numerous prospective epidemiological studies have identified a direct relationship between serum total cholesterol level and coronary heart disease incidence. Since the Framingham study it has long been considered common knowledge that total serum cholesterol is a strong independent risk factor for cardiovascular disease. This study started in 1948 and has been cited thousands of times as one of the most important epidemiological sources in the risk factors field. During the last decades, cardiovascular disease prevention has been marked by a trend of gradually lowering thresholds of cholesterol levels.

We must understand that atherosclerosis is not a single disease entity. In fact, the lesions of atherosclerosis represent a common response of the artery to numerous and potentially different forms of insult. Examination of atherosclerotic lesions reveal that each lesion contains the elements of an inflammatory response together with varying levels of fibro proliferative response. In order to get to the real origin of this disease we must identify the whole spectrum of mechanisms involved in the development and progression, knowing that early detection is not always prevention. When a screening test detects the disease, it is good for prognostic reasons but it is late in terms of primary prevention, therefore we use "secondary prevention".

Is cholesterol the "bad guy"?

Cholesterol is the precursor of multiple hormones and vitamins: Adrenal hormones (cortisol and aldosterone), sexual hormones (Estrogens, progesterone and testosterone) and vitamin

D. The mentioned hormones are synthesized through minor modifications of the cholesterol molecule in adrenal, ovarian and testicular cells. And vitamin D metabolism starts in the skin cells by the activation of cholesterol by sunlight. Moreover, cholesterol is the precursor of five bile acids that help in digestion by facilitating the absorption of fats and acting as transcription factors that take control on steroids levels and COX-2 synthesis.

Cholesterol is a primary constituent that provides cell membranes with their integrity. Without adequate cholesterol, cells will literally leak, falling apart in the bloodstream. Another critical function of cholesterol is to serve as an anti-inflammatory, preventing the formation of pro-inflammatory lipids, which when left unregulated generate high amounts of free radicals. Thromboxanes are members of the eicosanoids signaling molecules which are the result of oxidation. Thromboxanes are vasoconstrictors, causing platelet aggregation as well as agglutination of red blood cells. Leukotrienes and prostaglandins are also fatty acid signaling molecules that are strongly involved in

inflammatory responses. Each of these 3 proinflammatory fatty acids are inhibited by adequate cholesterol levels.

Cholesterol is a major constituent of the human brain, and the brain is the most cholesterol-rich organ. Numerous lipoprotein receptors and apolipoproteins are expressed in the brain. Cholesterol is tightly regulated between the major brain cells and is essential for normal brain development. The metabolism of brain cholesterol differs markedly from that of other tissues. Brain cholesterol is primarily derived by de novo synthesis and the blood brain barrier prevents the uptake of lipoprotein cholesterol from the circulation. Defects in cholesterol metabolism lead to structural and functional central nervous system diseases such as Smith-Lemli-Opitz syndrome, Niemann-Pick type C disease, and Alzheimer's disease. Cholesterol is tightly regulated between the major brain cells—neurons and glia, that is, astrocytes, microglia, and oligodendrocytes—and is essential for normal brain development. Cholesterol is required for synapse and dendrite formation and for axonal guidance. Cholesterol depletion leads to synaptic and dendritic spine degeneration, failed neurotransmission, and decreased synaptic plasticity.

Non typical risk factors. Heavy metals.

There are more than 30 metals that are of concern for environmental authorities because of residential or occupational exposure, out of which 23 are heavy metals: antimony, arsenic, bismuth, cadmium, cerium, chromium, cobalt, copper, gallium, gold, iron, lead, manganese, mercury, nickel, platinum, silver, tellurium, thallium, tin, uranium, vanadium, and zinc. These heavy metals are commonly found in the environment and diet. In small amounts they are required for maintaining good health but in larger amounts they can become toxic or dangerous. Heavy metal toxicity can lower energy levels and damage the functioning of the brain, lungs, heart, blood vessels, kidney, liver, blood composition and other important organs.

Population studies have demonstrated a link between lead exposure and subsequent development of hypertension and cardiovascular disease. In vivo and in vitro studies have shown that chronic lead exposure causes HTN and cardiovascular disease by promoting oxidative stress, limiting nitric oxide availability, impairing nitric oxide signalling, augmenting adrenergic activity, increasing endothelin production, altering the renin-angiotensin system, raising vasoconstrictor prostaglandins, lowering vasodilator prostaglandins, promoting inflammation, disturbing vascular smooth muscle calcium signalling, diminishing endotheliumdependent vasorelaxation, and modifying the vascular response to vasoactive agonists. Moreover, lead has been shown to cause endothelial injury, impede endothelial repair, inhibit angiogenesis, reduce endothelial cell growth, suppress proteoglycan production, stimulate vascular smooth muscle cell proliferation and phenotypic transformation, reduce tissue plasminogen activator, and raise plasminogen activator inhibitor-1 production. Via these and other actions, lead exposure causes hypertension and promotes atherosclerosis, thrombosis, and cardiovascular disease.

Cadmium is a by-product of zinc production which humans or animals may get exposed to at work or in the environment. Once this metal gets absorbed by humans, it will accumulate inside the body throughout life. This metal was first used in World War I as a substitute for tin and in paint industries as a pigment. In today's scenario, it is also being used in rechargeable batteries, for special alloys production and also present in tobacco smoke. Cadmium is a highly toxic nonessential heavy metal that is well recognized for its adverse influence on the enzymatic systems of cells, oxidative stress and for inducing nutritional deficiency. Smokers are more susceptible for cadmium in-

toxication than non-smokers. Tobacco is the main source of cadmium uptake in smokers as tobacco plants, like other plants, can accumulate cadmium from the soil. Non-smokers are exposed to cadmium via food and some other pathways. Studies in the last decade have shown that cadmium levels in blood and urine are independent factors associated with the development of atherosclerotic plaques at baseline as well as prospectively. This novel observation emphasizes the need to consider cadmium as a proatherogenic pollutant.

#### Ascorbate deficiency.

The response-to-injury hypothesis of atherosclerosis states that the protective inflammatory response followed by the formation of a fibro proliferative response begins as a protective mechanism that with time and continuing insult may become excessive. According to Nobel prize winner Linus Pauling, the primary cause of human cardiovascular disease is a deficiency in ascorbate leading to the deposition of Lipoproteins -Lp(a)- and fibrinogen/fibrin in the vascular wall. The total depletion of ascorbate in scurvy, leads to a complete loss of the integrity and stability of the vascular wall and to the extravasation of blood into the perivascular area. Ascorbate deficiency leads to an incomplete hydroxylation and thus weakens the extracellular matrix. Alterations of the endothelium and loose connective tissue are known to be characteristic features of atherosclerotic plaques.

This theory states that human atherosclerosis can be primarily a degenerative disease initiated by ascorbate deficiency. This deficiency is the result of the inability of humans to synthesize endogenous ascorbate combined with an insufficient dietary ascorbate intake and/or its destruction by habits like cigarette smoking. It is already known that one cigarette destroys 250 mgs of Vitamin C in the body. Vitamin C is required for strong collagen in the lysyl hydroxylase pathway, an enzyme responsible for attaching the lysine residues together on adjacent collagen strands. Vitamin C deficiency results in weakened collagen strands caused by disrupted lysine crosslinking.

It is then controversial for some investigators that found useless the strategy of lowering LDL for atherosclerosis prevention. The most important of these investigators is the already mentioned Dr Linus Pauling who in 1989 announced a breakthrough in how we view and treat heart disease. In the article "A Unified Theory of Human Cardiovascular Disease," Linus Pauling announced that the deposits of plaque seen in atherosclerosis were not the cause of heart disease, but were actually the result of our bodies trying to repair the damage caused by long-term vitamin C deficiency. In essence, Pauling believed that atherosclerosis is a form of scurvy, and plaque is the body's attempt to reinforce and patch weakened blood vessels and arteries that would otherwise rupture. Pauling also showed that heart disease can be prevented or treated by taking vitamin C and other micronutrients.

#### Vitamin K2 deficiency.

More than seven decades ago, while investigating the effects of a low-fat diet fed to chickens, Danish scientist Henrik Dam discovered vitamin K. He found that the bleeding tendencies found in the chickens on that diet could be prevented when a diet with normal levels of fat was restored and vitamin K was added to their diets. From that point forward, vitamin K became known as the coagulation vitamin, the "K" coming from the German word koagulation. Vitamin K is not a single entity but, rather, a family of structurally related molecules derived from different sources. There are two main forms of the vitamin. Phylloquinone (K1) is found in leafy green plants and menaquinone (K2) is found in animal meat and fermented foods.

Since 1950, the consumption of vitamin K has decreased grad-

ually, and even a well- balanced diet might not provide vitamin K in amounts sufficient for satisfying the body's needs. The population based Rotterdam study studied 4807 healthy men and women older than age 55 years, evaluating the relationship between dietary intake of vitamin K and aortic calcification, heart disease, and all-cause mortality. The study revealed that high dietary intake of vitamin K2-at least 32 mcg per day, with no intake of vitamin K1, was associated with a 50% reduction in death from cardiovascular issues related to arterial calcification and a 25% reduction in all-cause mortality.

Vitamin K2's biological role is to help move calcium into the proper areas in your body, such as your bones and teeth. It also plays a role in removing calcium from areas where it shouldn't be, such as in arteries and soft tissues. Vitamin K2 protects arteries from calcification and without it plaque levels worsen. The vitamin K-dependent protein, matrix GLA protein, is a central calcification inhibitor produced by the cells of vascular smooth muscles and regulates the potentially fatal accumulation of calcium.

#### Calcium intake.

A direct relationship between total calcium intake (diet plus supplements) and cardiovascular disease (CVD), however, has not been established, and this issue remains controversial. Recent evidence derived from randomized, controlled trials, including the Women's Health Initiative, have raised a concern for an association between calcium supplement use and increased risk for CVD events. Among calcium supplement users, a high intake of calcium greater than 1400 mg/day has been reported to be associated with higher death rates from all causes, including from CVD.

#### Periodontal disease.

Several infectious diseases have been implicated as possibly causing inflammation and heart disease. Three mutually exclusive periodontal classifications were defined based on the Russell Periodontal Index: periodontitis, gingivitis, and periodontal health. Several biological mechanisms through which periodontal disease may cause CHD have been proposed as follows: the invasion into endothelial coronary cells by oral microorganisms the harmful cardiovascular effects of inflammatory response to periodontitis, or contributions of oral microorganisms to acute thromboembolic events during bacteremia. Infectious agents might conceivably furnish inflammatory stimuli that accentuate atherogenesis. Acute infections can alter hemodynamics and the clotting and fibrinolytic systems in ways that can precipitate ischemic events. Chronic extravascular infections (eg, gingivitis, prostatitis, bronchitis) can augment extravascular production of inflammatory cytokines that may accelerate the evolution of remote atherosclerotic lesions.

Many human plaques show signs of infection by microbial agents such Chlamydia pneumoniae. Chlamydiae, when present in the arterial plaque, may release lipopolysaccharide (endotoxin) and heat shock proteins that can stimulate the production of proinflammatory mediators by vascular endothelial cells and SMCs and infiltrating leukocytes alike. Dental disease is associated with an increased risk of coronary heart disease, particularly in young men. Whether this is a casual association is unclear. Common oral periodontal bacteria, that is, Prevotella gingivalis and Prevotella intermedia, may contribute to the injury and inflammation that provokes atherosclerosis. Chronic oral infections such as adult periodontitis, may have important long-term sequelae. Aactinobacillus actinomycetemcomitans, Porphyromonas gingivalis, Bacteroides forsythus and Prevotella intermedia have been detected

in atheromatous plaques by PCR. It has also been recognized that periodontal diseases, which are chronic gram-negative infections, represent a risk factor for atherosclerosis and thromboembolic events. Periodontal disease, once established, provides a biological burden of endotoxin and inflammatory cytokines which serve to initiate and exacerbate atherogenesis and thromboembolic events. Periodontitis and atherosclerosis have complex etiologies, genetic and gender predispositions, and potentially share many risk factors, the most significant of which may be smoking status.

#### Conclusions.

The HUNT 2 study, a very well designed prospective study in Scandinavia included 52,087 Norwegians, aged 20-74, that were followed-up on cause-specific mortality for 10 years. This is 510,297 person-years in total. The statistical power and the lack of conflict of interest make this a heavy evidence source, even stronger than the classic Framingham. Based on their results, they clearly contradict the popularized idea of a positive, linear relationship between cholesterol and fatal disease, and conclude that the underlying assumptions regarding cholesterol in clinical guidelines for prevention might be flawed. This study could suggest that, like any other substance in the body, like thyroid hormone for instance, total cholesterol should be in a balanced situation, not too high, not too low. According to their presented results, between 5 and 7 mmol L<sup>-1</sup> would be the desired level. They reported an interesting low mortality rate among post-menopausal women with a mean cholesterol level of 7 mmol L<sup>-1</sup>.

Voices from Scandinavia, Japan and other developed countries are proclaiming that focusing prevention only in the so called typical risk factors is not enough. Besides stress, which is not mentioned in this talk but is by far the most dangerous risk factor of our times, we should open the box and look outside to a wide variety of non typical risk factors that are definitely involved in the atherosclerosis pathogenesis. This will provide additional knowledge to succeed in cardiovascular diseases prevention for the future generations.

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## NEURAL THERAPY, VEGETATIVE NERVOUS SYSTEM AND FASCIA: WIDE SPECTRUM REGULATORY THERAPY

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### Abstract

A reading of the text of Dr James Mackenzie, which was translated into Spanish in Barcelona in 1914 [1], takes us back to a time where the diagnosis was made almost entirely with direct patient contact. This English surgeon, a research professor at London Hospital, conducted a thorough investigation assessing the irritation of the central nervous system by palpating hyperalgesic areas of the skin and muscles as well as involuntary muscular contractions (visceromotor reflex); he also evaluated pain in vertebral bodies and its relationship to disease processes, next checking this diagnostic approach in the surgical field and the prognosis.

This course of action involved observing patients in a more individual fashion, always as patients rather than as medical conditions, and seeing them more holistically. What was sought was the impact of a process throughout the body, highlighting its manifestation on the skin and other palpable tissues such as muscles and vertebral bodies.

Recent research carried out regarding the transmission of cellular signals in the body through the connective tissues by the phenomena known as mechanotransduction and piezoelectricity [2] – driven by the fields of acupuncture and osteopathy – encourage us to be open and to incorporate more the importance of connective tissues as a metasystem that connects not only structurally but also functionally all tissues and organs of the body. The fascial system is a part of this connective system and it also has a regulatory function just as the nervous and endocrine systems. It has never ceased to be a part of these systems [3].

The oscillation emitted by the ground substance in a state of imbalance can be perceived by the connective tissue palpation. The different composition, density of particles, extracellular matrix or ground substance proportion that exist in each area of the body reflects an affected organ and other related structures, either because they are origin or compensation of the pathology. [4]

Changes in pH, despolimerizations, waste not evacuated, deficiencies or excesses of molecules in ground substance... modified the displacement of the fluid, and that implies changes in its palpation. [4]

Palpate, touch, listen to the patient provide important details in the diagnostic process development and treatment plan [5]. But palpation is not merely about searching options of pain / no pain. It is one of the ways in which we relate to the patient whereby, as well as learning how to find their visceral manifestations through their reflexes, we place our hand on their psychosomatic manifestations, on the tissues where they express their emotions, not only on skin and muscle, and this may also contribute to the approach and an increase of trust.

In this paper I want to share my daily experience using palpation to search for points of greatest connective and fascia tension, relating them with both visceral, mental and emotional components of the patient, and injecting the 0.5% procaine to observe the answer. Often the response is immediate, very fast, and we can see it as a greater movement

to the diaphragm, a general relaxation of the muscles, an improvement in mood, an increase of peristalsis (frequently we hear the abdominal sounds as soon as we do the first puncture) and of feeling of body temperature, an improvement of pain, etc. All these are clear signs of neurovegetative unblocking.

It should be noted that these improvements and changes do not occur only in these segments punctured, but in general, the same way that happens when an interference field is removed.

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## WHOLE BODY DENTISTRY: THE MOUTH AS A SOURCE OF "NOISE"

**Dra Mar López Sala Licenciada en Medicina UAB. Licenciada en Odontología UB**

The connection between mouth and body has for a long time been denied, although in ancient times there was a more integrative understanding and physicians knew the link between bad oral health and general diseases.

During the last 20 years this knowledge is emerging again and dentists begin to be considered as truly general health agents instead of simply technicians.

When general health is affected, specially due to chronic illnesses, without a clear etiology, etiopathogeny and therefore without a clear and effective treatment, a global "screening" of the possible interference fields, using the Neuraltherapy according to Huneke terminology, becomes inevitable.

One of the most probable places to find irritant factors is the oral cavity, since oral problems are between the most prevalent diseases. Different situations may contribute to the deterioration of oral health, being cavities, periodontal disease, the use of different materials for dentistry, some of which are toxic for some people, pathological occlusion and temporomandibular disorders leading to postural and structure anomalies, and infected teeth or endodontically treated teeth, among the most common.

The dentist should be able to detect all of these factors and prioritize what is more important to treat or eradicate in order to achieve the total elimination of which is called "noise", meaning irritant factors affecting general health through the autonomic nervous system and the extracellular matrix and ground regulation system.

The aim of this presentation is to bring this connection closer to health professionals dedicated to integrative medicine

## OZONOTHERAPY IN HUMAN PAPILLOMAVIRUS (HPV) INFECTION

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#### Abstract

Study of 30 patients infected with human papillomavirus (HPV) without having spontaneous remission after one year of the first diagnosis. The samples were collected between October 2014 and February 2017. Cervical swabs were analyzed both HPV genotyping by PCR and Reverse Line Blot, and cervical cytology by Papanicolaou test.

The study was carried out with the objective of verify the efficacy of O2 / O3 alone and in combination with other complementary measures. The patients were divided into two groups.

**a) Group O3 + (treated with ozone plus integrative therapy):** It was treated with intravaginal ozone, ozonated saline solution, micro-immunotherapy and administration IV of GSH, Se, Zinc and VitC.

**b) Ozone group (treated exclusively with ozone):** It was administered with intravaginal ozone therapy alone. Although the number of patients does not allow a safe conclusion, the group of patients treated with ozone plus integrative therapy presented a great advantages ( $p < 0,05$ ) compared to the group of patients treated exclusively with ozone.

Positive (negative cytology after 3 months of finishing the therapy)

Group O3 + (patients treated with ozone plus integrative therapy): 16 de 20 =>

80.0 %

Ozone group (patients treated exclusively with ozone): 6 de 10 => 60.0 %

It was shown that the synergy of the ozone therapy with the other treatments was more effective, permanent and harmless than the application of intravaginal ozone alone.

**Key words:** Intravaginal ozone, ozonized oil, Human Papilloma Virus, Ozonated Saline Solution, genotype 16, 18, Condiloma Acuminata, ozone therapy, womb cancer.

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## INTEGRATIVE APPROACH OF PREMENSTRUAL SYNDROME

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**Keywords:** *Premenstrual syndrome, Premenstrual Disforic disorder, Ozone Therapy, Intrauterine Ozone Therapy.*

PMS can affect up to 30% of the female population of childbearing age. Its most severe form can lead to incapacity for work. Since conventional medicine there is no truly effective treatment. For some authors, it is a pathology that begins in an infectious/inflammatory uterine process. Therefore, the objective of the work was to evaluate the potential efficacy of ozone in its approach.

The patients were recruited from among those who attended CMI for premenstrual syndrome. With an n=9. A premenstrual syndrome questionnaire was applied to all of them, before and after treatment. Rectal ozone therapy, AHTM and intrauterine techniques were combined. They were also treated with orthomolecular supplementation. PGE2 and AA (prostaglandin E2 and arachidonic acid) were measured in the uterus and pathogenic intestinal or sexually transmitted germs or vaginitis/cervicitis were determined by medtronic bioresonance methods at the beginning, middle and end of treatment.

Questionnaires showed improvement in most symptoms, a high percentage (more than 60%) disappeared, 20% improved markedly, and 20% did not change after treatment. The disappearance of depressive and anxious symptoms in most patients was very striking. The measurement of PGE2 and AA in uterus decreased in 100% of the patients, indicating a reduction in inflammation. Intestinal pathogens were also reduced.

Ozone therapy significantly reduces the symptoms of premenstrual syndrome, it is also likely to improve or resolve mental symptoms by its action on neurotransmitters.

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## ACUPUNCTURE AND FERTILITY IN DEXEUS WOMEN'S UNIVERSITY CLINIC, BARCELONA

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**1 MD, Anesthesiology. Master en Acupuncture. 2 MD, acupuncture and natural medicine clinic. En-gimmed. Health Acupuncture Unit Dexeus University Women's Clinic (Barcelona/SP)**

In this presentation we will review the current evidence of acupuncture as a complementary technique in the processes of assisted fertility.

We will also discuss the results of the work we have done at the Dexeus Women's Clinic in Barcelona, a center specializing in gynecology and fertility and where since 2011 there is an Acupuncture Unit integrated into its services.

In this Unit we have treated integratively more than 200 women with fertility problems and we did some prospective studies comparing the result of using Acupuncture as a complement to the treatments with a similar group of patients who have not received.

As a result of these studies and the recent scientific articles we have come to the conclusion that the use of Acupuncture as a complement in women with fertility problems and especially with low ovarian reserve is preferably indicated in the phase prior to the embryo transfer, individually and if possible three or four menstrual cycles before to start the stimulation.

The indication for post-transfer treatment is to control anxiety and always using very soft needle insertion in points related to gynecological areas.

We will talk about the points used, in what cases we use electroacupuncture and where and treatment guidelines that we use in an

integrated way in patients who wish to do at the Dexeus Women's University Clinic.

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## REFLEXOLOGY AND ASSISTED REPRODUCTION

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The human race, with a 20% monthly fertility rate on average, is clearly not so fertile if we compare ourselves with other animal species. Between 10-15% of couples suffer from sterility, understood as the difficulty to become pregnant after a year of concerted attempts. Fortunately, thanks to assisted reproduction treatments, many of these couples end up being parents. Indeed, since the birth of Louise Brown in 1978, the first baby conceived through in vitro fertilisation until present, reproductive medicine has advanced to an extraordinary degree. The current accepted figure is more than 8 million people have been born through this technique around the world. But in spite of these important advances, especially in the field of biomedicine, biotechnology and genetics, the results of assisted reproduction techniques are still quite limited. Approximately two out of every 3 in vitro fertilisation attempts do not lead to pregnancy and this fact leads to a great feeling of uncertainty, dissatisfaction and anguish both for

the physicians as well as the patients.

In parallel, it is widely recognised that the condition of sterility and assisted reproduction treatments involve a heavy psychological burden and a poor quality of life. It is not clear if stress and anxiety act as aetiological factors in sterility or if they have an effect on assisted reproduction treatments. However, what is undoubtedly a fact is that a person with a poor mental state is more likely to abandon an assisted reproduction treatment or even not be able to start it, thereby clearly reducing their possibility of becoming pregnant. In fact, it is accepted that psychological support should form part of the typical interdisciplinary work in the reproductive medical units and some pilot studies have already explored the efficacy of integrative strategies such as yoga or traditional Chinese medicine, observing beneficial results in this sense.

Reflexology is a complementary and ancestral integrative therapy, defined as an old Indian, Egyptian and Chinese method for diagnosis and treatment, with origins around 3000 B.C. It is based on the belief that the entire human body is represented in the feet (less frequently the hands) and that by applying sufficient pressure on one's toes (or fingers), specialists in reflexology can stimulate the body and promote a proper state of health.

The scarcity of highly rigorous scientific studies that can be found published currently with regards both to the potential beneficial effects of reflexology as well as to its clinical safety is both a fact and a great limitation. In general, reflexology is considered a highly safe therapy although most works do

not address the topic of adverse effects. Even though there are some randomised clinical trials where different positive effects of reflexology have been observed in specific medical conditions, the quality of most of these studies has frequently been poor and with a generally low sample size. On the other hand, most of the works with top-tier methodology have not managed to observe the potential beneficial effects of reflexology. Consequently, we should be aware that, based on that medical evidence available at present, it is not possible to convincingly show that reflexology is an effective treatment for any medical condition.

However, at the same time, reflexology has been used traditionally to try to help couples who have difficulties conceiving. Opinion articles and reports of particular cases are appearing in the non-medical press which suggest the ability of this ancient discipline to help in the field of human reproduction and many couples have decided to undergo the treatment with varying degrees of success. In a certain way, it could be understood as involving a more pleasant, more economical and non-pharmacological alternative to the standard assisted reproduction treatments. Additionally, it seems that it could also help in the psychological aspect by reducing the high level of anxiety in patients with sterility problems.

In our current scenario, where we are still not capable of giving an explanation to many of the failures of assisted reproduction treatments and being conscious of the associated heavy psychological burden, we consider it appropriate to research the potential beneficiary effect of reflexology on in vitro fertility treatments.

Two actions have been carried out in this regard. First, field work has been carried out based on one survey addressed to physicians who specialise in the field of assisted reproduction and on another addressed to patients diagnosed with sterility, in order to have an idea of the current situation of the issue of complementary therapies and fertility in our area of influence. Second, a prospective, randomised, double-blind clinical trial has been designed to assess the effect of reflexology applied in parallel with in vitro fertility treatments, both at

the medical and psychological level.

We therefore consider reflexology a safe discipline, with a still poorly defined physiology which, in spite of the insufficient level of evidence, has suggested a positive effect on different diseases according to multiple works published. This has led us to question if it could contribute to improving the medical and psychological results of patients subjected to assisted reproduction treatments. Given that there is no single work published in the scientific literature that contributes information in this regard at present, we propose trying to produce medical evidence concerning the topic, accepting the limitations in the precise knowledge of the mechanism of action and focusing on the observed results.

## FERTILITY IS NOT ONLY EMBRYO QUALITY

**Carmen Salgado Sánchez. Licenciada en Farmacia, especializada en Bioquímica, Master en Nutrición Ortomolecular. Profesora Real Centro Universitario Reina Cristina. Directora técnica de Herbarum Natura**

### Introduction

In Spain 6000 couples have problems to conceive, that is, 1 out of every 4 born in the 70 will not have children. This becomes a health problem.

Each year 16,000 couples need help with fertility treatments to become parents.

June is the world month of Fertility Care. I love this concept because it's not about working with infertility, but about caring for fertility.

Let's start at the beginning (What is infertility?) Impossibility of a couple getting a pregnancy by natural means after having normal sex for more than 1 year.

Why is this happening:

Spaniards delay motherhood from 26 years in 1985 to 31 years now.

Regarding male fertility according to the European Fertility Society until 1986, the normal number of sperm in the ejaculate was 100 million / cc. From 1986 this normality is reduced to 60 million / cc and since 1992 to 20 million / cc

There is no approach that works for everyone since each couple has their own situation.

### Focus only on ovulation

Many couples with fertility problems only have sex during the period of ovulation: Some couples try to "save" the sperm during the period of ovulation and then barely have sex during the month.

But the ideal is to have relationships every two or three days during the month to maximize the possibilities.

Others believe that having more sex produces more possibilities but this is not true. If it is for reproductive purposes, having sex several times a day or even every day can cause exhaustion and the couple can begin to see sex as little more than a pre-ovulatory task.

If you control the temperature or are using an ovulation prediction kit, you may think that the ideal is the day of ovulation. But it may be late because the ovum can be fertilized for 24 hours afterwards and the sperm survives up to 24 or 48 hours so it is highly recommended that you have intercourse every other day on days 4 to 6 days before ovulation and continue doing so for another 4 to 6 days after this.

The importance of endocrine disruptors.

Not cleanse of endocrine disruptors is one of the mistakes that can be made in matters of infertility.

We remember that an endocrine disruptor is those substances exogenous to the organism (natural or synthetic) that interfere with the production, transport or action of natural hormones in our organism. Many times they behave like fake oestrogens or imitators

What are the main ones:

-Aromatic hydrocarbons

-Halogenated hydrocarbons

-Organochlorine compounds: Pesticides

-Heavy metals (lead, cadmium)

All these products are contained in pesticides, insecticides, food additives and cosmetics and hygiene products, environmental pollution, plastics, UV filters of sun creams,

In male fertility affect the quality of sperm (remember that at least half of cases of male sterility is of unknown cause) and could be attributed to these endocrine disruptors.

In women these endocrine disruptors affect the glands such as ovaries, pancreas (insulin resistance and fertility, polycystic ovarian syndrome), adrenal (cortisol and inflammation) and thyroid (thyroid disorders) and pituitary gland (high levels of prolactin).

Contamination reaches newborns through the umbilical cord. According to a US study on umbilical cord blood from fetuses, these are soaked in a mixture of chemicals that include (mercury, gasoline derivatives, pesticides and the chemical PFOA used in Teflon). Up to a total of 287 chemical contaminants.

The damage of endocrine disruptors can be transgenerational, that is, diagnosed to newborns or adults who were exposed when their mother was developing them.

Hence the importance of making a history of environmental exposure in couples who have infertility problems.

A key point the hypophysis

The pituitary gland, which is located in the brain that controls our sex hormones (estrogen, progesterone and prolactin) and is directly affected by our stress, anxiety and attitude towards life. And these therefore directly affect our fertility.

It has been proven how yoga helps to rebalance the hormonal axes.

Meditation improves the rebalancing of neurological pathways that influence hormonal control. Acupuncture produces endorphins that help manage your stress, anxiety and daily emotions. These techniques that act from the mind help optimize the results of both natural fertility but also assisted fertility treatments because all three help to balance the hormonal system without the need to take medicines or chemicals.

The importance of the immune system

The immune system is what defends us from the external aggressor but also maintains an internal balance, allows blood vessels to form at the time of implantation and first trimester of pregnancy and these blood vessels respond to the immune system.

At the same time there are white blood cells that come from the blood and that are located in the endometrium in the second phase of the menstrual cycle and that they will decide: "well this is the moment of the formation of blood vessels" and they lower the guard of the defense against the strange because the embryo is 50% strange. This immune balance depends on internal and external factors and must be worked on and taken into account.

Until now, he had focused mainly on blood disorders. But right now, immunology is also very strong. For example, a woman with autoimmune hypothyroidism problems can produce that this immune alteration can alter fertility.

Immunological alterations in peripheral blood or endometrium can be studied.

The problem that usually causes the alterations of the immune system is that either they never get pregnant (even with embryos of very good quality) or they have recurrent miscarriages.

There are genetic or acquired immunological causes. The acquired ones can be a hormonal or emotional imbalance.

Because many times the blood does not reach the uterus in a sufficient way and this can be due to:

Because blood is not fluid because the blood vessels are scarce or too many or too much quality and this has to do with antibodies.

Even in this case even the state of the vaginal flora can affect this immunology.

#### State of the uterus

For many years fertility has focused on studying the embryo and the quality of the ovum and sperm and everything pointed to a good ovarian response and that there was a good morphologically embryo and they began to forget that it is not all that is needed. good implantation and then a placental development that keeps the pregnancy.

And this has meant that although embryos of very good quality are reproduced, they do not implant or abortions occur and that is why we have to see what else can be done.

The uterus is the one that has to allow the passage of the sperm (if we speak of natural fertility) or allow the implantation of an embryo (if we talk about assisted fertility).

So in the uterus there are very important data some taken into account in a systematic way as the quality and thickness of the endometrium but others are not so well known. Because if the endometrium is not well, pregnancy is not achieved.

These other parameters to consider are:

Possible vascular or functional alterations (uterus in anteversion, retroversion, etc ...) that may be altering the vascularization and therefore the fetal nutrition. The endometrium is important in the first 8-10 weeks because it is a source of blood and oxygen because there is still no placenta formed.

Acidification that may come from inflammations (such as endometritis or infections) that may be asymptomatic but prevent implantation of the embryo. Stress, poor diet, environmental pollution, cigarettes, caffeine, or hormonal factors the endometrium may be out of sync with the growth of the embryo and do not become dysynchronous and pregnancy does not occur or recurrent losses occur.

All these data must be taken into account when preparing the last phase that is the preparation of the land so that the embryo can be implanted

#### Conclusions

The approach to fertility problems has to be very specialized, taking into account not only the quality of germ cells and the embryo and, moreover, it must be more and more individualized taking into account the status of immunological, hormones or field axes. For this there are points that have to begin to be included in infertility approaches such as:

Bad habits and lifestyle that can affect fertility in a profound way: Stress alters hormonal axes and immunology.

The balanced versus unbalanced diet and this may affect the quality of ovulation and endometrium. For example: lack of vitamins E and D that are immunomodulatory. Amount of fatty acids and types of fats that modulate the immune system and fluidify the blood.

Excess of caffeine (cola drinks) produce vasocontraction and alter the circulation of the blood of the endometrium.

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Effect of vaginal probiotic lactobacilli on in vitro-induced sperm lipid peroxidation and its impact on sperm motility and viability.

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5. A strategy to validate a selection of human effect biomarkers using adverse outcome pathways: Proof of concept for phthalates and reproductive effects.

Kirsten A. Bakena,<sup>\*</sup> Nathalie Lambrechtsa, Sylvie Remya, Vicente Mustielesc, Andrea Rodríguez-Carrillod, Christiana M. Neophytouf, Nicolas Oleac, Greet Schoetersa. *Environmental Research* 175 (2019) 235–256

## AFTER OBSTETRIC VIOLENCE. THE INTEGRATION OF THE AGENCY

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*“Stories matter. Many stories matter. Stories have been used to dispossess and culminate, but they can also be used to empower and humanize. They can break the dignity of a people, but they can also restore it.”*

Chimamanda Ngozi Adichie, 2019:28

Obstetric violence (OV) is a specific form of gender-based violence. OV should be explained from and with a gender perspective. OV is part of the culture of possession, abuse of power and imposition of gender roles (Brigidi, 2019; Brigidi and Ferreiro-Mediane, 2018; Brigidi, 2016a; Lipperini and Murgia, 2013). It is worth mentioning that the people involved in the OV process are diverse: woman, baby/s, foetus, partner, etc. during the process of pregnancy, childbirth and upbringing, health professionals and, in ethical and political terms, the society in which we live (What value do we attribute to maternity/paternity?). In the process of pregnancy, childbirth and postpartum, numerous violent manifestations and repeated disrespect, presence and reciprocity on the part of health professionals are observed. In fact, we consider OV not only ex-

cessive interventionism, but also the omission of assistance. Thus, we speak of OV, without exhaustive character, when in the process of pregnancy, childbirth and postpartum: 1) There is dehumanized treatment. 2) Inappropriate, rude or paternalistic language is used.

3) Discrimination is made by social class, ethnicity, nationality, sexual orientation, etc. 4) Humiliation, ridicule and criticism are inflicted. 5) Information is omitted or hidden, thus interfering with a woman's decision-making power and her right to autonomy over her own health. 6) Women's right to privacy is violated. We also speak of OV because of the worrying rates of episiotomies (Vv. Aa, 2010; WHO, 1985); because of the frequent performance of Kristeller's manoeuvre (Brigidi, Cardús and Ausona, 2014; EPEN, 2014) and because of the high number of caesarean sections performed in the Iberian Peninsula (DONA LLUM, 2018). The data produced by the Observatories on Obstetric Violence are extremely worrying. (OVO, 2016; Droits Humains et Femmes Enceintes, 2016). We highlight some of the main sequels in OV for women: major depressions, PTSD, PTSD, tocophobia, dissatisfaction, frustration and danger about the care received before, during and after childbirth, distrust of the health system, low rates of success in breastfeeding, problems with the bonding and upbringing of babies, conditioning of their subsequent reproductive life (OVO, 2016; EPEN, Olza, 2013; Landy et al., 2011). Adverse effects after episiotomy: 3rd and 4th degree tearing; anal sphincter dysfunction after childbirth; dyspareunia. Some of the risks to mothers after Kristeller's maneuver: bleeding and contusions; uterine rupture and uterine inversion, which can lead to severe bleeding and, in extreme cases, result in removal of the uterus; increased risk of 3-4 fourth degree, perineal and vaginal tears; urogenital prolapse; premature detachment of the placenta; rib fracture; contusions. For infants: increased likelihood of shoulder dystocia; brain trauma; sternocleidomastoid muscle tear; Erb's palsy; rib fracture; hypoxia; internal organ lesions; increased intracranial pressure, cephalohematoma, intracranial hemorrhages (EPEN, 2013).

To affirm that the process of pregnancy, childbirth and upbringing, as well as obstetric violence, are related to gender is to reflect on the meanings and signifiers that we attribute to them, to the image of them (p)aternity, mothers, fathers, families, and of the health professional that we expect, desire or build in our societies (Brigidi, 2016b). Thus, childbirth, for example, in the dominant discourse, turns out to be a product, a finished act, and is not thought of or studied as an experience, a process of transformation. The forms of infantilization of women, the use of paternalistic, violent or denigrating verbal communication, the absence of a dialogue centered on reciprocity and respect, the ways in which the position of women and their companions is weakened or the comforts or interests of other people are privileged, are products of a historical and cultural process that cannot be understood or changed without a gender perspective.

Obstetric violence has nothing to do with gender because it is women who experience it with their bodies, because this would mean thinking of gender as a demographic variable or a biological category. By qualifying it as gender-based violence we are referring to the models with which we socialize, learn, define, give values and meanings to pregnancy, childbirth and upbringing, and to violence within a historical and cultural framework. These expose us to a greater lack of security. We think, for example, of: 1) the lack of co-education in most of the political and pedagogical arguments about equity and equality in upbringing, 2) how biomedical and popular discourses are reconstructed around protection and risk behaviours

in pregnancy or childbirth (Brigidi, 2016a), 3) representations of family care and self-care, the use of drugs during pregnancy and breastfeeding.

In the same way we reflect on the working conditions of pregnant women and mothers and their consistency in terms of health: unemployment, temporality, precariousness, dependence until we observe an ever more consistent presence of maternal mobbing and opting out. These phenomena, in addition to being related to workplace violence, put women's stability at risk, as well as their possibilities for autonomy and empowerment. Frequently these aspects are also related to situations of violence and inequality in access to health resources, but also in the management, transmission and creation of knowledge: the limited health research that incorporates the gender perspective, the studies that take into account scientific evidence not as a mere form of consent and the access of women to positions of power in the Academy and in the Clinic, for example. A violence to which health personnel are not immune either. Formed in a hegemonic and endogamic biomedical system, it builds power relations from the university stage, in which little is questioned, explored or observed. It perseveres in dual reality, but social reality is complex and mutant. We are not thinking or working with uniform or universal categories, and the diachronic and synchronic context mark and determine meanings. Then our objective would be to introduce analytical strategies and provide a perspective with which to overcome the limitations of the oppositional schemes - culture vs biology, masculine vs feminine, perfect mother vs bad mother, home birth vs hospital birth. We need a gender perspective in order to improve attention to the process of pregnancy, childbirth and upbringing and to make obstetric violence visible, in order to rethink, redefine and resignify this process based on a critical and situated thought, transforming ourselves as people and as health professionals.

Understanding the process of pregnancy, childbirth and upbringing necessarily requires using a perspective centred on diversity. This is understood at the level of diversity of users and health professionals, as well as of the dynamics present in this process. In this sense, we highlight as an element the intersectionality of gender that has to do with the diversity of social, economic, ethnic and language classes, among others. This intersectionality in the case of obstetric violence is paradoxical: if on the one hand it is a global phenomenon, it manifests itself with greater brutality when the woman does not dominate the language, comes from another country, has another religion, etc. In this case the Alterity has been transformed many times in a greater brutality of the welfare practice. However, the purpose of this work is to highlight the capacity of agency after situations of obstetric violence, to be able to guarantee diversity in the discourses (biomedical and popular), to contemplate what the way of telling the story of violence, who tells it, how and when it has an important impact in the formation and imaginary of the people, to be able to construct relations of exchanges between the subjects involved in the process. In other words, to think of the agency after a situation of violence implies to speak of power, not to turn it into the "definitive history of that person" (Ngozi Adichie, 2019: 19). We know that in the last five years, the world of associations linked to sexual-reproductive health and those of gender violence, the issue of OV has become a central issue. In addition, international OV research projects are on the increase in the academic world and there is an ever-increasing need for specific OV competence on the part of health professionals. As an example, many of the medical student associations in Catalo-

nia request extra-curricular training in OV every year, and there has been an increase in the work of TFG (work of degree) and TFM (work of master's degree) in health sciences on the subject of OV. However, the concern that emerges from this wave of media and academic interest is that it can concretely respond to the real needs of future health professionals and women, as well as being able to guarantee the use of diversified narration (it is not the same to speak of a woman as a lesbian, of a cis that of a trans woman) to provide agency, diversification, power, dignity and humanity in health care and in narration, experience and transgenerational transmission of possibilities.

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## NON-CONVENTIONAL THERAPIES IN WOMEN WITH BREAST CANCER AND ITS RELATION WITH CONVENTIONAL THERAPIES.

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The use both Non-Conventional Therapies (NCT) have become a usual strategy that people use to squire the treatment process and to reduce its side effects [1] [2]. In that sense, the interest of NCT has grown in women with breast cancer as a tool to minimize the impact of conventional treatments and fostering a healthier lifestyle [3][4].

Aiming to understand the different uses of NCT in women diagnosed on breast cancer from the public network of hospitals in Barcelona. As well as, reflect about its social and material determinants. We have developed a mixed methods study in a cohort of 2,235 women. It consists of a quantitative and qualitative sub-studies. Both studies complement each other and allow us to obtain a precise and complex image about the use of non-conventional therapies in women with breast cancer within the network of public hospitals in Barcelona. Including the narrations of women that have or had had breast cancer, allow us to put on the centre the experiences, arguments and feeling of women. Giving to women more visibility as an important agent in the problematization of the use of the NCT.

Specifically, we analyze the processes and sources of information that the users use, the types of combination of the NCT, the credibility of the sources used by the users, the multimodality in the use, the moments of the process associated with the type of use, the possibilities of the use of NCTs according to economic and social conditions.

We highlight five main areas: a) Uses of the NCT; b) Reasons for the

use of NCTs; c) articulation of the NCT with the health system; d) Risks of an unregulated NCT; e) Social determinants and the NCT.

Uses of the NCT: We have shown high use of non-conventional therapies that coexist with conventional therapies in the treatment of breast cancer: more than half of the women surveyed claim to have used unconventional therapies in the treatment process. Being the most usual therapies naturopaths, homeopaths and herbalists (31.2%, 30.9% and 30.5% respectively).

Reasons for the use of NCTs: the reasons for using non-conventional therapies are linked to self-care practices, understood as strategies available to the person with the intention of improving their health and /or quality of life, reducing the impact physical and psychological aspects of cancer and its treatment. Other cases link the use of NCT as a process of personal change where the person places herself at the center of their own life and values the enjoyment in everyday life.

Likewise, the inclusion of NCT in the treatment of breast cancer works as a strategy to share processes with women who are in similar situations, as a mutual help group.

The NCTs and the health system: On the one hand, women participants show a great openness around NCT practices, since hospitals and Associations offer them.

44.0% and 34, 8% of women stated that their oncologist and family doctor respectively was informed about the use of NCTs the women, with 44.4% and 33,6% of them indicating that their oncologist and family doctor respectively advised against their use or did not show much interest in knowing exactly what the therapies consisted of.

These two groups of practitioners were those with whom the women claimed to speak more openly about the NCTs they were using, followed by pharmacists. The women also affirmed that those practitioners who showed an interest and were open to consultation also tended to be well-informed and intervene in situations of possible incompatibility

Some subjects took a twofold therapeutic approach, with "alternative oncologists", as they themselves defined them, and hospital oncologists. In these cases they assumed that it was preferable not to give information to the latter. Even other health practitioners advised them to follow the two paths separately.

Risks of an unregulated NCT: Another element to be highlighted is that women sometimes use of NCT without any clear evidence-based reference, neither any problematization about possible adverse effects with traditional treatment. This is opposed by arguments linked to an excess of mercantilization of the sector, which potentialities in the presence of professionals and techniques of doubtful utility.

Social Determinants and the NCT: One important element is the social differences in the access to information and use of NCT. Women from high and middle social-economic groups reported seeing practitioners at private clinics. Also, they were much more informed about the products and much more capable of following integrative strategies. Low social class groups reported using more public health system resources and herbal products. In this sense, we can assume that in our study, social inequalities [5] [6] [7] are materialized in greater limitations in the access to NCTs and knowledge about their use and scope of low social class groups. That is why it becomes imperative to promote the development of public policies aimed at increasing equitable access to NCT knowledge and products of proven effectiveness while preventing potential misuse or pernicious use of the NCT.

Conclusions: Based on the results, we emphasize the paper that non-conventional therapies acquire as a complement to conventional therapies in the treatment of cancer. These offer diverse resources

to face breast cancer and its treatment. However, the presence of multiple therapies, often unknown by patients and health personnel make it difficult to discern who uses it, its effectiveness. It is in this sense that the knowledge of such therapies by the health system, allow advice and guidance in its use and possible interactions with traditional therapies. On the contrary, the closing of the health system to them derives to the women who use such therapies look for evidences from outside the sanitary system and without guarantees of its effectiveness. Also, it derives that some women choose not to tell health practitioners their use and in extreme cases, to abandon conventional therapy. Those elements show an important call to professional and institutional integration forwards a person-centered treatment.

Likewise, the lack of regulation and public coverage of most non-conventional therapies results in their use being strongly linked to social class. Being the medium-high social class sectors who benefit from their potentials. This element increases the inequalities in health and quality of life of women with breast cancer due to their social condition. In this sense, traditional and no traditional therapist must to be reflexive about the social stratification on health and well-being that reproduce the inequalities of economic and social capital in the services that professionals offer. And in special, working together to reduce health and well-being inequities.

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## SYSTEMATIC REVIEWS AND META-ANALYSIS OF COMPLEMENTARY THERAPIES IN ONCOLOGY.

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#### Introduction

The use of complementary therapies in oncology has dramatically increased during the last years. However, the level of scientific evidence in this area is uncertain and still face important controversies.

### Methodology

A data analysis and extraction of evidence and recommendations by levels of evidence from the “Clinical practice guidelines based on systematic reviews of the literature” of the “Society of Integrative Oncology” was performed. Additional search was expanded in *Pubmed* limited to: “systematic reviews” “meta-analysis” up to September 2018.

### Results

Evidence-based clinical practice guidelines recommend acupuncture for poorly controlled pain and post chemotherapy nausea and vomiting (1A) and xerostomia (1B). In the management of the stress of the oncological patient “Mind and body techniques” through a multidisciplinary approach are recommended to reduce anxiety, mood disorders, pain and increase quality of life (1A). Regarding the additional search for systematic reviews and meta-analyses up to 2018: There is evidence of the highest level that comes from systematic reviews and meta-analysis of randomized and controlled clinical trials for:

-Acupuncture: post-chemotherapy nausea and vomiting, xerostomia, pain and fatigue and arthralgia for aromatase inhibitors in breast cancer

-Mindfulness/meditation: stress, anxiety, mood disorders, pain and quality of life

-Yoga: fatigue, stress, anxiety, mood disorders, pain and quality of life

-Probiotics: diarrhoea during chemotherapy/RT, intestinal barrier maintenance, prevention of postoperative infection

-Vitamin D: infra-therapeutic levels vitamin D associated with decreased survival (breast and lung cancer)

-Vitamin E topical: oral mucositis after radiotherapy and/ or chemotherapy

-L-Glutamine: mucositis post RT / chemotherapy and decreases stay and infectious complications in enteral nutrition

-Reishi *Ganoderma lucidum*: Improves immunity as a complement to chemotherapy / RT

-Omega-3 fatty acids: ensure weight maintenance in enteral nutrition

### Conclusions and evidence-based recommendations

-There are several complementary therapies with evidence of efficacy and safety derived from meta-analysis in oncology.

-Complementary therapies with the highest level of evidence should be incorporated into the integrated treatment of cancer patients.

-Information should be provided (based on scientific evidence) to facilitate the training of the oncology team to promote an integral treatment of the cancer patient.

### ABSTRACT.-

Cancer is more than a disease, but a set of diseases. It's all the spheres of the human being that are sick. Since the moment of diagnosis and for some years, sometimes for many years or the whole life, patients are treated for their disease rather than the individuals they were before.

The Health system should be sensitive enough to detect all the needs of the patient and assist them. Integrative oncology is about understanding the whole body. It is very important to consider aspects such as maintain a healthy diet, do regular exercise and be physically active as well as maintain an adequate psychological state. These are only some of the aspects we must try to empower.

Key words: integral management, cancer, oncology

### REPORT.-

#### Introduction.-

Cancer is more than a disease, but a set of diseases. It affects all spheres of the human being: mind, body, and spirit. Cultural, social, family, sexual, and personal relationships aspects must be taken into account.

Integrative medicine denotes a total approach to medical care that combines conventional medicine with the complementary/alternative approaches shown to be safe and effective. the complementary term is more appropriate, because conventional medicine is essential today in management of most tumors.

With studies showing that around half of all cancer patients use therapies that are not part of mainstream medicine (surgery, chemotherapy, radiotherapy and conventional supportive care), a debate arises between supporters and detractors of integrative medicine (1).

The reasons why patients make use of integrative medicine in Oncology, are diverse: to improve symptoms of disease, decrease side effects of treatments, support emotional health, boost the immune system and ultimately improve their quality of life. Breast cancer patients are particularly inclined to use integrative medicine, and many times they do not tell their doctors. It is a very important handicap because many “natural” treatments interfere with chemotherapy and modern molecules.

Patients often manifest that integrative medicine helps them to improve quality of life and possibly the length of life, find peace with the diagnosis, remove stress, understand their disease, handle fatigue due to treatments, and face diagnostic tests and reviews (2).

Many patients also search web pages to consult about their disease, novel treatments and patient forums.

It's doctor's obligation to recommend reliable web pages to patients.

Integrative medicine is a combination of medical treatments for cancer and complementary therapies to face symptoms and side effects. It is interdisciplinary, combining the skills of different health-care specialists, attending all the spheres of the human being.

On the other hand, due to early detection campaigns and medical advances, the number of cancer survivors continues to rise day by day. Fatigue, pain, fear of recurrence, and stress are long-term sequelae. Many patients show interest in integrative medicine modalities for prevention of recurrence, optimizing health, enhancing quality of life, and managing symptoms (3).

Dietary habits, physical activity, supplements, relaxation tech-

## INTEGRAL MANAGEMENT OF THE PATIENT WITH CANCER

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niques, acupuncture, and other techniques such as meditation and massage, may play a role in the management of the physical and emotional aspects faced by cancer survivors.

#### Objectives of integrative oncology.-

As it was mentioned above, cultural, social, family, sexual, and personal relationships aspects must be taken into account when we face a patient with cancer. The news of the diagnosis implies the most drastic change in a person's life. Body, mind and spirit feel threatened and all patient's pillars collapse. Main symptoms are "total" pain, anxiety / depression, insecurities...

The psychological support, some dietary advice and tips on which web pages to consult are some of the actions in this phase.

In the treatment phase, patients need to improve symptoms related to their disease and reduce side effects of cancer treatments. A proper diet, regular exercise and strengthen their psychological defenses are the main aspects we must address. We must help them find peace with the diagnosis, remove stress, understand their disease, handle fatigue due to treatments and improve their quality of life. Many patients need to consult other opinions. We should advise what reliable web pages should check.

After the treatment phase, fatigue, pain, fear of recurrence, stress are long-term sequelae. In this phase these are main aspects we must help the patient to face, and some web pages and forums may reduce stress.

Integrative medicine can contribute for prevention of recurrence, optimizing health, enhancing quality of life, and managing symptoms

In summary, we should improve patients' quality of life. In all phases, despite the oncologist, in the disciplinary team, some other specialists must participate: a dietitian, a psychologist, a specialist in naturopathy and a rehabilitator.

Finally, prevention of cancer should be part of our job as doctors and caregivers. We should contribute to prevention campaigns. We should raise prevention programs in which food should be one of the most relevant issues. Chemoprophylaxis either with chemical or natural products should also be approached from the point of view of integrative medicine.

#### Integrative management of cancer patient.- Diet.-

Many references to diet have appeared last years. There is no general advice and it must be adapted to each specific case. A dietitian may help the patient in each phase. In the treatment phase, for example, yogurt and cheese instead of milk may be adequate, but of course milk is not contraindicated.

Much has been reported about sugar and cancer. The patient should reduce it to the minimum and replace it with Stevia for example. The patient must avoid food with dyes and excessive salt. Fresh and frozen food is recommended.

Some coffee may be beneficial.

With respect to carbohydrates, cereals and cookies are appropriate.

Bread, rice and pasta must be part of a good diet for cancer patients.

With regard to vegetables, potato, clabaci, onion, garlic and carrot are suitable.

The patient must eat meat: chicken, turkey or rabbit are some examples. White fish such as hake, sole, grouper, rooster, monkfish,

sea bream, turbot and conger are recommended.

With respect to dairy products, fresh cheese, cooked eggs, omelette and bechamel are adequate.

Some desserts such as yogurt, flan custard, curd, ice cream, smoothie, sorbet and fresh fruits such as banana, strawberries are some examples. It is very important to maintain an abundant hydration for all the treatment.

Roiboos is a medicinal plant that may be very suitable. Some depurative plants such as chicory, artichoke and Marian thistle may be useful during this phase (4)(5)(6).

#### Exercise.-

The feeling of being constantly tired is very often in cancer and during chemotherapy. In order to maintain high energy levels it is important to spend time relaxing and doing simple and feasible things. Some suggestions we make to our patients are: going for a walk with a friend, doing some gardening work, dancing, rewarding themselves and ensure a rest.

Working during cancer treatment is feasible, and in some cases, advisable. Patients must talk openly about it with their boss. It is important to have enough rest times, flexible day, privacy and confidentiality and request the necessary aid (7).

#### Facing stress and fear.-

Fears of cancer emanates from a view that cancer is considered an unbeatable enemy; some patients think that there are few strategies to fight and they fear social implications of succumbing, and dying from cancer.

We must consider the psychological aspects and face them with a psychological support. All patients in the different phases should be supported by a psychologist (8).

We are working in Ciudad Real on a project to transfer care to primary care. In the future, we will have an unit of large-survivors.

#### Other issues.-

The use of complementary techniques help patients to face fatigue, fears, stress... improve their immunity and their quality of life.

Some of the used techniques are (9): <https://medlineplus.gov/ency/patientinstructions/000932.htm>. Integrative medicine for cancer treatment

Acupuncture. This practice may help patients to relieve nausea and vomiting. It also may help them to decrease cancer pain and hotflashes.

Aromatherapy. this treatment based on fragrant oils may improve health or mood. It also may help relieve pain, nausea, stress, and depression.

Massage therapy. This type of body-work may help to relieve anxiety, nausea, pain, and depression.

Meditation. Practicing meditation may relieve anxiety, fatigue, stress, and insomnia.

Ginger. This herb may help reduce the nausea of cancer treatments.

Yoga. This mind-body practice may help relieve stress, anxiety, and depression (10).

#### Conclusions.-

Cancer patients face their disease with fear, stress and as a life threatening situation. Many problems arise concerning feeding, activity, psychology... and all the spheres of the human being are involved. Our purpose as physicians and caregivers, is to face new

challenges together with our patients, regarding their body, their mind and their spirit.

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## MAKE LOVE NOT WAR: AN INTEGRAL VISION OF CANCER.

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In 1947, one hundred years after Virchow's contributions, Farber proposed a metabolic treatment with folic acid for children with acute leukaemia, which proved disastrous. He did not give up, and he proposed exactly the opposite manoeuvre, the use of a folic acid antagonist, aminopterin. This time he was right, and for the first time ever he showed that haematological remission of leukaemia was possible. This treatment made him the father of clinical chemotherapy. It was of particular significance at a time when the surgeons of the era, with Halsted and his radical approach to cancer, were forced to accept that the battle was lost in spite of their titanic efforts. It was hard to accept that there was a profound conceptual error: cancer was not a local disease, but rather a systemic disease. It took tens of thousands of breast amputations to accept that if the tumour is confined, local surgery will suffice, but if the tumour has already spread, surgery, no matter how aggressive, will be useless. The conclusion that a systemic disease demands a systemic cure completely changed the paradigm.

Chemical therapy, i.e. chemotherapy, was thus revealed as the great promise, although with important side effects, which were considered less important than the drug's sou-

ght-after efficacy, something that continues to this day. Unfortunately, most of the evidence indicates that the toxic regimen not only produces a marginal beneficial effect in most patients, at best a modest increase in survival, something far from being a cure. With better and improved drugs, the total contribution of curative and adjuvant cytotoxic chemotherapy barely exceeds 2% in improving survival at 5 years among the 22 most common neoplasms in adults (1). With the latest and most advanced progresses, the effect on overall survival of the several dozen drugs approved by the FDA and the EMA in recent years does not reach the 2.5 months established by ASCO and ESMO as a minimum "clinically significant" effect (two). In the worst case, the chemotherapeutic regimen may contribute to the spread of the disease (3).

It is as if medical science had received a call to battle that has taken us from the radical surgery room to the radical chemotherapy room, with its consequences of morbidity, human suffering and economic unsustainability. The empirical discovery of chemotherapeutic agents has been shown to disappoint while genetic cancer treatment, once a great promise, usually does not go beyond the headlines. Today, the cure for cancer is beyond human knowledge and technology. Progress in the war on cancer shows around a 2% improvement in survival or a few months with immunotherapy as tangible clinical achievements. The study of molecular defects has led to successful targeted therapies for some cancer groups, but has not been able to change the general course of the disease (4). Throughout the history of knowledge, the one cause-one cure approach has not worked.

In light of the results, it may now be necessary to consider solving the fundamental biological enigmas of cancer, to better understand tumour cells, their environment and their ecosystem, the genetic and epigenetic, metabolic, relational, and bioelectrical aspects, the fields of information and the language of tumours. After many years focused on the war on tumour cells as a diagnostic and treatment centre (chemotherapy, radiation therapy, surgery), perhaps the time has come to expand the focus: the tumour microenvironment, its vessels, the stroma, the immune system, metabolism, bioelectricity... and also the microbiota, mechanotransduction and the hypothalamus. We also need to focus on the patient's life circumstances, stress, fear, suffering, their history...

Experimental data strongly show that normal cells and tumour cells are context-dependent and that mutations can cause cancer and vice versa. The phenotypic heterogeneity and a complete network of gene regulation in relation to the microenvironment show the epigenetic character of tumour cells as a problem of reprogramming. This also implies that the neoplastic phenotype can return to normal.

1 Tumour cells continue to maintain receptivity to a large number of non-cytotoxic, hormonal, immunological, stromal, metabolic and many other stimuli, capable of setting in motion epigenetic programs to differentiate and control the proliferation and revert the malignant phenotype. Redefining victory implies incorporating a systemic vision, where the next steps for science in the study and integral treatment could consider cancer as a metabolic disorder; the mitochondria, the damaged engine of the tumour cell; the microbiota, the architect of the maturation of the immune sys-

tem, the structure and function of the tumour ecosystem and the response to chemo- and immunotherapeutic treatment; the mind and the field of neuroimmunology, as the master regulator of physiological and oncogenic homeostatic equilibrium; and the microenvironment, the maker of a universe of structures, functions and relationships, without which it is impossible to conceptualise the disease that we still call "cancer" today. The proposal consists of a bottom-up approach, which allows us to understand normal and tumour biology, so that we can create friendly and non-toxic prevention and treatment plans. That is, we need to make love and not war to the tumour cell and tissue within its own system, the person who has it.

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## HOW CAN WE INTEGRATE AN INTEGRATIVE MEDICINE DIVISION IN A HOSPITAL?

**Pere Gascón, Servei d'Oncologia Mèdica Hospital Clínic, Universitat de Barcelona, Barcelona**

While the use of Integrative Medicine in the United States was made official by the federal government in the 1990s with the creation of the National Center for Alternative/Complementary Medicine (NCACM), recently renamed the National Center for Integrative Medicine (NCIM), in Spain these are difficult times since the Ministry of Health and Medical Associations have a negative attitude toward everything that is not allopathic medicine. There are attempts in several Spanish hospitals to create an Integrative Medicine Unit, but they are sporadic attempts that have sometimes clashed with the management's prejudice. With a future-oriented outlook, one could consider adding acupuncture in the pain units, incorporating the use of certain medicinal plants and fungus extracts to the Nutrition Services in our hospital, with a certain optimism, one could hope that all these aspects can converge within the Support Treatment Units of the respective hospitals. The current importance of intestinal microbiota in all areas of medicine will possibly force Integrative Medicine to be introduced into certain public hospital services. The lack of a budget to hire expert professionals in different facets of Integrative Medicine will make it grow and establish Integrative Medicine Units and Divisions in the private field. This fact is already happening in various hospitals and private institutions within our country. The prejudices and current attitude of the Ministry of Health and

the Medical Associations go in this direction. We must urgently prepare a white paper that includes the benefits of certain therapies included within the integrative field so that we can begin to change the official culture in our country and help one day to create Integrative Medicine Divisions.

## CONTROVERSY AROUND THE USE OF OR A LAND TROPICAL RADIO PROTECTORS IN MEDICAL TREATMENT USING IONIZING RADIATION: FROM BASIC RESEARCH TO CLINICAL PRACTICE.

**Alegría Montoro  
Radiological Protection Service. University Hospital La Fe (Valencia/SP)**

A particular emphasis will be discussed related to the investigation and development of novel compounds, known as medical countermeasures that are effective, non-toxic and minimize the damage caused by ionizing radiation. Research is needed due to the increased use of ionizing radiation in different fields of applications. In medical applications there are two areas where the radiation doses patients receive may be high and where radiotherapy and interventional radiology would be justified. Secondly, at the occupational level, where workers are exposed to ionizing radiation. In addition, the aerospace industry is interested in investigating countermeasures for astronaut exposure in space missions and future space travel by the public. Lastly there is Defense due to the nuclear terrorist threat.

Medical countermeasures are divided into three broad classes depending on the length of time exposed to ionizing radiation. Radio protectors are agents administered before radiation exposure to reduce the level of radiation damage. Radiation mitigators are drugs administered shortly after irradiation but before the manifestation of normal tissue toxicity. Radiation therapies are agents administered after the onset of obvious symptoms to reduce the severity of the radiation response.

Radioprotectors, mitigators and radiation therapies will be discussed for medical applications, workers, both oral and topical, that have been marketed, and approved by the FDA and also those under development in humans, as well as their mechanisms of action.

## THE EFFICACY OF MICRO-IMMUNOTHERAPY AS A LOW DOSE THERAPY

**Rigau, Josepa MD, PhD, experta en farmacogenética y farmacogenómica (Tarragona, Spain)**

The concept of low doses or suboptimal doses in immunology appears for the first time in scientific literature during the 60s, in order to define the concept of "desensitization", me-

aning inducing tolerance to an allergen. During the 90s, the term “low dose allergen therapy (LDA)” already referred to the association of an enzyme (glucuronidase) to an allergen in low or ultra-low doses, a therapy aimed at creating tolerance in lymphocytes B. Simultaneously, some references of Low doses Immunotherapy (LDI), targeting lymphocytes T in cancer and autoimmune diseases, as well as new studies of low doses medicines, showing less secondary effects while maintaining their therapeutic effect, appeared in the bibliography.

Micro-immunotherapy, namely low and ultra-low doses therapy, can hereby be defined as the use of immunomodulatory substances in low doses. In this regard, there is a large clinical experience mainly in the use of cytokines, nucleic acids and growth factors in low doses and administered in sequential order, aiming at the maintenance or restoration of the physiological processes that may be altered in different pathologies with respect to the natural functioning of the body. Indeed, most diseases are related to an alteration of the immune response. The following examples can be named: infections and viral reactivations, inflammatory, degenerative, chronic or autoimmune diseases and stress-related conditions. Recent publications and clinical experience in the field support its efficacy and application both in acute and chronic processes, either in prevention or treatment.

Micro-immunotherapy may be then encompassed in an integrative approach; namely, it encourages a global vision of health and the implementation of personalized treatment plans in which the immune system takes a central role.

## “MICROBIOTA AND IMMUNE SYSTEM”

**Dra. M<sup>a</sup> Dolores de la Puerta Soler. MD, Especialista en Medicina Integrativa y salud anti-envejecimiento.**

### ABSTRACT:

We’ve all got a world of millions of microbes in our gut. The question is, ¿what are they doing? ¿what do they encode and what are their metabolites?

Its action is very diverse but focusing on immunity, we can say that the intestinal barrier is the first line of defense of the body against antigens and pathogens, it has an effective defensive activity, both physical and chemical.

The key to this protection are both the functional stability (qualitative and quantitative) of the microbiota and the many molecules involved in the stability and homeostasis of the intestinal environment; the short-chain fatty acids, produced in abundance by the microbiota during the process of fiber degradation, are the most important metabolites.

The function of the immune system is much broader than ensuring an adequate response when the body is in contact with a potentially harmful foreign element, it is equally important its ability to recognize and tolerate without response, non-harmful or structural elements. The microbiota is essential to help the immune system be effective in these processes of immune tolerance and identification.

A diet rich in fibre, probiotics, prebiotics and omega-3 contribute to the maintenance of the microbiota and its normal immune function, improving immune tolerance and protecting individuals from developmental allergies or other immune dysfunctions.

## TOXIC CHEMICALS AND THEIR EFFECTS ON HEALTH

**William Shaw, Ph.D., Board certified in the fields of clinical chemistry and toxicology by the American Board of Clinical Chemistry.**

A high percentage of all people are now exposed to a soup of toxic chemicals. Toxic chemical exposure has been implicated as a major factor in impaired learning ability, attention deficit, hyperactivity, pervasive developmental disorder, Alzheimer’s disease, depression, cancer, multiple sclerosis, and autism. Documentation of common chemicals in the environment that cause illnesses and their sources will be presented along with methods to prevent exposure and to remove them when exposure has already occurred. Metals are one of the most common groups of toxic chemicals and the treatment of toxic metal exposure will be examined.

### Learning Objectives:

The attendee will learn how humans are exposed to a wide variety of toxic chemicals.

The attendee will learn which toxic chemicals can cause human disease.

The attendee will learn the most toxic metals in the environment as well as trace elements that are toxic in excess.

The attendee will learn techniques that can be used for the elimination of most toxic chemicals in the environment.

## NURSING EDUCATION IN ICELAND

**Gunnardottir, TJ, PhD, Faculty of Nursing, Reykjavik (IS) Complementary Therapies:**

The use of complementary therapies in Iceland among the public is rising. Within the health care system needs to be increased discussion about how integrative health care can be strengthened and further education on this matter is needed to inform all health care students about the use of complementary therapies and integrative health for the benefit of patients. The Faculty of Nursing at the University of Iceland has been taking part in research and educating about complementary therapies and integrative health practices. This has been done by offering lectures and seminars at the National Hospital, collecting data on the use within the National Hospital, among the public and in nursing homes. The Faculty of Nursing has renewed its curriculum and as part of that is now offering six credit course for all nursing students about public health and self-mental care, complementary and integrative health. The course lectures and workshop

sabotcomplementarytherapiesandpatient'ssymptomsandsafeuse. This may also be beneficial for students to deal with stress and increase self-care which may be of special importance now since recent studies are showing that nursing students are reporting increased stress and burnout during their studies.

## DIETARY THERAPY AND FOOD IN CANCER. ADJUVANT TREATMENT.

### Evidence and Strategy

**Dr. Jorge Petez-Calvo Soler, expert in Nutritional Medicine, Diet Therapy and food and integrative treatment of the Oncological patient. Expert in MTC. Acupuncturist. Environmental Medicine Neuro focal medicine. Director of the Center for Biological Medicine and Energy Nutrition. Barcelona**

#### ABSTRACT

The conference presents the dietary strategy and food with proven positive effects against cancer, applicable to diet and feeding for the patient throughout its entire process and cancer treatment. It is based on the updated analysis of abundant current scientific evidence, which has been the foundation of the dietary therapeutic prescriptions that have shown us such good results over more than 30 years of clinical experience:

The purpose of the diet and feed in cancer should be, not only to provide enough nutrients and energy for tissue replacement and basic body functions, but also to improve and strengthen the patient's immune functions. All this in order to help them throughout their cancer process in their fight against cancer and the emergence of new metastases. To this end, a strategy must be followed and the foods indicated in the abundant and most relevant current scientific evidence (mostly of vegetable origin), such as those recommended by WCRF (World Cancer Research Foundation), AICR (American Institute for Cancer Research), WHO (World Health Organization) and other reputable sources. It is also advisable to avoid or logically limit those foods that can be considered, according to current evidence, risk factors or predisposing to cancer (for example meat, poultry, processed, refined carbohydrates, sugars,...).

Food and nutrition can also be used to try to compensate for the side effects of cancer treatments: surgery, pharmacotherapy, chemotherapy, radiotherapy or biological treatment. A metabolic and food strategy, taking special care to protect the digestive force and condition in the cancer patient, with the adequate inclusion of certain foods, such as whole grains, vegetable proteins, fish, seeds, fresh vegetables and some fruits, in a food style, with high digestibility and optimal nutritional value, it is a great help for the patient to have a better physical condition, energy level and the best possible quality of life and well-being.

We can thus help facilitate the best treatment success and improve the quality of life, and allow, with better health also in the post-treatment, favor the prolongation of their life as long as possible, and avoid recurrences.

## FERRITIN AND CANCER: HOW TO MAKE VIRTUE OF THE PROBLEM

**Dr. Santos Martín. Medical Doctor, PhD from the University of Tübingen (Germany). Specialized in oncology. Research professor at the UCAM of Murcia.**

Iron is a central element in all living organisms because without it cell proliferation and growth would not be possible. On the other hand, due to its REDOX capacity, it contributes directly to the formation of free radicals with the risk associated with them. In the tumor cell its role is essential in the proliferation, invasion, evasion of growth suppressors and immunovigilance, immortalization, angiogenesis and metastasis. Similarly, the elevation of ferritin levels is a factor of poor prognosis, as it means increasing resistance to conventional treatments. Based on this knowledge there is a whole series of procedures that use iron / ferritin as a selective anti-tumor therapeutic target.

## USE OF ACUPUNCTURE IN A PAIN UNIT. A REVIEW OF OVER 10 YEARS OF PRACTICE

**Javier Mata Estévez**

**Head of Section**

**Department of Anesthesiology and Pain Medicine, Son Llàtzer University Hospital. Palma de Mallorca. Spain. (jmata@hsl.es)**

#### Introduction

Acupuncture is widely used to manage chronic pain. Growing evidence supports the effectiveness of acupuncture to treat chronic low back, shoulder, neck, knee pain, and headaches (1). Additional data are emerging that support the use of acupuncture as an adjunct or alternative to opioids, this idea is in line with reducing opioids in adults with chronic pain conditions (2).

After stimulating an acupoint with a needle, the architecture of the connective tissue is altered. Mediators released by the cells stimulate nerve endings with consequent activation of different areas in the central nervous system (3-4). PET showed that acupuncture evokes a short- and long-term increase in  $\mu$ -opioid receptor availability in areas involved in pain processing, such as the caudate, thalamus, cingulate, insula, and amygdala, and this correlates with better clinical outcomes (5). The hypothalamic-pituitary-adrenal (HPA) axis also contributes to the efficacy of the acupuncture but its role is more complex than simply deactivating this system (6).

#### Methods and materials

Electroacupuncture has been performed at the Pain Clinic of the Son Llàtzer University Hospital since 2006. It has since grown over 20% of the pain management interventions and

procedures. It is a medical procedure with a very wide range of indications in the treatment of common chronic pain conditions. Acupuncture Clinical Pathway has been developed since 2016, with the aim of improving the quality of care, reduce variation and maximize the outcomes for this type of patient.

Acupuncture is offered for the treatment of chronic musculoskeletal, chronic low back, neck, shoulder, headache and osteoarthritis pain.

The application of inclusion/exclusion criteria for acupuncture treatment is essential. On the other hand, the type of treatment and the number of sessions must be drawn up for assessing the effectiveness of the technique.

The risks of acupuncture are low although common side effects (bleeding, soreness or bruising) may be observed. All the information may be explained before the informed consent is signed.

Acupuncture treatment is chosen as the first choice or is offered as an alternative when the usual analgesic procedures cannot be applied due to medication intolerance, allergy and/or comorbidity. On the other hand, it is chosen as complementary treatment, when acupuncture is applied to increase the response to other pain-relieving procedures.

The electroacupuncture treatment includes 1 session per week during 1 month (4 sessions). 30 minutes per session. Pain level (VAS for pain scale), medication use, anxiety and depression state (Goldberg Anxiety and Depression Scale), quality of life (SF-12) and quality of sleep (Pittsburg sleep quality index) before the treatment is measured.

A new patient assessment will be undertaken at the end of the treatment. The treatment will be continued until complete 10 sessions (every fifteen days) if there is a >30% reduction in the VAS for pain scale, medication use, or >30% improvement in the quality of life or quality of sleep scales.

When the 10 sessions are finished another assessment will be performed and questions related to patient satisfaction with the treatment received, and their expectations for improvement will also be included in the questionnaires.

#### Results

The analysis of the data was between 2015 and 2018. The median age at the time of onset of treatment was 54±42 (18,92), with 73,2% women. 35% of the Pain Clinic treatment was acupuncture. Electroacupuncture was the treatment in 26% of the chronic musculoskeletal pain, 29% in the low back pain, 30% in the neck pain, 14% in the shoulder pain, 71% in the headache, and 40% in the osteoarthritis knee pain.

Between baseline and week 16 the VAS for pain scale decreased by a mean (SD) of 1.3 (2.0) in low back pain; 3,7(2,9) in headache and 3,8 (1,8) in OA knee pain.

In the preliminary results, there was a reduction in medical use, anxiety and depression an increase in quality of life and quality of sleep but there was no statistically significant difference.

#### Conclusion

Referral for a course of acupuncture treatment is a reasonable option for a patient with chronic pain (7). Acupuncture Clinical Pathway may be used to improve the quality of care, reduce variation and maximize the outcomes for this type of patient.

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## EFFECT OF EAR ACUPUNCTURE ON PREGNANCY-RELATED PAIN IN THE LOWER BACK AND POSTERIOR PELVIC GIRDLE: A MULTICENTER RANDOMIZED CLINICAL TRIAL

**Vas J, Cintado MC, Aranda-Regules JM, et al. Effect of ear acupuncture on pregnancy-related pain in the lower back and posterior pelvic girdle: A multicenter randomized clinical trial. *Acta Obstet Gynecol Scand* 2019;:aogs.13635. doi:10.1111/aogs.13635**

**Introduction:** Ear acupuncture carried out in primary care by trained midwives, with no specialist training in acupuncture, may be effective in alleviating pregnancy-related lower back and/or posterior pelvic girdle pain (LBPGP). The objective of this study was to assess the effect of ear acupuncture associated with standard obstetric care, in the primary-care setting, on LBPGP experienced by pregnant women.

**Material and methods:** This four-group, multicenter, randomized controlled trial was conducted at 18 public primary care centers in three regions in Spain, with the participation of 220

pregnant women at 24-36 weeks of gestation, aged 18 years or more, diagnosed with pregnancy-related LBP/GP and who had not previously received ear acupuncture. The trial was conducted from March 2014 to December 2016. Participants were randomly assigned (1:1:1:1) to receive standard obstetric care plus 2 sessions (over 2 weeks) of verum ear acupuncture, or nonspecific ear acupuncture, or placebo ear acupuncture, or standard obstetric care alone. The primary outcome was change in pain intensity, assessed using a visual analogue scale (0-100mm) from baseline to the end of treatment (T2). Secondary outcomes included change or presence of pain at 3 months (T3) and at 1 year (T4) postpartum, and changes in responses to the Roland-Morris disability questionnaire (RMDQ) and Short Form-12 Health Survey (SF-12) at the end of treatment.

**Results:** A total of 55 women were randomized to each group, and 205 completed the study. With respect to baseline values, the reduction in pain intensity among the verum ear acupuncture group vs standard obstetric care was significantly greater, both at T2 (65.8%, 95%CI 56.2- 75.3 vs 25.1%, 95%CI 15.3-34.9) and at T3 (93.8%, 95%CI 88.7-99.0

vs 67.9%, 95%CI 55.3-80.5). Moreover, significant changes were found in the verum ear acupuncture group vs standard obstetric care at T2, in reduced RMDQ scores (70.9%, 95%CI 61.8-80.1 vs 21.2%, 95%CI 8.6-

33.7) and increased SF-12 scores on the physical scale (40.5%, 95%CI 31.5-49.4 vs 8.1%, 95%CI 0.8-15.5).

**Conclusions:** After 2 weeks of treatment, ear acupuncture applied by midwives and associated with standard obstetric care significantly reduces lumbar and pelvic pain in pregnant women, improves quality of life and reduces functional disability.

## AURICULOPUNCTURE, EAR ACUPUNCTURE, PREGNANCY-RELATED LOW BACK PAIN, PREGNANCY-RELATED POSTERIOR PELVIC GIRDLE PAIN, PRIMARY CARE, RANDOMIZED CONTROLLED TRIAL

**Acupuncture techniques in chronic diseases – examples: Allergic Rhinitis**  
**Prof. Dr. Benno Brinkhaus, Charité University Medicine Berlin, Germany**

Allergic rhinitis (AR) affects an estimated about 15 percent of the population in the industrialized countries. Direct yearly costs for AR in Europe are estimated at 1.0–1.5 billion Euros annually, whereas indirect costs are estimated at 1.0–2.0 billion Euros.

A remarkable number of patients are turning for relief to Complementary and Alternative Medicine (CAM) including homeopathy, herbal medicine (of various traditional medicine systems), and acupuncture. The lifetime prevalence of CAM use in patients with AR ranges from 27% to 46%, and most of the patients who have not yet used CAM intend to do so in the future.

However, the evidence for the efficacy of CAM for AR is still limited. We performed three RCT trials to evaluate the efficacy as well as the effectiveness of acupuncture in allergic rhinitis providing good evidence for

overall and specific effects for acupuncture in AR.

The topic of this presentation will be to present data on the CAM use in the field of AR and to provide the scientific evidence of acupuncture as well as to inform about the acupuncture and Chinese medicine strategy used in our clinical trials as well as in our outpatient clinic of complementary and integrative medicine at the Charité Universitätsmedizin Berlin.

## A NEW DIRECTION IN ACUPUNCTURE RESEARCH FROM THE EAST

**Dr Mike**  
**Medical Director, British Medical Acupuncture Society**

The vast majority of acupuncture research is performed in China and published in Chinese. It is inaccessible to most of us in the West; however, it is increasingly being summarised in systematic reviews in the English language. The quality of clinical research published in English has been steadily improving, and in recent years there have been not only improvements in the quality of conduct and reporting of clinical trials but there has also been a subtle but dramatic change in the design of some research questions.

In my early days in the acupuncture field in the mid-nineties, Chinese research in acupuncture seemed to be associated with improbably good results, and it was one region of the world that only published positive trials. Consequently, it was easy to dismiss.

That is no longer the case and in the last decade we have seen the first large negative or neutral trials published in English language journals from China, and more recently still we have seen some very large trials of what to all intents and purposes are rather tight segmental electroacupuncture (EA) protocols ie what appears to be a research question that tests a clear Western neurophysiological mechanism rather than a more complex TCM pattern-based concept.

In this presentation I will chart the change in clinical research from China that started with 'improbably good' to become 'huge and entirely believable', and what I perceive to be the adoption of mechanism-based EA protocols.

## (MORE THAN) 20 YEARS OF INTEGRATION OF HOMEOPATHY IN THE PUBLIC HEALTH SYSTEM OF THE REGION OF TUSCANY AND THE EXPERIENCE OF THE CLINIC HOMEOPATHIC HOSPITAL OF LUCCA (ITALY)

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**Marte, Lucca (Italy) – Regional center of reference for homeopathy. Coordination center for Complementary Medicine of ASL Tuscany North West**

**Introduction**

In response to the increasing demand of Complementary Medicine (CM) in the past few years by the Tuscan citizens, the region of Tuscany has started their integration in the healthcare service. Since 1996, the Tuscan Regional Healthcare Plans (RHPs) have been considering the role of Complementary Medicine (acupuncture, herbal medicine and homeopathy). Furthermore, the Region of Tuscany decided to include CM in the Essential Levels of Assistance (ELA/LEA) in 2005. Accordingly, a network of 107 public clinics providing CM health services was built and the relative regulations (i.e., laws, bills, resolutions, etc.) were approved by the regional authorities.

The Homeopathic Clinic of Lucca was opened in 1998, followed by the Homeopathic Clinic for Women in 2003, and the Clinic for CM and Diet in Oncology in 2013.

**Aim**

The aim of this article is to describe the pathway and results of the integration process of CM in the public healthcare service in the region of Tuscany (Italy) lasting more than 20 years.

**Methods**

Observational longitudinal studies conducted on 6,638 patients (4,343 in the general clinic, 1,774 in the women's clinic and 436 in oncology) were consecutively examined from 2003 to 2018. The Outcome in Relation to Impact on Daily Living (ORIDL) was generally used to assess outcomes.

**Results**

Comparing the clinical conditions before and after homeopathic treatment, improvement was observed in 88.8% of general medicine patients with follow-up (45.1%); in particular, 68.1% of the patients had a major improvement in or resolution (ORIDL +2,+3, +4) of their condition. In women, an improvement was obtained in 74.1% cases and a major improvement in 61.2%. In cancer patients with homeopathic and integrative treatment, a significant improvement was observed for all the symptoms during anticancer therapy, particularly for hot flashes, nausea, depression, asthenia, and anxiety.

**Conclusions**

These results suggest that homeopathy can effectively be integrated with conventional medicine and that the Tuscan experience could provide a useful reference for developing national and European regulations on the use of CM and homeopathy in public healthcare.

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**RESEARCH LINES IN HOMEOPATHY: WHERE DO WE COME FROM AND WHERE ARE WE HEADING TO?**

**Authors:**

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**Abstract**

The objective is to present a brief review of the advances made in research at different levels regarding homeopathy, and the perspective opened for the future research and knowledge.

The evidence that we already know allow us to be forceful when it comes to stating that homeopathic medicines have specific biological effects, that its clinical application can produce clinical positive results which can additionally be relevant for public health.

New research designs and research lines will allow us discriminate between different homeopathic active principles (which will allow better quality controls), define better the mechanisms of action, prove effectivity under real life conditions and for the most relevant health problems and also improve the methods for the homeopathic consultation and the data of each medicine.

**Key words:**

research, homeopathy, review, methods

**Full text:**

In the laboratory research, if the physical-chemical structural changes of the high dynamized dilutions are already well settled through the MRI (1), now more precise methods allow to discover nanoparticles present in every dilution level (2) and polar dyes (dynamic) that can identify the homeopathic active principles (3).

The ligand-receptor type mechanisms of action described for Gelsemium 5ch (4), Aspirine 15CH

and others, give way to electromagnetic interactions and changes in the genetic expression

and the cellular proteome (studies by Dr. Niurka Meneses).

Classical design such as clinical trial offer favourable results (7,8) but often non-conclusive ones; however, new pragmatic designs such as trials within cohorts -cMRCT (9) and TwiCs (10) are promising due to their capacity to better reflect the real practice. At the same time, the studies tend to focus on cancer, woman health and infections, which are some of the problems poorly answered by the conventional system.

Epidemiological studies such as EPI3 program in France (11) or British public hospitals (12,13) tend to become "integrative" for example in the Tuscan Network of Integrative Medicine (14) or the ones made by the German assurance companies (15) because the real practice of complementary medicine is mixed and complex. They also focus more towards use and satisfaction of the population (16).

Global systematic reviews have become stratified by illnesses, by types of practice (individualised or not) and comparator (17), to allow more meaningful results. Meanwhile, "reviewsofreviews" are published (18,19) that carry and multiply the evaluation-

bias instead of

incorporating new data and improve its analysis, which brings in the need of looking into those reports and re-analysing them in order to face them (20,21).

All these studies allow us to understand better the mechanisms of action of homeopathy and show the scientific community its interest, but for the homeopathy specialist there are other type of studies that help improving the practise: case reports, that now tend to follow ad-hoc quality guidelines (22), or large case series that are possible by means of platforms such as CLIFICOL (23) and others. Another way of improving is to apply a clinical thinking system more devoid of bias and with the capacity to provide a response probability to a given medicine, which is gaining interest thanks to the studies of Likelihood Ratio for the symptoms of each homeopathic medicine (24) and the application of Bayesian probabilities to the clinical thinking (25).

As a corollary, the last tendencies invite us to improve the registration of the data in the clinical records in a universal manner for profiting it for research purposes. This will allow the application of the tools that have been explained; and well as others that in the future, relying on the development of the analysis of Big Data by Artificial Intelligence, will allow improve both the homeopathic practise and the achievement of positive research results.

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## HOMEOPATHY PRACTICE IN FRANCE. EXPERIENCE AT THE HOSPITAL

**Yecenia LOPEZ MARQUEZ, MD - General Practitioner- Homeopath, Lyon France**

An increasing number of patients suffering chronic diseases, such as cancer, are seeking other therapies that can help them alleviate side effects of their treatments. In France, homeopathy keeps developing as its use increases as a direct treatment to various pathologies and as a complementary treatment for chronic diseases and cancer.

For cancer, homeopathy is only to be used as a complemen-

tary treatment, not as an alternative. Therefore, it should be used jointly with conventional treatments, and in full transparency and agreement with the medical team and the oncologist who are taking care of the patient. Homeopathy is the complementary medicine most used for patients with cancer.

The homeopathic treatment alleviates the side effects of chemotherapy and other therapies for cancer, which increases the patient adherence to and ability to complete his/her conventional treatment until the end. Homeopathy is a therapy without drug interactions, which improves tolerance to the conventional treatment and therefore brings more quality of life to the patient.

Homeopathy is widely used in France: 77% of French people have used homeopathy at least once. 4000 specialized doctors prescribe homeopathy, as well as many traditional General Practitioners and Midwives.

Homeopathy is also used in several French hospitals: more than 50 consultations are available, mainly in gynecology, oncology and radiotherapy Departments.

Dr. LOPEZ MARQUEZ is in charge of the homeopathy consultation within the hepatology and gastroenterology Department of the leading "Hôpital de la Croix-Rousse" in Lyon, France. Based on clinical cases, she will present her experience of practical integrative medicine at the hospital.

## PHYTOTHERAPY: RELEVANCE OF QUALITY ON SAFETY AND EFFICACY

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Phytotherapy is based on the use of herbal products for preventive or curative purposes. Phytotherapy needs products that guarantee the effect which is expected from them, and that have a known level of risk. Herbal products from the same plant species are not always equivalent and therefore do not necessarily have the same properties<sup>1</sup>. Moreover, it is common for some plants, to find adulterated products on the market, as recently seen in the case of ginkgo food supplements<sup>2</sup>.

Quality is a key factor of the herbal products because it guarantees the batch to batch reproducibility of safety and efficacy<sup>1,3</sup>. The difficulties arising from the chemical complexity and variability of herbal drugs and preparations thereof, as well as the complexity of their production processes, can be overcome if quality is taken into account since the beginning of the production process, applying Good Agriculture and Collection Practices (GACP) and Good Manufacturing Practices (GMP), together with an effort in the field of research and an adequate quality control throughout the process. This control must ensure identity, purity (absence of contaminants, falsifications or adulterations), and content of active ingredients or markers.

The development of new herbal products should base the evidence of its efficacy and safety in double or triple blind, randomized, controlled clinical trials without underestimating all the knowledge provided by traditional use and the existing clinical experience. The definition of product quality specifications is a prerequisite for initiating any clinical study<sup>1,3</sup>.

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## FERTILITY IS NOT ONLY EMBRYO QUALITY

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### Introduction

In Spain 6000 couples have problems to conceive, that is, 1 out of every 4 born in the 70 will not have children. This becomes a health problem.

Each year 16,000 couples need help with fertility treatments to become parents.

June is the world month of Fertility Care. I love this concept because it's not about working with infertility, but about caring for fertility.

Let's start at the beginning (What is infertility?) Impossibility of a couple getting a pregnancy by natural means after having normal sex for more than 1 year.

Why is this happening:

Spaniards delay motherhood from 26 years in 1985 to 31 years now.

Regarding male fertility according to the European Fertility Society until 1986, the normal number of sperm in the ejaculate was 100 million / cc. From 1986 this normality is reduced to 60 million / cc and since 1992 to 20 million / cc

There is no approach that works for everyone since each couple has their own situation.

Focus only on ovulation

Many couples with fertility problems only have sex during the period of ovulation: Some couples try to "save" the sperm during the period of ovulation and then barely have sex during the month.

But the ideal is to have relationships every two or three days during the month to maximize the possibilities.

Others believe that having more sex produces more possibilities but this is not true. If it is for reproductive purposes, having sex several times a day or even every day can cause exhaustion and the couple can begin to see sex as little more than a pre-ovulatory task.

If you control the temperature or are using an ovulation prediction kit, you may think that the ideal is the day of ovulation. But it may be late because the ovum can be fertilized for 24 hours afterwards and the sperm survives up to 24 or 48 hours so it is highly recommended that you have intercourse every other day on days 4 to 6 days before ovulation and continue doing so for another 4 to 6 days after this.

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The importance of endocrine disruptors.

Not cleanse of endocrine disruptors is one of the mistakes that can be made in matters of infertility.

We remember that an endocrine disruptor is those substances exogenous to the organism (natural or synthetic) that interfere with the production, transport or action of natural hormones in our organism. Many times they behave like fake oestrogens or imitators

What are the main ones:

aromatic hydrocarbons

Halogenated hydrocarbons

Organochlorine compounds: Pesticides

Heavy metals (lead, cadmium)

All these products are contained in pesticides, insecticides, food additives and cosmetics and hygiene products, environmental pollution, plastics, UV filters of sun creams,

In male fertility affect the quality of sperm (remember that at least half of cases of male sterility is of unknown cause) and could be attributed to these endocrine disruptors.

In women these endocrine disruptors affect the glands such as ovaries, pancreas (insulin resistance and fertility, polycystic ovarian syndrome), adrenal (cortisol and inflammation) and thyroid (thyroid disorders) and pituitary gland (high levels of prolactin).

Contamination reaches newborns through the umbilical cord. According to a US study on umbilical cord blood from fetuses, these are soaked in a mixture of chemicals that include (mercury, gasoline derivatives, pesticides and the chemical PFOA used in Teflon). Up to a total of 287 chemical contaminants.

The damage of endocrine disruptors can be transgenerational, that is, diagnosed to newborns or adults who were exposed when their mother was developing them.

Hence the importance of making a history of environmental exposure in couples who have infertility problems.

A key point the hypophysis

The pituitary gland, which is located in the brain that controls our sex hormones (estrogen, progesterone and prolactin) and is directly affected by our stress, anxiety and attitude towards life. And these therefore directly affect our fertility.

It has been proven how yoga helps to rebalance the hormonal axes

Meditation improves the rebalancing of neurological pathways that influence hormonal control. Acupuncture produces endorphins that help manage your stress, anxiety and daily emotions. These techniques that act from the mind help optimize the results of both natural fertility but also assisted fertility treatments because all three help to balance the hormonal system without the need to take medicines or chemicals.

The importance of the immune system

The immune system is what defends us from the external aggressor but also maintains an internal balance, allows blood vessels to form at the time of implantation and first trimester of pregnancy and these blood vessels respond to the immune system.

At the same time there are white blood cells that come from the blood and that are located in the endometrium in the second phase of the menstrual cycle and that they will decide: "well this is the moment of the formation of blood vessels" and they lower the guard of the defense against the strange because the embryo is 50% strange. This immune balance depends on internal and external factors and must be worked on and taken into account.

Until now, he had focused mainly on blood disorders. But right now, immunology is also very strong. For example, a woman with autoimmune

hypothyroidism problems can produce that this immune alteration can alter fertility.

Immunological alterations in peripheral blood or endometrium can be studied.

The problem that usually causes the alterations of the immune system is that either they never get pregnant (even with embryos of very good quality) or they have recurrent miscarriages.

There are genetic or acquired immunological causes. The acquired ones can be a hormonal or emotional imbalance.

Because many times the blood does not reach the uterus in a sufficient way and this can be due to:

Because blood is not fluid

because the blood vessels are scarce or too many or too much quality and this has to do with antibodies.

Even in this case even the state of the vaginal flora can affect this immunology.

state of the uterus

For many years fertility has focused on studying the embryo and the quality of the ovum and sperm and everything pointed to a good ovarian response and that there was a good morphologically embryo and they began to forget that it is not all that is needed. good implantation and then a placental development that keeps the pregnancy.

And this has meant that although embryos of very good quality are reproduced, they do not implant or abortions occur and that is why we have to see what else can be done.

The uterus is the one that has to allow the passage of the sperm (if we speak of natural fertility) or allow the implantation of an embryo (if we talk about assisted fertility).

So in the uterus there are very important data some taken into account in a systematic way as the quality and thickness of the endometrium but others are not so well known. Because if the endometrium is not well, pregnancy is not achieved.

These other parameters to consider are:

Possible vascular or functional alterations (uterus in anteversion, retroversion, etc ...) that may be altering the vascularization and therefore the fetal nutrition. The endometrium is important in the first 8-10 weeks because it is a source of blood and oxygen because there is still no placenta formed.

Acidification that may come from inflammations (such as endometritis or infections) that may be asymptomatic but prevent implantation of the embryo

Stress, poor diet, environmental pollution, cigarettes, caffeine, or hormonal factors the endometrium may be out of sync with the growth of the embryo and do not become dyssynchronous and pregnancy does not occur or recurrent losses occur.

All these data must be taken into account when preparing the last phase that is the preparation of the land so that the embryo can be implanted

Conclusions

The approach to fertility problems has to be very specialized, taking into account not only the quality of germ cells and the embryo and, moreover, it must be more and more individualized taking into account the status of immunological, hormones or field axes. For this there are points that have to begin to be included in infertility approaches such as:

Bad habits and lifestyle that can affect fertility in a profound way: Stress alters hormonal axes and immunology.

The balanced versus unbalanced diet and this may affect the quality of fo-

ulation and endometrium. For example: lack of vitamins E and D that are immunomodulatory. Amount of fatty acids and types of fats that modulate the immune system and fluidify the blood.

Excess of caffeine (cola drinks) produce vasoconstriction and alter the circulation of the blood of the endometrium.

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Effect of vaginal probiotic lactobacilli on in vitro-induced sperm lipid peroxidation and its impact on sperm motility and viability.

Arcangelo Barbonetti, M.D.,<sup>a,b</sup> Benedetta Cinque, Ph.D.,<sup>c</sup> Maria Rosaria Caterina Vassallo, Ph.D.,<sup>a</sup> Salvatore Mineo, Ph.D.,<sup>a</sup> Sandro Francavilla, M.D.,<sup>a</sup> Maria Grazia Cifone, Ph.D.,<sup>c</sup> Felice Francavilla, M.D.,<sup>a</sup> *Fertility and Sterility* Vol. 95, No. 8, June 30, 2011

<sup>a</sup> Division of Maternal-Fetal Medicine and <sup>b</sup> Department of Obstetrics and Gynecology, University of South Carolina—Greenville School of Medicine, Greenville Health Systems, Greenville, South Carolina. *Fertility and Sterility*<sup>®</sup> Vol. 104, No. 6, December 2015 0015-0282

5. A strategy to validate a selection of human effect biomarkers using adverse outcome pathways: Proof of concept for phthalates and reproductive effects.

Kirsten A. Bakena, Nathalie Lambrechts, Sylvie Remya, Vicente Mustieles, Andrea Rodríguez-Carrilod, Christiana M. Neophytouf, Nicolas Oleac, Greet Schoeters. *Environmental Research* 175 (2019) 235–256

## THE IMPORTANCE OF ANAMNESIS IN LYME DISEASE AND CO-INFECTIONS: FUNDAMENTAL ASPECTS AND CHALLENGES WE FACE.

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Lyme disease is the most common zoonotic disease in Europe with an estimated number of cases per year between 650,000 and 850,000, defined as the infectious disease caused by the bite of a tick, which transmits a bacterium *Borrelia burgdorferi*, being its serological diagnosis. And being able to give rise, in a great number of cases, to a chronic disease that generates a diverse symptomatology and multisystemic damage.

Although the reality is very different, in my presentation I am going to show the difficulty in the diagnosis of this disease, because:

There are data that indicate that the so-called Lyme disease can be generated by vectors different from the tick, including the transpla-

cental way.

It may involve other species of *Borrelia*, not only *Burgdorferi*, and may accompany *Borrelia* in the disease, another series of bacteria, even parasites, which also generate characteristic symptoms,

The clinic of the disease is multisystemic and is not located in an organ or system.

Scientifically validated serological diagnoses generate a high rate of false negatives.

For all these reasons, in the face of this variability in aetiology, clinical and diagnosis,

an exhaustive anamnesis is one of the most important resources we must take into account if we want to make a correct and early diagnosis of the disease.

If we unify criteria in a common questionnaire that includes the circumstances of the beginning of the disease, the symptomatology, diagnostic tests performed if there have been, evolution, treatment or treatments if they have been prescribed at any time and the residual symptomatology after treatment, this may currently constitute the best tool for the diagnosis of Lyme disease and co-infections as well as providing us with a real definition of its incidence and the difficulties to face both diagnosis and treatment.

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3 Our immune response consists of  
An immediate non-specific part  
Innate immune response  
An organized part with amemory  
Adaptive immune response

In areas where microbes might enter: digestive tract, lungs,...MHC binds to antigens derived from pathogens and will determine if there is compatibility

interacts with CD8 receptors on the surface of Cytotoxic T cells for further destruction

MHC II interacts with CD4 receptors on naive T helper Cells for further organization of the adaptive immunity

MHC II interacts with CD4 receptors on naive T helper Cells for further organization of the adaptive immunity

Interaction with APC through MHC Surface proteins

CD4 naive T cells can only recognize antigens presented on MHC class II carriers

CD8 cytotoxic cells can only recognize antigens presented on MHC class I carriers

Immune cells communicate by releasing cytokines  
In Th1 cytokines activate

Cytotoxic T Cells, Macrophages, Natural Killer Cells

Th1 immunity is our immunity if pathogens hide inside cells

Cytotoxic T Cells are built to detect antigens on the surface of infected cells + they destroy the infected cells

Natural Killer Cells don't need to recognize antigens on the surface of infected cells, they can eliminate foreign cells just as **uce immunoglobulins to mark the microbes**

Paolini R, Bernardini G, Molfetta R. NK Cells and interferons: Cytokine growth factor. *Rev. 2015 Apr; 26(2):113-20. doi:10.1016/j.cytogfr.20014.11.003. Epub 2014 Nov 13*

What is the issue in Chronic Viral Infections?

Virus = Obligate intracellular parasite

cannot reproduce outside host cells, meaning that the parasite's reproduction is entirely reliant on intracellular resources.

Obligate intracellular parasites of humans include:

Viruses

Certain bacteria, including:

Chlamydia, and closely related species

Rickettsia

Coxiella

Certain species of Mycobacterium

OXIDATIVE STRESS DURING VIRAL INFECTION

Different mechanisms:

Viral activation of phagocytic cells to release ROS and pro-oxidant cytokines

Virally induced inhibition of antioxidant enzymes such as SOD affects pro-/antioxidant balance

Virus-induced oxidative stress is affecting Natural Killer Cell activity  
Virus-induced oxidative stress is causing damage to the host (mitochondrial damage)

Peterhans, Sendai: virus stimulates chemiluminescence in mouse spleen cells. *Biochem. Biophys. Res. Commun.* 91:383-392; 1979

Cancer Biother Radiopharm. 1998 Aug; 13(4):275-90. Susceptibility of natural killer (NK) cells to reactive oxygen species (ROS) and their

## THE DISRUPTED IMMUNE RESPONSE IN LYME

**Pol De Saedeleer Pharm. D. Chairman of the European ILADS Committee . Board Director of ILADEF. (BG)**

### Goal of this lecture

How does our immune system work when we are under attack?

What is the issue in chronic viral infections?

What is the issue in Lyme?

What more causative issues can disrupt our immune system and make us more susceptible for development of a chronic (multi-) infectious pathology?

2 Healthy immune system meant to protect us & defend against threats, pathogens and vectors

Complicated mistakes

restoration by the mimics of superoxide dismutase (SOD). Nakamura K1, Matsunaga

19

Antioxidants make the difference :

Beck MA , Handy J , Levander OA

The role of oxidative stress in viral infections

mice carrying Coxsackie virus CVB3 having a diet deficient in antioxidants, the infection is much more severe

myocarditis vs benign

= immune functions and defense systems were altered in mice having more oxidative stress

Schwarz KB

Oxidative stress during viral infection/review

Several reports show decreased levels of glutathione in lymphocytes and other tissues in HIV-infected individuals

20

What strategy should we apply to eradicate chronic viral infections more efficiently ?

What additional supportive remedies do we need to limit host defense?

Empower our intracellular immunity

= T cell immunity & Natural Killer Cells

The approach of utilizing antioxidants both to decrease virus-induced tissue damage and decrease viral replication may prove antioxidants to be very useful in treating viral infections

remedies to protect, rebuild and optimize mitochondrial metabolism

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**Empower our intracellular immunity**

= T cell immunity & Natural Killer Cells

Low dose Naltrexone

Brief blockade of opioid receptors to upregulate endorphins and rebalance immunity + improve NK cells

Transfer factors are like a cross between interleukins and antibodies

Carrying messages from immune cell to immune cell like interleukins

= General strengthening of Th1

Toljan, Karlo, and Bruce Vrooman. "Low-dose naltrexone (LDN)—review of therapeutic utilization." *Medical Sciences* 6.4 (2018):82.

Wang J. et al. Green tea epigallocatechin-3-gallate modulates differentiation of naïve CD4<sup>+</sup> T cells into specific lineage effector cells. 2013 Apr;91(4):485-95.

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Silva AM. Et al. Resveratrol as a Natural Anti-Tumor Necrosis Factor- $\alpha$  Molecule: Implications to Dendritic Cells and Their Crosstalk with Mesenchymal Stromal Cells. *PLoS One.* 2014; 9(3): e91406.

= rebuilding balance Th1/Th2/Th17

Binding to antigen on infected cells like antibodies

More immune modulators: Curcumin, Green Tea, Resveratrol

22

The approach of utilizing antioxidants may prove to be very useful

To decrease virus-induced damage to mitochondria and tissues

To improve NK cell activity by reducing oxidative attack on NK cells

Liposomal Glutathione

Sinha, Raghu, et al.

Oral supplementation with liposomal glutathione elevates body stores of glutathione and markers of immune function. *European journal of clinical nutrition* 72.1 (2018): 105.

Green Tea, Resveratrol

Shi XL, Ye JP, Leonard SS, Ding M, Vallyathan V, Castranova V, Rojanasakul Y, Dong ZG. Antioxidant properties of (-)-epicatechin-3-gallate and its inhibition of Cr(VI)-induced DNA damage and Cr(IV)- or TPA-stimulated NF-kappa B activation. *Mol Cell Biochem.* 2000;206:125–132.

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Remedies to protect, rebuild and optimize mitochondrial Metabolism

Phospholipids (lipid Replacement therapy)

Nicolson, Garth L., Robert Settineri, and Rita Ellithorpe.

Lipid replacement therapy with a glyco-phospholipid formulation with NADH and CoQ10 significantly reduces fatigue in intractable-chronic fatiguing illnesses and chronic Lyme disease patients.

*International Journal of Clinical Medicine* 3.03 (2012):163.

24

Next to the mechanical damage caused by the generation of free radicals, viruses further impair the different processes inside mitochondria

Calcium homeostasis

Calcium is the most abundant element in the cell, acting as a second messenger to regulate many cellular processes

MMP, mitochondrial Membrane Potential, regulates Calcium uptake

More Calcium stimulates the oxidative phosphorylation and the entire mitochondrial machinery, what results in higher ATP output.

A number of viruses alter the Calcium regulatory activity of the cell for their survival = HSV 1 causes a decline of 65% in

Calcium uptake

25

Electron Transport Chain

The mitochondrial respiratory chain is the main and most significant source of ROS in the cell.

Superoxide (O<sup>-</sup>) is the primary ROS produced by mitochondria

In normal state there is little or no leakage but in stress conditions

Leakage takes place mainly at complex III

ROS are generated during viral infection to limit viral replication

- but sometimes viruses cause increased oxidative stress in host cells to create chaos.

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DNA synthesis and stockage

HSV depletes mitochondrialDNA  
 Inhibition of fatty acidoxidation  
 Reduced oxidative phosphorylation and ATPgeneration  
 27  
 Mitochondrial Quality controlprocess  
 Mitochondria constitute a population of organelles that continuously elongate (fusion), divide (fission) and undergo a controlled turnover (mitophagy)

Viruses impair mitochondrial dynamics and qualitycontrol  
 Viruses as modulators of mitochondrial functions. Sanjeev K Anand and Suresh K Tikoo, *Advances in virology / Volume 2013, article ID 738794*

Mitochondrial dynamics and viral infections : A close nexus, Moshin Khan , Ghulam Hussain Syed , Seong-Jun Kim, Division of Infectious diseases , De- partment of Medicine , university of California , San Diego , La Jolla, CA, USA

28  
 Remedies to protect, rebuild and optimize mitochondrial Metabolism(continued)  
 Nutritional Molecules to optimize mitochondrial conversionof carbohydrates & fatty acids intoATP:

Acetyl Carnitine, Q10, R-ALA, Ribose & Creatine, Vit B Cofactors, Magnesium Malate  
 29

What is the issue in Lyme?  
 Lyme is a chronic immune suppression andinflammatory response - where the immune response wasunadapted  
 Borrelia doesn't act like a bacteria but like an intracellular parasite:  
 Borrelia'sgoalisnottodestroy/digestthehostbutto benefit from the different cellular functions.

Highmobility  
 Fast evasion intotissue[1]  
 Rapid migration to the lymphnodes  
 Oftenhiding  
 Adcocksetal:CatechinsfromGreenTeainhibitbovineandhumanecartilageproteoglycanandType Icollagendegradationin vitro.J.Nutr.2002 Mar 132/3:341-6

30  
 Poor Immune Response  
 Our immune response consists of  
 an immediate non-specificpart  
 = Innate immune response  
 An organized part with amemory  
 = Adaptive immune response  
 31

**INNATEIMMUNITY ADAPTIVEIMMUNITY Th &Th**  
 Short upregulation of Cytokines throughmac1ophages  
 32  
 Th1  
 intracellular  
 immunity  
 IL-2  
**IFN-gamma** TNF-beta (IL-10)

Skogman, Barbro H., et al. "Adaptive and innate immune responsive- ness to Borrelia burgdorferi sensu lato in exposed asymptomatic chil- dren and children with previous clinical Lyme borreliosis." *Clinical and Developmental Immunology* 2012(2011).

Widhe, Mona, et al. "Borrelia-specific interferon-γ and interleukin-4 secretion in cerebrospinal fluid and blood during Lyme borreliosis in humans: association with clinical outcome." *Journal of Infectious Dis- eases* 189.10 (2004):1881-1891.

Strle, Klemen, et al. "Elevated levels of IL-23 in a subset of patients with post-Lyme disease symptoms following erythema migrans." *Clin- ical infectious diseases* 58.3 (2013):372-380.

Hansen, Emily S., et al. "Interleukin-10 (IL-10) inhibits Borrelia burg- dorferi-induced IL-17 production and attenuates IL-17-mediated Lyme arthritis." *Infection and immunity* 81.12 (2013):4421-4430.

Jarefors, Sara, et al. "Lyme borreliosis reinfection: might it be explained by a gender difference in immune response?." *Immu- nology* 118.2 (2006):224-235.

Treg immune tolerance regulation of immune response  
 33

High Th1 – associated res- ponses correlated with more effec- tive immune – mediated spirochetal killing  
 Supportive measures to Treg downregulate Th17(IL-17)  
 34

What more causative issues can disrupt our immune system and make us more susceptible for development of a chronic (multi-) infectious pathology?

**heavy metal toxicity & pollution** Th17↗  
 35

**TH17**  
 Role against extracellular pathogens, fungi and yeast  
 Recruits macrophages and neutrophils to infectedtissue  
 Helps to maintain mucosal barrier(intestine)  
 36

**What is the contribution of Th17 in the development of au- toimmunity after exposure to heavy metals?**  
 When NAIVE CD4 cells are exposed to TGF beta , IL-6,IL-21 & IL-23 ...Th17 cells are differentiated

**Probably the protective Th17 are induced by IL-6 & TGF beta**  
 Neutrophils and macrophages are recruited for host defense (pathogen clearance) against extracellular bacteria and fungi at mucosal sites to eliminate the infection and maintain barrier- function

Mucosal surfaces are constantly exposed to foreign material and the a protect is "immune surveillance" -this is carried out by severalmechanis

!!!!otherimportantmechanismsforhostdefenseatintestinal mucosal site are the generation of sIgA's , IgE's andIgG's

**The respiratory mucosa is constantly challenged with in- haled particulates and infectious agents = major port of entry for infe diseases**

38  
 Probably the damaging Th17 are induced by IL-23 & IL-1 beta (probably IL-17a and or IL-17f andIL-22)

Some researchers have recently shown that IL-17A and/or IL- 17F are responsible for development of inflammation in many disorders,

IL-2

**IFN-gamma TNF-beta (IL-10)**

Supresses

especially in autoimmune diseases like rheumatoid arthritis (RA), psoriasis, juvenile idiopathic arthritis (JIA), Crohn's disease and many others

And IL-22 is a member of IL-10 cytokine family, which is linked to chronic inflammation and participates in pathogenesis of many autoimmune diseases.

immune tolerance

(Adami et al. 2014; Hot and Miossec 2011; Hu et al. 2011; Piper et al. 2014; Tesmer et al. 2008).

What more causative issues can disrupt our immune system and make us more susceptible for development of a chronic (multi-) infectious pathology?

4 is being produced in response to chitin

chitin is a sugar found in fungi, parasites and e

co-skeleton – chitin is responsible for structural rigidity in fungi, helminths and insects

IL-4 stimulates woundhealing macrophages to produce arginase, converting arginine into ornithine (collagen precursor) = tissue repair

IL-4 stimulates woundhealing macrophages to produce chitinase, breaking down chitin structure and helminths

= elimination of helminths

IL-4 activates Th2 immune response + mast cells, basophils & eosinophils + IgE

IL-4 actually drives naïve Th0 cells into Th2

lymphocytes and inhibits Th1

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Th2 induced immunity impairs our Th1 response against intracellular infections

= consider treatment for helminths in all patients suffering from chronic infections or allergy

If stool tests are negative for parasites, patients do suffer from allergy or Th2 dominance

42

What more causative issues can disrupt our immune system and make us more susceptible for development of a chronic (multi-) infectious pathology?

**heavy metal toxicity & pollution** Th17 ↗

**allergy** Th2 ↗

**parasites** Th2 ↗

**poor sleep** Natural Killer Cells ↘

**stress** Th2 ↗

**vaccination** Th2 ↗

**gender difference?**

Mold & Biotoxins

43

often result of water-damaged buildings/ moisture

our body is not able to remove the toxins

unadapted immune response

→ **Biotoxin accumulation**

→ **Chronic inflammation ( CIRS)**

44

Persistent Biotoxin Load

Continual activation of Cytokine response

Overactive innate immune system and dysfunctional adaptive immune system

= Multi-Systemic disease syndrome

Dr Schoemaker

45

**Common misdiagnosis:** Differential diagnosis

Often interaction with Lyme and viral infections

Edmondson, David, et al. "Immune response among patients exposed to molds."

International journal of molecular sciences 10.12 (2009): 5471-5484.

Brewer, Joseph, et al. "Detection of mycotoxins in patients with chronic fatigue syndrome." Toxins 5.4 (2013): 605-617.

Symptoms of mold toxicity

Key Symptoms:

fatigue, weakness, sensitivity to light, blurred vision, Chronic Sinus Congestion, Cough, Chest Pain, Joint Pain, Cognitive impairment, skin sensitivity to touch, mood swings, numbness, vertigo, etc

Unique or keynote symptoms:

Electrical shocks, Ice pick pains, Paresthesias, Internal vibration, tremor, Increased sensitivity to everything; mold makes everything worse

Symptoms of Mold Toxicity : Mold and Mycotoxins = effects on neurological and immune systems in humans Campbell, Thrasher, Gray, Vojdani - Advances in Applied Microbiology VOL 53, 2004

46

Diagnosis:

Mycotoxin testing : urinary mycotoxin testing, IgG & IgE serum antibodies

Indirect markers or tests : Visual contrast sensitivity, inflammatory markers (TGF beta1, MMP9, MSH, ADH, C4a, VEGF, VIP,...)

47

Have developed resistance to 2 or more antibiotics and have the capability to produce biofilm

Resulting from the widespread use of antibiotics

Common in CIRS resulting from the bidirectional relationship between MSH and Marcons

MSH protects mucus membranes from colonization

MSH deficiency in CIRS eliminates the protective barrier and Marcons result.

48

Basics on mold treatment:

Removal from exposure

Gut repair & diet & detox

Binders & Glutathione

Correct inflammation & immune balance

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Lyme or chronic multiple infections result from an unadapted immune response considering many factors can influence and dysbalance Th1/Th2/Th17

## MODERN TESTING FOR LYME DISEASE AND COINFECTIONS

**Author, role and place: Armin Schwarzbach MD PhD, Specialist for laboratory medicine, Armin-Labs, Zirbelstrasse 58, Augsburg, Germany**

**Abstract:** Lyme disease is caused by spirochete *Borrelia burgdorferi*, transmitted dominantly by tick-bites. Lyme disease and coinfections are the chameleon of symptoms, laboratory tests and therapies.

The laboratory diagnosis of tick-borne diseases and other symptom-related chronic infections is based on indirect and direct laboratory tests for different kinds of bacteria.

In Lyme disease and coinfections there should be done modern laboratory testings based on antibodies and T-cellular immune responses. There is a lack of confidence in falsely established laboratory tests for antibodies like the *Borrelia* ELISA against whole spirochete, which are not standardized and often false negative. Diagnosing doctors need better and improved laboratory tests, such as new Tickplex testing antibodies against round bodies (pleomorphic forms) of *Borrelia burgdorferi* and testing for T-cellular immune responses by Elispot and CD57 cell count.

**Key words:** Lyme disease, *Borrelia burgdorferi*, spirochete, round bodies, coinfections, coinfections-checklist, Tickplex, Elispot, CD57 cell count

**Article:** Ticks are contaminated with *Borrelia burgdorferi* and other bacteria like Ehrlichia/Anaplasma, Rickettsia, Babesia and Bartonella.

*Borrelia burgdorferi* is the most common tick borne disease and named as the “chameleon” of symptoms, because it can be the reason for many symptoms like fatigue, neck-pain, headache, short term memory loss, burning hand or feet, numbness, joint pain, muscle pain, muscle weakness, psychiatric symptoms like depression or panic attacks.

Many patients with tick-borne diseases are infected by different coinfections (“multiple infections”). Most symptoms of tick-borne diseases are not high-specific for Lyme disease or one of the other tick-borne diseases (“overlapping symptoms”).

Therefore, medical doctors should check all symptoms by a modern and digitalized coinfections-checklist to get an individual clinical “ranking” of possible coinfections.

In bacterial infections with Lyme disease and coinfections there should be immune responses based on antibodies and T-cells. There is a lack of confidence in falsely established laboratory tests for antibodies like the *Borrelia* ELISA, which are not standardized and often false negative because just testing whole spirochete antigens. Diagnosing doctors need better and improved laboratory tests, such as new Tickplex for testing *Borrelia burgdorferi* round bodies antibodies (pleomorphic, persister forms) and testing for T-cellular immune responses by Elispot and CD57 cells.

*Borrelia burgdorferi* is well known as a spirochete, but can develop round bodies, which are atypical forms with double cell wall. Therefore, round bodies of *Borrelia burgdorferi* should be taken into consideration as being clinically relevant and influence the development of novel diagnostics and treatment protocols.

Tickplex is analysing by ELISA method antibodies against round bodies of *Borrelia burgdorferi* beneath antigens from whole *Borrelia burgdorferi* spirochete. There is much higher sensitivity by testing

against round bodies antibodies, reaching 95% in comparison with conventional *Borrelia burgdorferi* ELISA antibody testing just against antigens from the whole spirochete. Elispot reflects the current *Borrelia burgdorferi* activity of chronic and recent *Borrelia burgdorferi* infections. It is highly sensitive and can detect even one single *Borrelia burgdorferi*- reactive T-cell in the sample. With detection levels that can be as low as one cell in 100,000, this test is one of the most sensitive cellular assays available. The Elispot is between 20 and 200 times more sensitive than a conventional ELISA. Elispot is named the new T-Cell Test is a “Game Changer” for Lyme disease: The sensitivity of ELISPOT is estimated at 84%, and the specificity is 94%. Elispot assays provide robust, highly reproducible data and can be retested for the acquisition of additional information in follow-up assay.

Clinical research studies and case studies have shown that chronic Lyme infections are often accompanied by changes in the cellular immune defence. Evidence for this is a decreased number of natural killer cells (NK/CD3-CD56+), in particular, a decreased absolute number of activated NK cells (CD3-CD56+CD57+). While acute *Borrelia burgdorferi* infections and other diseases show normal CD57+ parameters, chronic Lyme patients often have less than 100 CD57+ cells/μl. According to scientific studies, a suppressed absolute number of CD57+ cells has mainly been observed in patients with neurological symptoms, rather than in patients whose tissue or skeleton system had been affected. A decrease of CD57+ cells can persist until an improvement in symptoms is achieved with the use antibiotic and other treatment forms. In reverse, a decreased CD57+ parameter is seen as a measurable signal for an active chronic *Borrelia* infection and can be a possible indicator for a successful therapy. (Elispot and CD57 cell count) complement each other in the quest to understand T cell-mediated immunity *in vivo*.

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## MUSIC, SCIENCE AND MEDICINE

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Music has been part of social events and religious rituals since ancient times. It has also been used as a therapeutic means by both shamans and ancient priests in Egyptian temples, places of prayer and, at the same time, healing.

Until a few decades ago, the use of sound and music to improve health was considered para-scientific because there was no scientific evidence on the effects produced that could be "measured" and/or quantified. The appearance and evolution of neuro-imaging techniques allowed us to investigate and observe the changes that occur inside the brain when a subject performs or thinks about "music". This was a great boost for musical research, for both simple musical interventions and those performed by professional musicians.

The first "medical" writing about the use of music in medicine appeared in the nineteenth century. Its physiological effects were measured, such as changes in heart rate, respiratory rate and blood pressure, which were simple measurements that used the means available at that time. Today, the response to music can be measured through various peripheral biomarkers (cortisol, immunoglobulin A, oxytocin...), its effect on the release of different neurotransmitters, and other means. This helps explain how listening to and/or performing music affects brain biochemistry and shows its role in improving quality of life. In turn, Cochrane international scientific reviews confirm that music therapy alongside conventional medical treatments offers better results than conventional treatment alone.

In my presentation, I will explain the bases or scientific claim that allow us to argue why sound and music are useful as complementary therapies for improving quality of life.

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## INTEGRAL APPROACH OF THE PATIENT THROUGH THE KINESIOLOGY

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Key words (kinesiology, testing, art, priority, communication, neutrality, respect, humility, accuracy).

Kinesiology is a really effective and practical tool to any health professional who incorporates it in his therapeutic approach. It gives us the possibility to be more accurate in both the diagnostic and the treatment approach, where respect for what the testing indicates is one of the most important premises. During the session, neutrality is a key factor because of the communication with the patient through the corporal answers to our questions.

Testing is an art and it requires practice to acquire skills, confidence and self-assurance. It is done in different ways: the most commonly used are the muscular test and AR (arm reflex). A kinesiologist defined Kinesiology as "The Science of the Consciousness", because the result and information that we get through the test help the patient to be more aware of aspects he didn't know which are related with his health's balance.

During the session, there is an entry protocol, then four ambits will be tested: the energetic, emotional, metabolic-chemical and structural one, taking into account a crucial aspect, the respect for the process that the patient needs. That is, for example, if the patient visits us to treat an anxiety problem, the logic may indicate to us to balance his emotional field, but the testing may indicate that we should address the biochemical -metabolic field. Let's respect then the result, because probably the patient is still not ready to tackle his emotional sphere, unless he has his metabolic ambit balanced before.

In summary, this is what, in kinesiology, is known as "priority concept", which helps us to identify which field or fields are the most important ones to treat on the patient every moment. In the example previously described, the patient will be treated, most certainly, on his emotional sphere in following sessions, once we have balanced the biochemical and metabolic field.

Therefore, the humility of the therapist is based on being in contact with the service of the patient, respecting his process and providing him with an accompaniment for him to take also responsibility in his health with the infor-

mation provided by the test. In many occasions, the kinesiologist acts as a bridge and refers the patient to another professional when needed. Thus, the multidisciplinary support is part of his clinical practice.

Finally, it should be pointed out that the more knowledge and experience the kinesiologist has on each field, **the most accurate, complete and comprehensive his therapeutic approach will be.**

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- Tree in one (Dr. Gordon)
- Scientific base of the human movement (Luttgens & Wells)
- Applied kinesiology ( a fast and safe method for health and healing) (Tom y Carol Valentine)

## IN RESONANCE WITH THE BODY

**Jacomina Kistemaker, psychologist and sound-worker**

**Founder and director of Center Punta de Couso and pioneer of the use of sound for Personal and spiritual development in Spain since '95.**

Vibration is the essence of life. Every cell and part of our body has its own frequency and sound. The form and shape of our body, our emotions, our mind and soul, our whole being is the result of a symphony of tones, specific for each and every being.

The original frequencies change in the parts that are out of balance. One could say the body gets out of tune. Like everything in nature, the body will use anything available to restore the balance, to tune the system. Memories of what has happened to us on a physical as well as emotional level gets stored in our bodies in the form of crystal structures. It depends on the kind of experiences where these memories get stored.

When we work with sound or with the voice, the body uses the frequencies of sound to rebalance itself, through resonance. Because the body is constructed from an enormous amount of interconnected frequencies, it's important to work with instruments or a voice rich in harmonics. Tibetan singing bowls, monochords, gongs and the voice are wide array of harmonic sounds and have an easy access because they vibrate according to the same harmonic laws as the body. The voice is the most powerful of all to get deep into the body with its vibrations, especially when we train it to function as a vibrational instrument, able to resonate with every system or part of the body.

To train the voice as a vibrational healing instrument one has to

open the ear to hear more frequencies. We can not make sounds we can not hear.

We also have to learn how to relax to voice, especially the larynx and the trachea to be able to make the sounds and vibrations resonating with the specific parts or structures of the body, to relax the body. The more we relax the richer the voice gets with harmonics.

On a more advanced level one also learns to tune into the energy field of oneself or others to reconnect with the natural

healing powers of the body.

To get a direct experience of this very effective and easy to learn healing techniques we will explore the use of the voice in relation to the ear, the larynx, the trachea and the bone-structure of the body in combination with the visual representations of these parts of the body.

It's not necessary to have a good voice, good ear or musical knowledge. We sing for and into our own bodies, for nobody else in this very private and intimate exploration of our bodies. Doing so our voices open up and start "singing" by itself in harmony and resonance with our "felt anatomy".

## EFFECTS OF CHI KONG ON HEALTH

**Garcia, D. PhD, fisioterapeuta y enfermero, (Madrid/SP)**

*Qigong is defined as the skill of body-mind exercise that integrates the three adjustments of body, breath, and mind into "one". Qi means vital life-energy that flows thru energy channels (meridian system) of body, and Gong means practice or skill.*

It is a combination of static stance, dynamic gentle physical exercises, care of body posture, a meditative state of mind, rhythmic breathing techniques that provides, with regular practice, a body relaxation and mind calm. With long-term practicing, qi gong can improve health on different aspects including quality of life, mental health, sleep quality cardiovascular parameters, balance, cardiorespiratory physical performance, osteoarthritis and flexibility. In addition, some systematic reviews have found benefits for specific health problems, including type 2 diabetes, pain relief, hypertension and blood lipid metabolism.

## "REIKI AS COMPLEMENTARY THERAPY."

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**ABSTRACT:**

Nurses consider Natural and Complementary Therapies, therapeutic activities, non-aggressive interventions, that preferably use natural means such as air, water, soil, plants, exercise and diet.

The hands, mind and the therapist's own presence are also used in the client's own mental self-control mechanisms, directing energy,

strength and positive thinking.

The Official College of Nurses of Barcelona (COIB) adapted the categories of natural and complementary therapies to the report of the White House Commission on Complementary and Alternative Medicine Policy and the National Center for Complementary and Alternative Medicine (NCCAM), proposing five categories (1). These are 1. Alternative medical systems.

2. Mind-body interventions. 3. Biologically based therapies. 4. Manual therapies. 5. Energy-based therapies.

Energy-based therapies are based on the manipulation of energy fields.

They include those that affect the energy fields that envelop the human body and penetrate it, such as those involving the unconventional use of electromagnetic fields and alternating current fields (1).

The Japanese Mikao Usui was the rediscoverer of the Reiki.

Reiki is an Oriental word that is credited/attributed with the meaning of universal vital energy. The prefix "Rei" is the vital energy of the universe, the essence of cosmic energy that permeates all things and surrounds all places. The suffix "ki" is considered the basic energy, the life force on which our lives depend.

Reiki is trained on three levels. The first level is learned to perform autoreiki and perform therapy to others. In the second level it is taught to perform Reiki remotely. And on the third level starts mastery (2,3).

Reiki treatment is performed with a hand imposition on the chakras. Chakras are energy centers found in the human body and have the function of energizing it. Although there are numerous chakras in the body, the most important are seven that are distributed in trunk and head. Each main chakra is associated with a main nerve plexus and an endocrine gland. The 1st chakra the base is related to the adrenal glands, the 2nd of the pubic center with ovaries and testicles, the 3rd chakra the solar plexus with the pancreas, the 4th chakra or heart with the thymus gland, the 5th chakra the one with the thyroid gland, the 6th chakra the third eye with the pituitary gland and the 7th chakra the crown with the pineal gland (4).

Reiki has been recognized by OMS as a TC since 1995 as well as by NCCAM, which is under the National Institutes of Health (NIH) of the United States and the COIB seen including Reiki in the category of Energy-Based Therapies.

In 2013 it was introduced as a Classification of Nurse Interventions NIC1520, defining it as: "Using a specific sequence of hand positions and symbols to channel universal life force in order to recharge, realign and rebalance the human energy field (5)."

There are 3 ways through which Reiki is being incorporated into conventional care in the healthcare system. The 1st is through the health workers who are learning the 1st level of Reiki, using it for self-care and integrating this comforting touch into routine care. The 2nd by Reiki practitioners who are offering treatment to patients and staff. And finally the education programs performed in hospitals that are teaching the first level of Reiki to patients, caregivers, and family members (3).

The scientific evidence found points to results in which the effect of Reiki is not evident and those if the effect is evident. As for the results with the evidence of the effect of Reiki the studies show benefits for both nurses and patients (6).

In relation to studies that the effect of Reiki is not evident, most of them do not have statistically significant results (7).

Concerning the studies in which if the effect with benefits for the nurses is evidenced, we find that:

In the study of Salome (8), nurses after receiving Reiki presented a

greater balance: physical, mental, emotional and spiritual, and a harmonious relationship with their environment, in addition to greater self-knowledge.

In the study by Raingruber and Robinson (9) the nurses after the Reiki sessions felt more relaxed, more conscious and with greater capacity for solving problems.

In the Brathovde study (10) the nurses expressed the changes in their own perception of their caring behaviors.

Most studies with beneficial results for patients have been performed in the field of oncology showing an improvement in the side effects of chemotherapy (11-13) and radiotherapy and relief of symptoms (11). Specifically, the results obtained in the different studies are:

a) That fatigue decreases (11, 13, 14), pain (11-19), anxiety (11, 14-16, 18, 20), stress (18, 20),

blood pressure (18, 20), temperature (20), avoids additional medication (21), decreases

vomiting (15) and nausea (13) and hospital stay (16).

b) Increases relaxation (14-16, 20, 22), immunoglobulin A in saliva (20), helps the healing process (12), increases the feeling of well-being (14, 15, 19) and improves the quality of the sleep (14, 16). It improves mood (16), increases vitality (13), changes in attitude and lifestyle (23), increases the quality of life (11, 16), the sensation of heat (16) and increases defense cells (18).

There are also other investigations in study populations different from that of oncological patients, with a decrease in HR, RF and TA (21, 24, 25), such as Hulse (21) that studies patients who are going to perform an endoscopy, in Merati (26) and collaborators there is a decrease in migraine and its severity, as well as a decrease in work absences in patients with migraine. And in the studies of Ávila (27, 28) there is evidence of a greater control of glucose and cholesterol in patients with type 2 diabetes mellitus.

However, only one study has been found that links Reiki with high blood pressure. The study by Fortes Salles (29) shows a decrease in blood pressure in those patients with hypertension who had received 1 session of Reiki. And it suggests the need to continue investigating this topic in the hypertensive population due to the scarcity of studies with analytical or experimental designs.

#### Keywords:

Reiki, complementary therapy, nurse intervention.

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## CONTRIBUTIONS AND INSIGHTS FROM MEDICAL GEOLOGY

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As science advances, new lines of research are gradually opening up that require cooperation across multiple disciplines. Medical Geology is an example of this since it proposes collaboration between two broad fields of knowledge that initially appear to be unrelated, namely Earth Sciences and Biomedical Sciences (Centeno et al., 2016).

Decades of research have shown that contact with our natural environment positively impacts on our health and cognitive functions. However, exposure can also give rise to possible adverse effects on health, both in humans and animals. In the latter respect, we are talking about natural geological processes, such as the generation and mobilisation of dust particles, earthquakes or volcanic emissions, or other examples such as dietary deficiencies in elements essential for life, or the quality of groundwater. Determining the impact of such phenomena on public health in order to offer sustainable solutions to these problems involves advancing interdisciplinary cooperation between Earth Sciences and Medical or Health Sciences.

Medical Geology studies the relationship between Geology (geological materials and processes) and Health (human and animal) in order to understand the effects of geology on public health and better define the laws that regulate the geographical distribution of health conditions influenced by the natural environment.

In the past, the term Medical Geology was considered to be a synonym for *Geographical Medicine*, which was conceived as a branch of medicine that used geographical and cartographical methods to display its medical outcomes. Possibly the first study to make reference to this approach was by John Snow (1813-1858), an English doctor considered by many to be the father of modern epidemiology. Successive outbreaks of cholera in London prompted him to relate them to the consumption of contaminated drinking water, as he studied the disease from a viewpoint of London's population as a whole and related this to water supply. In this exploration of cause and effect, Snow developed the methodological tools of modern epidemiology through data surveys and the analysis of spatial distribution (in Giménez-Forcada and Salvador-Delgado, 2019).

The pioneering work of Låg y Bølviken (1974) played an important part in the development of modern Medical Geology. They identified how lead poisoning occurred in areas overlying deposits of galena (PbS). Feeding rabbits with plants grown over these galena soils, after four weeks, they noted increases in the lead content in the liver, kidneys and bones of these animals. It was also Låg (1990) who coined the term Geomedicine, as *the science relating ordinary environmental factors to the geographical distribution of health problems in humans and livestock*. The term Geological Medicine was adopted at the end of the twentieth century. The manual *Essentials of Medical Geology*, edited by Selinus et al. (2005) summarises the development of this field of knowledge known today as Medical Geology.

Medical Geology occupied a special place in the *International Year of Planet Earth*, the United Nations declaration to increase awareness of the importance of Earth sciences for the advancement of sustainable development. According to Mulder (2008), this declaration sought to improve the quality of life of the peoples of the world and at the same time safeguard the various natural environments that exist on Earth. It also aspired to achieving the sustainable use

1 of groundwater, considering rocks as holding a record of past climate on Earth; it expressed a commitment to the sustainable use of natural resources, talking about sustainable mega-cities. It discussed the Earth from the core to the crust, considering the land surface and soils as the living skin of the planet, and it dealt with life on Earth from the starting point of biodiversity. In the 2008 declaration, the vision of Geology was of a science placed at the service of a fairer and more sustainable humanity. And it emphasized its role in building healthier, safer and more economically viable societies (*Earth Science for Society*).

Medical Geology shows that Life is underpinned by the Earth; that the Earth defines and controls the basis of our quality of life. It tries

to explain that certain health problems in a population can be related to the geological environment that it inhabits, since the geology of an area is the foundation of the whole natural environment, including human beings. However, the geology of the area in which we live is scarcely understood. Much emphasis is placed on how Man impacts and pollutes the natural environment, especially our capacity to litter the Earth with pollutants. Perhaps we also need to take into account the natural environment conditions *per se*, that not everything that is natural – simply by virtue of being natural – is good for our health, and that Man bears the responsibility for relating appropriately to the environment around us. But an appropriate relationship first requires that we understand the environment and, by the same token, public health should be evaluated based on a fundamental knowledge of the environment that both the current generation and their forebearers have inhabited.

Rocks and minerals are literally the bedrock, the foundation of the planet and contain most of the known chemical elements. Some of these elements are essential for the good health of plants, animals and humans. Living beings acquire these elements fundamentally by means of the media that develop from the rocks: air, groundwater and soil. Through various processes of weathering, the rocks break down to form the soils in which the plants are grown and on which animals live. Groundwater travels through soils, sediments and rocks as part of the hydrological cycle, while much of the dust and gases contained in the atmosphere are of natural origin. Hence, through the intake of food and water along the food chain and through the inhalation of dust and atmospheric gases, our health is directly related to the Geology around us. All this is especially significant in rural areas. The conditions developed in the large cities correspond to an urban environment that is distinct from the natural one but, nonetheless, composed largely of materials of geological origin.

The clearest example of the relationship between Geology and Health occurs when an element that is vital for life occurs in concentration too low or too high in a given environment, or when a non-essential element occurs in potentially toxic concentrations. This geochemical characteristic explains how diseases endemic to certain geographical locations around the planet are linked to a deficiency or an excess of a certain element.

If we ask how we have come to consider that Geology is a key factor in the outbreak of certain diseases, we can see that mapping the incidence of certain endemic diseases has demonstrated that there are significant differences from one place to another that can not be easily explained by genetic traits, social differences or dietary diversity. When polluting influences are also ruled out, geology assumes a fundamental importance, even if it is difficult to pinpoint a clear association of cause and effect. In this respect, Davies et al. (2005) established that, for any comparison between Geology and Health to be possible, two conditions must be met: (i) demonstration of a pathway between the source and the physiological damage it causes: a clear nexus from the origin (for example, the soil), through exposure (for example, dirt on the hands), and assimilation (for example, gastric absorption), to the impact on a specific organ or physiological mechanism (for example, the enzymatic system); and (ii) the hypothetical association must be predictive. If this association is positive in one geographical area, it must also be positive in a geologically similar area.

2 Back in the sixteenth century, Paracelsus defined a basic law of toxicology: any increase in the amount or concentration of elements causes an increase in negative biological effects, which can lead to the inhibition of certain biological functions and, ultimately, to death.

These harmful biological effects can result from either a deficit or an excess in concentration. Trace elements or oligoelements form a special case. In Geochemistry, the term *trace element* is used for elements occurring at concentrations lower than 0.1%. An *oligoelement* (or micronutrient), would have the same definition, but it is also an essential trace element for life.

A naturally high or low concentration of an element, especially one present in trace amounts, is a result of natural processes that lead to its accumulation or dispersion at particular sites of the Earth's crust. The factor that determines the possibility of this happening depends on the geological peculiarity and not so much on the size of a particular area.

Since time immemorial it has been said that *we are what we eat and, in Medical Geology, we are not only what we eat, but also what we drink, breathe or absorb through the skin*. Without dismissing anthropic activities, the composition of air, water and food is directly influenced by interactions with the geological environment, which is manifested primarily through soil, air and water. When rain falls on the earth's surface, on the rock and the ground, it is a fluid with a very low salinity and an acidity of about 5. It represents an aggressive water for the rock. Plant roots and plant litter (if present) also provide acidity and increase the water's ability to alter and dissolve the rock. As this water flows through the ground, there is sufficient time for it to be mineralised to the point of saturation in the different ions. This is contrast to what happens with water that forms surface-runoff, which has a shorter time in contact with the mineral phases and so a shorter time to dissolve substances. Generally, in the absence of pollution surface-runoff has a lower mineralization than groundwater.

The chemical composition of groundwater is a reflection of its flow-path and of its history through the rocks it makes contact with; of the mineral phases it has interacted with and the reactions that have affected it, and soon. The physico-chemical processes that take place in the water-rock interaction, and even in the mixing of two waters of different compositions, correspond to the ceaseless transitions to achieve new ionic equilibria.

Therefore, water consumed by animals and humans in a particular area is a means through which they contact and interact with their geological environment. Some of the elements naturally found in water can be especially harmful to health, even in trace concentrations. These are the so-called Potentially Toxic Geogenic Trace Elements (PTGTEs), which may be present at levels that represent a risk to health. An example is arsenic and groundwater enriched in this element. Chronic exposure to high concentrations of these elements through drinking water is one of the best-studied topics in the field of Medical Geology.

An example of these PTGTEs is shown by the recent studies carried out on HydrogeoToxicity (HGT) in Spain. HGT is a term that was first defined as an index that assesses, in terms of health risk, the concentration of certain PTGTEs in groundwater. As such, it is defined as the quotient between the concentration of a particular PTGTE in a water sample and its upper limit value in drinking water as defined by the World Health Organisation (WHO), i.e.:

$$HGT_{PTGTE} = \frac{[PTGTE]_{water}}{[PTGTE]_{WHO}}$$

It is understood that values of  $HGT_{PTGTE} > 1$  indicate that the concentration exceeds the admissible limit for drinking water. Furthermore, not only must the HGT of a single element be taken into account, but also the possibility of a combined or multiple HGT, which is the sum of the individual  $HGT_{PTGTE}$ s (Giménez Forcada 2017a,b). Within Earth Sciences, HGT studies are intended to be predictive; this is possible because groundwater is a dynamic medium whose natural chemical composition reveals important features about its geological environ-

ment, on a regional scale (Giménez-Forcada, 2018).

3 Building a bridge between Earth Sciences and Health Sciences is not easy. The topic is certainly of great interest, but there are obstacles in the paths initiated from either scientific field (geology and health) to meeting and collaborating. However, the demands of the new millennium invite us to face the challenge of interdisciplinary collaboration in order to achieve integrated knowledge and understanding.

Rapid growth is envisaged in this new scientific field of Medical Geology, an emerging or re-emerging discipline that offers us the possibility of integrating geological understanding into health and public health policies.

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## 4 ART IN THE HOSPITAL OF THE FUTURE

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There is increasing evidence of important associations between arts and medicine. Architecture and the environment of hospitals has been shown to be important for the well-being of patients and staff and may even have impact on health outcome of patients. Therefore, the design of hospitals should actively include taking into consideration health related aspects. On a clinical care level, art therapies have long been practiced beginning alre-

ady in medieval times and continuing through modern medicine, however, scientific evidence is still sparse overall. For patients with some psychiatric, neurologic, cardiologic disorders, exposure to arts including music, visual arts, dance has been shown to improve medical outcomes. In other medical fields including neonatology, anaesthesiology, surgery arts therapy may have supporting effectiveness, available study results encourage to pursue further research projects. The potential mechanisms of action of arts therapy are by and large still unclear.

The increasing clinical experience and scientific evidence that arts can support healing on several levels have potential implications for future hospitals. The buildings may include artistic elements such as paintings, sculptures, installations, even live performances. Therapeutic strategies should systematically explore potential effectiveness of elements of arts therapy and may eventually lead to consideration in guidelines. Cost benefit assessment is also needed to determine whether and which arts therapies should be reimbursed by health insurance.

## INTEGRATIVE MEDICINE APPROACHES TO TREATMENT IN PSYCHIATRY

### RAB PSYCHIATRIC HOSPITAL, UNIVERSITY OF RIJEKA, FACULTY OF MEDICINE CROATIA

Vesna Šendula JengiĆ

#### Abstract

The mission of Rab Psychiatric Hospital is to provide for each patient on a personalized level in order to achieve the best treatment results. Therefore, each person must be regarded in a holistic manner and offered a range of adequate treatments which complement the traditional biological and psychotherapeutic treatment approaches. Last two decades Rab Psychiatric Hospital has been introducing innovative therapeutic approaches for treatment persons with various mental disorders, addictions, cPTSD, and different neurocognitive deficits. Today the hospital is well known for its application of the outdoors as a versatile therapeutic tool, predominantly with the lavender field and therapeutic gardens which serve for various purposes, such as horticulture, neurocognitive therapy, mindfulness, aromatherapy, various psychotherapeutic techniques, etc. Music therapy, physiotherapy, biofeedback and neurofeedback are also applied for various conditions and last but not least - the therapeutic dog Aron is the star of the multidisciplinary therapeutic team.

Efforts to optimize psychotherapeutic techniques, pharmacotherapy and recovery principles with the aim of reinforcing patient autonomy and therapeutic partnership, show relatively optimistic results even with severely mentally ill patients in terms of decreased number of involuntary hospitalizations, closed wards, etc.

Can we promote emotional health and body-mind wellness, avoid stigmatization through proper positioning in the overall healthcare practice from prevention to rehabilitation is an ethical but also very professional and humane question.

key words: integrative medicine, Rab Psychiatric Hospital, psychiatry

## MEDICINAL MUSHROOMS AND IMMUNE SYSTEM

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Medicinal mushrooms are those fungi which produce medically significant metabolites or can be induced to produce such metabolites using biotechnology. The range of medically active compounds that have been identified include antibiotics, anti-cancer drugs, cholesterol inhibitors, psychotropic drugs, immunosuppressants and even fungicides. It can be used to discover or to produce synthetic metabolites like paclitaxel from *Penicillium raistrickii*, other mitotic inhibitors like vinblastine, vincristine or can be used the beta-glucan fungal extracts lentinian, polysaccharide-k and polysaccharide peptide as immunologic adjuvants. Nowadays they have been intensively studied in order to reveal the chemical nature and mechanisms of action of their biomedical capacity and compounds of fungal origin provide a vast reservoir of potential innovational drugs. Medicinal mushrooms that have an anti-inflammatory and immune-enhancing, immune-modulation effect include maitake (*Grifola frondosa*), shiitake (*Lentinula edodes*), reishi (*Ganoderma lucidum*), and turkey tail (*Trametes or Coriolus versicolor*), Lion's Mane (*Hericium erinaceus*), *Cordyceps sinensis*, *Agaricus blazei* Murrill.

We review the effect of these mushrooms in several immune diseases: ulcerative colitis, autoimmune thyroid diseases, Crohn's disease, rheumatoid arthritis, type 1 diabetes mellitus, systemic lupus erythematosus and asthma as immunomodulator treatment as quality of life and symptoms treatment.

Key words: ulcerative colitis, Crohn's disease, rheumatoid arthritis, type 1 diabetes mellitus, systemic lupus erythematosus, immune disease, autoimmune disease, autoimmune thyroid diseases, Graves's disease, Hashimoto's thyroiditis, medicinal mushrooms, maitake, *Grifola frondosa*, shiitake, *Lentinula edodes*, reishi, *Ganoderma lucidum*, turkey tail, *Trametes versicolor*, *Coriolus versicolor*, Lion's Mane, *Hericium erinaceus*, *Agaricus blazei* Murrill, *Cordyceps sinensis*.

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## HORMESIS: INTERVENTIONAL STRATEGIES TO RESTORE STRESS AXES

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**Key words:** Hormesis, chronic inflammation, cooperation, desynchronization, intermittent challenges.

### Abstract

Establishing the links between the central nervous system and the immune system have been crucial for understanding the adaptability of *Homo sapiens* to threatening environments through evolution. The psycho-neuro-endocrine pathways connecting the brain and the immune system have been an evolutionary key regulatory mechanism for an optimal response in order to survive or reproduce through the development of complex immune responses or behaviors.

Today, chronic inflammation is related with antropogenic factors including chronic psychosocial stress and supposes a main risk factor for current chronic non-communicable diseases (CNCD) [1]. The pleiotropic effect of certain mechanisms of action could be responsible for chronic inflammatory manifestations, due to the aberrant expression of programs that were preserved to cope with acute events [2]. Those same programs that in the past helped our ancestors to survive, nowadays are responsible to induce desynchronization between the sympathetic nervous system and the hypothalamic pituitary adrenal axis.

Cooperation and synchronization between stress axes are important events to maintain the metabolic homeostasis through energetic distribution in the body and for ending correctly the acute inflammatory response, becoming both of them, basic mechanisms to protect the body against chronic inflammation [3]. As said before, chronic stress is a major risk factor for inflammation and for uncoupling these two axes, lowering the threshold for any other factor triggering for the initiation of the disease [4].

Desynchronization, takes place on different forms and at different

levels during chronic inflammation [5]. For example aging is a well known factor inducing a slow desynchronization process [6] which ends with altered plasma noradrenaline in relation to other steroid hormones including cortisol [7]. Another way of presenting desynchronization may be due to disruptions on the circadian rhythm [8], including the immune cell itself as it happens during the presymptomatic phase of disease leading to an increased reactivity of the immune system.

Coupling back these two axes is a necessity in order to dampen peripheral inflammation due to the cooperation between cortisol and noradrenaline, which has been recently demonstrated in patients with rheumatoid arthritis [9].

Some recent research indicates how getting back in contact with old and well known acute stress factors analogues with those suffered by our ancestors, could ease the metabolic and immunological restoration through hormetic effects [10].

The term Hormesis, just as Calabrese and Mattson have recently stated, “*should be viewed in the light of evolutionary-based adaptive responses, also as a measure of performance and resilience of any living system including for example: cell proliferation, disease resistance, aging/longevity and others that are fundamental for survival and thriving in challenging environments*” [11].

Hormesis is characterized by the simultaneous stimulation of many independent cellular functions, each one, with its own set of quantitatively hormetic features (DNA repair, antioxidant defenses and others) whose actions are regulated by multiple pathways producing a metabolically integrated cellular response [11].

Various studies [12,13], have shown how the use of intermittent challenges with hormetic effects improve subjective and objective wellbeing of individuals with CNCD, while having favourable effects on immunological, metabolic and behavioural indices. Intermittent cold, heat, fasting and hypoxia together with phytochemicals in multiple food products, have widespread influence on many pathways related with overall health.

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## UNRESOLVED INFLAMMATION. BACKGROUND OF THE CHRONIC AND DEGENERATIVE PATHOLOGY

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When impact publication talk about physiological inflammation a fundamental mechanism to purify the cellular microenvironment and to aid structural and function recovery of tissues (Nature 2002), they open new frontiers concerning an UNKNOWN topic like resoleomics.

The post-genomic era has led us to the knowledge of regulatory networks, one of the most important being inflammation resolution. When Charles Serhan and his group at Harvard called attention to the endogenous mechanisms in inflammation resolution (Rheum Dis Clin N Am 2004) and how these fail due to lifestyle actors such as diet, sedentary lifestyles, stress and a wide range of causes that block the capacity for inflammation resolution, an entire universe of explanations concerning chronicity began to be understood.

This knowledge concerning the suppressive therapeutic form of inflammation has had a decisive impact. Anti-inflammation is NOT the same as Pro-resolution, and we have to change the tendency to suppress all inflammatory processes as if inflammation were bad, ignoring the evolutionary mechanisms which created inflammation as the most important biological response mechanism to aggression and/or trauma.

The integrative view of patients with chronic inflammation leads us to pay essential attention to the “personal” factors which block resoleomics.

Anti-inflammatory therapy must be restricted only to situations which put the structural integrity of tissues or the patient’s life in danger.

Understanding the changes from the diet, orthomolecular replacement, bioregulation using multi-modal and multi-objective drugs at low concentrations, photobiostimulation, and a wide-ranging adjuvant therapeutic arsenal, will prevent iatrogenesis generated by the collateral effects of suppressive drugs.

## PSYCHONEUROIMMUNOLOGY AND GLOBAL HEALTH

**Neuroinflammation: anxiety, stress and chronic pain.**  
**Xevi Verdager, Master director Pnie (Barcelona/Madrid) Graduate in Physiotherapy. Researcher and scientist disseminator. [xeviverdager.com](http://xeviverdager.com)**

Psychoneuroimmunology is the study of the interactions among behavioral, neural and endocrine, and immune processes. The brain communicates with the immune system through autonomic nervous system and neuroendocrine activity. Both pathways generate signals that are perceived by the immune system via receptors on the surface of lymphocytes and other immune cells. The direction and/or magnitude of the effects of behavioral factors in modulating immune responses, however, depend upon the nature of the behavioral circumstances, the nature of the antigenic stimulation, and the temporal relationship between them; the immune response and when it is measured; a variety of host factors; and the interactions among these variables. We will provide examples of these relationships and how this approach could help us to better health outcomes in our patients

### Aim

Psychosocial stressors are a well-documented risk factor for mental illness. Neuroinflammation, in particular elevated microglial activity and Mast cell- Microglia crosstalk has been proposed to mediate this association. A number of preclinical studies have investigated the effect of stress on microglial activity. However, these have not been systematically reviewed before. We consider this implications for the role of stress in the development of mental and chronic pain disorders.

### Conclusion

There is consistent evidence that a range of psychosocial stressors lead to elevated microglial activity in the hippocampus and good evidence that this is also the case in other brain regions. These effects were seen with early-life/prenatal stress, as well as stressors in adulthood. We consider these findings which proposes that early-life stress primes microglia, leading to a potentiated response to subsequent stress.

The implications for understanding the pathoetiology of mental and chronic pain disorders and new treatments will be considered.

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## CONTRIBUTION OF POSTUROLOGY IN THE TREATMENT OF CHRONIC RACHIALGIAS

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Chronic low back pain (CLBP) represents one of the major causes of global disability. CLBP is a very common pathology, being the first cause of work-associated accidents of musculoskeletal origin in France, with 5–10% of CLBP patients being responsible for 70–80% of health expenses.

A precise and exhaustive etiological diagnosis of chronic low back pain is difficult to make, as few validated tests are available. The difficulty of the clinical evaluation could explain the lack of effectiveness in the therapeutic management of chronic low back pain. Discogenic origin is generally assumed to be the main cause of non-specific low back pain.

#### Clinical evaluation and posturology

Several authors suggest that abnormal lumbar kinematic couplings may be an indicator of non-specific CLBP. The PosturoDynamic Test (PDT) is an original clinical test that has been used for 20 years in posturology to evaluate coupled motions in humans standing, during lateral movement of the spine. Through the evaluation of the tonic activity of the para-vertebrae muscles, spinal kinematic behaviors analysis offers a systemic complementary assessment in the management of CLBP. PDT is based on the hypothesis that physiological kinematics of the lateroflexion (LF) movement of the spine is coupled to rotational motions in the transverse plane. Previous Biomechanical research has established some evidence in this direction.

We evaluate: (i) the inter-rater reliability and (ii) the validity of the PDT compared with kinematic evaluation using motion capture system, considered in this study as the “gold” standard.

The weighted values for inter-rater (left LF) were  $> 0.64$  for expert and  $< 0.3$  for novice. For the comparison between human and machine kappa, values for inter-rater were  $> 0.61$  for expert and  $< 0.19$  for novice for the comparison between human and machine kappa.

These results objective the validity of PDT. They confirm its inter-rater and show the importance of the clinical experience. PDT is a quick reliable and non-instrumental test, which can be used as first for a better characterization and clinical interpretation of spine kinematics of standing subject.

The PDT show three kind of cinematic behaviors, one, where LF and rotation were in the opposite direction, is not found in any healthy subjects. The two others behaviors are found in CLBP patients: the LF drive no rotation or rotation in the same direction. We hypothesis that the second behavior is in relation with the intervertebral disc (Villeneuve Ph, Villeneuve-Parpays S. 2017, Viseux and al. submit).

#### CLBP is often related to neurogenic dysfunction

It may be a result of a tunnel syndrome, a neural stretch or a central hyperexcitability (Sanzarello et al 2016). These possibilities may be associated with a chemical or mechanical disorder which may cause an inflammatory stimulation of the nervi nervorum – polymodal C-fiber – which can generate local pain or pain at the neural pathway. Besides, the neuronal conduction and integration of the dysfunctional region will be interrupted resulting in postural adaptations.

Manual neurostimulations and postural insoles two complementary treatments

The soul of posturology treatment is based on the mechanoreceptor stimulations to alter postural control. On one hand, we develop a new manual therapeutic approach called “Neurosensory Posturotherapy (PNS)” (Villeneuve 2012a) which used manual neurostimulations. On the other hand, the postural insoles used in France since 1980.

#### Neurosensory Posturotherapy (PNS)

PNS is based on the well-known manual techniques from the eighteenth century (Barber 1998), as well as the neurophysiological bases of postural regulation, which prove to be a valuable adjunct in the context of chronic pain. The treatments used in PNS consist of manual neurostimulation directly on the nerve that modulate the muscle hypertonicity and nociception in a simple and long lasting (Villeneuve 2012b) way. The effects of the NPT technique is effective in patients with chronic LBP by promoting reduction of pain symptoms, improving mobility, flexibility, as well as promotes improvement in functional capacity, stability body, heart rate variability and chronotropic response (Villeneuve and al 2017). Manual neurostimulation can be applied to discogenic dysfunctions (Villeneuve 2017).

Viseux and al (submit), in a review recall that the intervertebral disc is innervated, and pain potentials are present in the outer part of the annulus fibrosus. Several studies have demonstrated nerve endings in the annulus fibrosus. In adults, five types of nerve terminations can be found. The source of the nerve endings in the lumbar discs is the lumbar sinuvertebral nerves and branches of the lumbar ventral rami and the grey rami communicants. The lumbar intervertebral discs are also innervated by branches of the sympathetic nervous system.

This could bring the following assumptions:

Neurogenic lumbar disc pain could be characterized by

- (i) hypertonicity bilateral muscle, multisegmental,
- (ii) bilateral inverted of behavior kinematics of the lumbar spine.

Neurogenic lumbar zygapophysial joint pain could be characterized by

- (i) unilateral muscle hypertonia, mono segmental,
- (ii) inversion homolateral to neural dysfunction of the kinematic behavior of the spine lumbar.

#### Postural insole

During early last century, the first French podiatrists took their patients' entire morphology into account and their treatments made the connection between foot deformity and vertebral pain.

In 1980, French doctor René Bourdiol, understood that wedges placed under the plantar sole not only had a mechanical action, but also a stimulatory effect on the nervous system. At the same time, Okubo and Baron (1980) obtained significant reduction of the postural sway area after plantar stimulations (one mm high). They introduced a paradigm shift. In Anglo-Saxon countries the model biomechanical developed by Root and al (1971) was the reference, but now this model is largely controversial. Jarvis and al (2017) recommend that clinicians stop using the Root model. In European countries it is being replaced by neurosensory model developed by Bourdiol (1980), Villeneuve-Gagey (1990).

In 1990, based on clinical and fundamental research findings, Villeneuve and Gagey put forward that plantar stimulations induced predictable and orientated postural reactions. This was confirmed by vibrotactile stimulations (Kavonouodias 1998), electrical stimulations

(Nakajima 2006) and plantar stimulations of 3-mm high, (Janin 2004 ; 2009). In 2000, Leporck showed that the balance was significantly modified when a full sheet of paper was placed under the right foot. Then Priplata and al (2003) confirmed that subliminal plantar stimulations at the threshold of conscious perception generated postural reactions. Foisy (2015) confirmed that plantar inserts with a 3- millimeter-thick plantar insert, either a Medial or a Lateral Arch Support, had an influence upon postural and oculomotor control in a different way depending on the part of the foot sole being stimulated. Recently, Viseux and al (2019a) demonstrated that putting a than less than one-millimeter-thick plantar insert under the big toe alter the postural control, putting a six-millimeter-thick plantar insert does not. In a review they (2019b) show that the foot is the direct interface between the body and the ground during practice and plantar cutaneous information contributes to postural control. This cutaneous feedback is provided by lowthreshold mechanoreceptors that are highly sensitive to low mechanical stimuli applied to the skin of the foot. The mechanical stimulation of plantar cutaneous receptors with thin wedges (< 3 mm) can improve postural control. We have also demonstrated that thin plantar stimulations improved chronic low back pain (Villeneuve & al 2011)

In conclusion we can assume that the neurophysiological model used in posturologie seem more efficient than the biomechanical model used in podiatry and manual therapy. Neurostimulation locations are indeed an important point: postural insoles or manual therapy must be adapted and used in function of the postural clinical evaluation.

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## HOW AYURVEDA TREATS CHRONIC INFLAMMATION

**Dr. Vijay Carolin B.A.M.S., MSc**  
**Ayurveda Doctor with B.A.M.S. degree from University of Kerala, India and Postgraduation in Drug Research, Development and control, from University of Barcelona**  
**President of the International Ayurveda medical Association, Barcelona, Spain**

Chronic inflammation is a known cause of various cancers and metabolic diseases. A comprehensive solution for long term control and cure of chronic inflammation is lacking in the current therapeutic scenario of modern allopathic medicine.

Chronic inflammation is present in most of the autoimmune diseases like Rheumatoid Arthritis, Crohn's disease, Fibromyalgia, Multiple Sclerosis, Pulmonary Fibrosis etc.

Ayurveda, the classical medical system of India, which has been used for more than 5000 years with success, has some important perspectives, which can be used to control and cure chronic Inflammation.

According to Ayurvedic medicine, Chronic inflammation compares to *Ama*. Diseases can have both *Ama* and *Nirama* (without inflammation) stages. *Ama* stage has to be diagnosed, if present, and suitably treated, before employing the normal Ayurveda treatment protocols.

*Ama* is a result of the body's derailed nutrition and can be corrected by employing very simple herbs, physical therapies and diet. Pain, weakness, fatigue, acute symptoms, oedema etc., can be controlled and cured in very short period by employing the anti-inflammatory (*ama pachana*) regimen of Ayurveda.

I would like to present a few cases of chronic inflammation managed successfully using Ayurveda.

## ACUPUNCTURE WORKSHOP

### Part I

How different experts treat same joint pain with Acupuncture

We know in acupuncture we use different methodologies to treat same pathologies.

This workshop will be a practical review about how to treat different location of joint pain with different and expert professionals

The idea is to have an open workshop between the experts and attendants

We will have several beds where we will see different clinics views to treat knee pain, shoulder pain and elbow pain...

### Part II

Pediatrics in Acupuncture

How to use acupuncture in children successfully and without pain  
Children Physiopathology

How to explore the children, the importance of the palpation.

Techniques, Material

The acupuncture point in children

Moxibustion, time to use and method

Overdose in children acupuncture

## WELLNESS AND HEALING THROUGH THE VOICE AND THE SONG.

### Kistemaker J (Puntadecouso/SP)

In this workshop one learns how to use sound and the voice as an intimate and personal instrument to strengthen one's natural health.

The voice as a mirror of the physical, emotional and energetic tensions and blockages accumulated in the physical body. Singing

'inwards' one can direct the vibrations of one's own voice to specific parts of the body. Listening and feeling until the voice enters in resonance

with that specific part of the body, 'feeling' the anatomy of the body through the vibrations of the voice.

The voice as an alliance in processes of personal and spiritual development and in the

prevention and healing of the physical health of the participants as well as their patient's.

## WORKSHOP 06. TOWARDS A GUIDE FOR PREVENTING OF EXPOSURE TO ENDOCRINE DISRUPTORS

**Dr. Nicolás Olea. Doctor in medicine Nicolás Olea, expert in epidemiology and specialized in Health and Environmental Research, will propose in this workshop the guidelines to prevent alarming exposure to endocrine disruptors in our society.**

## WORKSHOP OF MIOFASCIAL TRIGGER POINTS AND LASER THERAPY

Myofascial pain syndrome is the set of sensory, motor and autonomic symptoms caused by trigger points and high prevalence. The myofascial trigger points were described in 1949 by Travell and Simons, they defined it as a hyperirritable area in a skeletal muscle associated with a palpable hypersensitive nodule, located in a taut band, the area is painful to compression and can lead to referred pain characteristic, hypersensitivity to the referred pressure, motor dysfunction and vegetative reactions. They described the mechanisms of activation, perpetuation and unblocking of them. They developed maps showing the trigger points of each muscle and its referred pain pattern.

To understand this syndrome, it is important to understand the fascial system, its alterations and implications in pain. For this it is important to know the neurophysiology of pain, mainly in chronic pain and the concept of central sensitization, which is an increase in the neuronal response to painful and non-painful stimuli, where there is an activation of the nociceptors that leads to the appearance of myofascial trigger points. In the laser workshop, a working protocol is developed where the location and palpation of the key points of the trigger is carried out, mainly we will search at the abdomen and its relations with the trigger points of the sole of the foot.

The concept of ways will be explained, and it will be shown how we can unblock any trigger point of the body from the sole of the foot, we will do it by applying laser therapy. The application of the laser for the release of myofascial trigger points is a novel therapy, and very interesting because it is painless and non-invasive, unlike other widely used therapies for the treatment of this syndrome.

A single session is enough to unblock the trigger point and the pain of the patient immediately disappears, although it is impor-

tant to know the causes of perpetuation to prevent recurrence.

## **GUT MICROBIOTA AND CANCER, THE IMPORTANCE OF LIFESTYLES: DESIGNING A PROJECT.**

**Sanchez C (Madrid/ ES)**

All of us are provided with a unique gut microbiota profile that plays many specific and beneficial functions. We have a balance established, and when it is disrupted we call it dysbiosis. This plays an important role in many diseases including cancer. Changes in our lifestyle involves changes in our gut microbiota, implicating future prevention and treatment strategies.

Key points:

1 Gut microbiota: the 5W

Who, What, When, Where and Why. Introduction to the world of the gut microbiota

2 Microbiota, inflammation and disease

Mechanisms correlating microbiota, host immune system and the development of different diseases.

3 Healthy diets

Discussion about the theoretical implication of healthy diets. A review of the literature: plant-based (vegetarian/vegan), ketogenic and mediterranean.

4 Cancer and microbiota

What we know until now. Future strategies.

5 Designing a project and Q&A



# POSTERS



## Title: Mindfulness as a Tool in Primary Care

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Many of the patients who attend Primary Care consultations with affective disorders such as anxiety and/or depression actually present stressful situations, due to a work, family or couple problem.

Mindfulness is effective in reducing stress and improving the quality of life.

### OVERALL OBJECTIVE:

To evaluate the efficacy of Mindfulness in anxiety and/or depression to reduce the intake of drugs and the return to an active work and social life.

### MATERIAL AND METHODS:

Study population:

Adult patients from Primary Care consultations with anxiety and/or depression.

Sample size: 19 patients in total divided into 3 workshops conducted over 3 years.

Methodology:

Eight weekly sessions of 120 min according to the MSC training program (Mindful Self-Compassion. Christopher K. Germer and Kristin Neff), 20 minutes a day of practice at home for the first 8 weeks and then maintaining this frequency through time.

Follow-up consultation for 1 year, measuring both activity and drug consumption at 6 months and one year.

### RESULTS:

WORK	Currently in work	On sick leave	Does not work
Start	9	8	2
6 months	17	0	2 (1 is studying)
1 year	18	0	1

DRUGS	0 drugs	1 drug	2 drugs	3+ drugs
Start	3	9	5	2
1 year	11	7	0	1

YEARS OF TREATMENT

	10+ years	5+ years	4+ years	Less than 1 year
Start	3	2	1	13

Start 3 2 1 13

### CONCLUSIONS:

6 months after the workshop all patients were active and had even regained social relationships that they did not have before.

A year after the workshop almost 60% of patients no longer took any medication.

In view of the results obtained, it can be said that Mindfulness is a very efficient tool to use in Primary Care.

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## Title: Naturopathic Treatment and Complementary Medicine in Surgical Practice

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### BACKGROUND:

Many patients in Germany use naturopathic treatments and complementary medicine. Surveys have shown that many also use them as a concomitant treatment to surgery.

### METHODS:

Multiple databases were systematically searched for systematic reviews, controlled trials, and experimental studies concerning the use of naturopathic treatments and complementary medicine in the management of typical post-operative problems.

### RESULTS:

Of the 387 publications identified by the search, 76 fulfilled the inclusion criteria. In patients with abnormal gastrointestinal activity, acupuncture can improve motility, ease the passing of flatus, and lead to earlier defecation. Acupuncture and acupressure can reduce postoperative nausea and vomiting, as well as pain. More-over, aromatherapy and music therapy seem to reduce pain, stress and anxiety and to improve sleep. Further studies are needed to determine whether phytotherapeutic treatments are effective for the improvement of gastrointestinal function or the reduction of stress. It also remains unclear whether surgical patients can benefit from the methods of mind body medicine.

### CONCLUSION:

Certain naturopathic treatments and complementary medical methods may be useful in postoperative care and deserve more intensive study. In the publications consulted for this review, no serious side effects were reported.

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## Title: The effect of acupuncture on jaw opening range, and temporomandibular joint, and myofascial symptoms in patients with Temporo- Mandibular Disorder (TMD): A Randomized controlled trial

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Background: Temporo-Mandibular Disorder (TMD) are common musculoskeletal conditions in the maxillofacial area and have a multifactorial etiology. The conventional treatment of TMD includes night splint, pharmacological and psychological therapy, occlusal (bite) adjustment, physical therapy and more. Yet these treatments are relatively limited in their effectiveness. Several studies have shown a positive effect of acupuncture on TMD symptoms. However, these studies focused on subjective outcomes, without assessment of jaw opening range. Our goal in this study is to conduct a randomized controlled trial which will examine the effect of acupuncture on improving jaw-opening range as well as reducing TMD symptoms.

### Methods

In this randomized controlled trial, study participants will include patients admitted to the Oral Medicine and Maxillo-facial Unit and diagnosed with TMD. Patients will be randomized to acupuncture with standard care or standard care only. Acupuncture will be provided once weekly for 12 weeks, and treatment approach will be based according to traditional Chinese medicine syndrome diagnosis. Standard care will include Occlusal (Bite) adjustment, and physical therapy. Main study outcomes will include TMD symptom questionnaire and jaw range as assessed with ruler measurement. In addition, an acupuncture safety questionnaire (acuAE) will be used to assess acupuncture safety. At baseline, 6, and 12 weeks, patients will undergo evaluation of oral and maxillofacial motion ranges, pain and discomfort assessment, and examination of the muscles that are relevant to TMD. Paired t-test or Wilcoxon tests will be used for statistical analysis together with descriptive statistics.

As part of a pilot toward the above study, 14 patients were treated with acupuncture, most receiving at least 12 treatments. Interim analysis of the pilot will be provided on the poster.

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## Title: Effect of repetitive transcranial magnetic stimulation on pain and thermal sensitivity in Myofacial Pain Dysfunction syndrome (MPDS)

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India

Objective: The aim of the study was to understand the effect of repetitive Transcranial Magnetic Stimulation (rTMS) on pain status, maximum mouth opening and thermal sensitivity of masseter muscle in Myofacial Pain Dysfunction Syndrome patients.

Material and Methods: It was a randomised control trial, the study was conducted at a tertiary hospital in New Delhi, India. Twenty (Males=5, Females=15) MPDS patients aged ( $40.9 \pm 10.8$  years) were recruited based on laskin's criteria. They were allocated to real and sham rTMS groups. Patients with other systemic illness, neuropathy, epilepsy, history of head trauma, metal implants, pacemakers, pregnancy etc were excluded.

MPDS patients reported severe pain, markedly reduced mouth opening and sensory deficit at masseter at baseline.

Repetitive TMS (10Hz frequency) therapy at 90% of their Resting Motor Threshold (RMT) at motor cortex for 7 days.

To evaluate the pain status Visual Analog Scale (VAS), Maximum mouth opening (MMO) and McGill Pain Questionnaire- short form (MPQ-SF) were utilized. Thermal sensory testing was performed using Neurosensory analyser TSA II, at masseter (test site) and at hand (reference site)

Analysis: Data was analyzed using GraphPad Prism version 8.0. D'Agostino-Pearson and paired t-tests were applied for determining normality and for comparison between the groups respectively.

Results: The data had a Gaussian distribution. Significant decrease in pain {(VAS) and MPQ-SF score ( $p < 0.000001$ )}, thermal pain thresholds (Cold and hot) ( $p = 0.0005$ ) was observed after real rTMS therapy group compared to sham group. Patients who recieved real rTMS therapy had significant improvement in maximum mouth opening ( $p = 0.0028$ ).

Conclusion: High frequency rTMS therapy on motor cortex is effective in ameliorating MPDS pain and correcting sensory deficit. Hence it may be considered as a therapeutic intervention in Myofacial pain dysfunction syndrome.

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## Title: Implementation of a Multi-Professional Anthroposophic Treatment Concept in the Geriatrics

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### Introduction

The number of people aged over 80 will almost double by 2060. While at present, the ageing process is often viewed from a deficit-oriented perspective, Anthroposophic medicine (AM) aims to focus on the accumulated life experience and personal development. These are described by terms such as wisdom of age, goodness, social competence. AM includes physical, mental and spiritual dimensions of the human being in diagnostics and therapy. In geriatrics, a multimodal therapeutic approach is generally applied, which is why it makes sense to broaden it through AM.

### Methods

In 2016, on the basis of a literature research a multi-professional working group in the Gemeinschaftskrankenhaus Havelhöhe developed a comprehensive concept for the treatment of geriatric patients based on AM. A common understanding of the disease was developed together with all therapeutic professions (doctors, nursing, physio-, eurythmy-, occupational-, music- and speech therapy, logopaedics, massage). Main symptoms, available resources and the resulting therapy requirements were identified. Finally, a coordinated therapy concept was developed and subjected to a review process. All nurses and therapists of the ward were trained in handling external nursing applications of AM (compresses, rhythmical oil applications).

### Results

The result is a manual that can improve the quality of treatment for geriatric patients and at the same time improve the integration of specific anthroposophic therapies into everyday clinical practice. The concept was presented to all employees during a roll-out meeting and steps for implementation were agreed. It has been in use since autumn 2017 and already led to increased employee satisfaction. Among others, a weekly therapy plan was implemented to promote the patients day/night rhythm. The next step is to evaluate patients expectations, satisfaction and outcome quality.

### Summary

A coordinated therapy concept based on AM for geriatric patients was developed and implemented inter-professionally. An evaluation of patient satisfaction and result quality is still pending.

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## Title: Pelvic Outlet Syndrome: A New Integrative Diagnosis Helps Treatment

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### Objectives:

Pudendal neuropathic pain treatments usually target either endopelvic trigger points or the nerve itself in Alcock's canal, with little attention to pelvic stabilization muscles encountered throughout the nerve's long course. As integrative medicine specialists, we hypothesized that pudendal neuropathy might also result from its impingement while exiting the lesser sciatic foramen: the pelvic analogue to "thoracic outlet syndrome."

### Material and method:

30 patients with dysesthesia in pudendal distribution were studied. Pudendal neuropathy was confirmed by EMG, symptomatic for 4-12 years. Ages: 25-60. 18 female, 12 male. Initial MRI confirmed muscle-nerve impingement in the lesser sciatic foramen in all patients. The same radiologist read all MRI. Treatment included 6-10 postural and 3-6 osteopathic sessions, each once weekly, to diminish sciatic foramen obstruction, based on individualized physiatric postural analysis and prescription, integrated with MRI findings. No endopelvic trigger point treatments or injections, or alterations in oral medication were performed during this treatment period. The same physiatrist, posturologist and osteopath treated all patients.

### Analysis

Symptom reduction was measured by VAS and sitting tolerance, at initial and final therapy,( 12-16 weeks later)

### Results

Initial VAS: 6-10. Final VAS: 0-4. No patients had increased pain. Average pre-treatment sitting tolerance : 10'-60'. Post-treatment: 60'-360'.

### Discussion

Pudendal nerve dysesthesias are often severe, and disabling. Alcock canal injections and endpelvic massage give variable success. The sacral plexus origin, with exo- and endopelvic distribution demands an integrative, rather than vertical specialty-based approach. An inter-professional and analogic, integrative thought process toward upper and lower girdle nerve-impingement anatomy can provide the possibility of successful treatment.

### Conclusion:

This diagnosis "pelvic outlet syndrome" and its integrative treatment are successful and , to our knowledge, new. . We propose it for use also by others who treat these complex patients.

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## Title: Cytology-based Circulating-Tumour-Cell (CTC) Screening Test improves detection of prostate cancer

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### Objectives

Evaluation of the cytology-based ISET-CTC (Isolation-by-Size-of-Epithelial-Circulating-Tumour-Cells, Rarecells, France) blood test as a screening tool for the early detection of cancer.

### Background

Circulating-Tumour-Cells (CTC) provide a blood biomarker for early carcinogenesis, cancer progression and treatment effectiveness. An increase in CTCs is associated with cancer progression, a CTC decrease with cancer containment or remission.

The ISET-CTC Test is a clinically validated cytology-based blood test superior in its sensitivity and specificity to identifying cancer cells compared to other non-cytological marker-based CTC tests, and has been featured in >80 peer-reviewed articles published worldwide over the last 20 years.

### Methods

This observational study compared CTC count to cancer status and cancer risk, by monitoring treatment effectiveness in cancer patients and by screening for CTC in asymptomatic patients with risk factors, including family history of cancer. In a subgroup of male patients with positive CTC count, we also undertook immunohistochemistry (IHC) assays with prostate specific antibodies.

### Results

To date, NIIM has undertaken more than 1800 CTC tests, half of which were screening requests with CTC detected in 50% and early cancer in 25%. CTC count was directly correlated with cancer risk and cancer status. Asymptomatic males with normal Prostate-Specific-Antigen (PSA) levels and a positive CTC count were followed up by PSMA-PET (prostate-specific-membrane-antigen-PET) scans, with an increased uptake in the prostate being indicative of early prostate cancer. Additionally, IHC assays with PSA and Prostein antibodies confirmed CTC origin from the prostate.

### Conclusions

Cytology-based ISET-CTC screening provides a highly sensitive non-invasive test for early detection of cancer, with higher CTC counts being associated with higher risk of malignancy. We found CTC-count to be a better predictor for early prostate cancer than standard PSA blood testing. Early detection of cancer risk supports early interventions and preventative actions. Integrative lifestyle and nutritional therapies can reduce the CTC count and therefore cancer risk.

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## TITLE: MULTIMODAL PROGRAM OF HEALTH PROMOTION AND QUALITY OF LIFE BASED ON HEALTH THEORY BY MOKICHI OKADA: CASE REPORTS

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Objectives: Based on the principles established by Mokichi Okada (MO) in his Theory of health, set forth in the 1940's, the present work aims at reporting the results of three cases of volunteers participating in a multimodal program of health promotion (MPHP) where they were taken care of through the practice of laying on of hands called Johrei, dietary education guidelines based mainly on organic food consumption, and participation in art activities in order to widen their awareness of life, its senses and meanings. Materials and methods: Cases: 1) E.C.P., female, 62 years old: breast cancer relapse with metastasis in bones and liver. 2) L.C., male, 56 years old: liver cancer. 3) A.O., female, 73 years old: high cervical intraepithelial neoplasia. The volunteers continued their conventional medical treatment and, complementarily followed the MPHP and quality of life (QOL) based on the theory of health according to MO. Analysis: clinical follow-up, laboratory test results and images. Results: Complete remission of tumors, with an average time of a 10 month-participation in the MPHP and QOL based on the theory of health by MO. Discussion: The individuals led their actions towards health recovery and promotion as well as of QOL, especially by getting and practicing the laying on of hands intensively, in Johrei mode, and committing themselves to follow a proper food education, based on the intake of organic food. Several articles report the beneficial effects of that behavior, but sporadically. The pioneer aspect of this research was health recovery within a multimodal and integrative perspective, allowing the three volunteers the remission of their tumors and, above all, the improvement of their QOL. Conclusions: The MPHP and QOL based on MO's health theory indicates its application in cancer treatment, promoting health recovery and increasing levels of QOL.

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## Title: Feasibility and Efficacy of a Writing to Heal workshop within a Single Medical Center

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**Objectives:** Determine whether clinical wellness workshop focused on the instruction of writing for healing was feasible, satisfying, and perceived to impact stress, pain, mood, and wellbeing.

**Material and method:** Participants were invited to attend Writing for Healing workshops monthly by self-selection and without charge. Sessions were led by a published author on the topic in person. Subsequent to participation, subjects completed a survey regarding outcomes. Sessions were held at a single medical center. Inclusion criteria included willingness to participate, competency in the English language, and the ability to attend sessions in person. There were no exclusion criteria.

**Analysis:** Over a two year period, we had 199 participants with 132 completed surveys.

**Results:** Survey responses showed “very satisfied” 96.1%, stress “very beneficial” 77.5% and “some benefit” 15.5%, pain “very beneficial” 50.4% and “some benefit” 18.3%, mood “very beneficial” 82.4% and “some benefit” 13%, general wellness “very beneficial” 83.1% and “some benefit” 16.2%.

**Discussion:** Writing therapy is an accessible, low cost, low risk method of processing emotions, trauma and difficult experiences. We studied its feasibility within an academic medical center as led by a professional writer, author, and teacher. Patients were overwhelmingly satisfied with the experience while additionally experience relief of stress, improvement in pain, and benefits to mood even though writing was not necessarily directed at these outcomes. While writing therapy requires a trained moderator, it is easily scalable

**Conclusions:** Further research is needed to explore the specific effects of writing to heal within the context of medical centers, particularly as it might address specific symptoms and struggles patients commonly face, such as stress and mood disorders.

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## Title: Remission of cardiorespiratory insufficiency and apnoea syndrome through micronutrition

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**BACKGROUND/OBJECTIVES:** Chronic pathologies have as a common link the excess of oxidative stress and chronic inflammation of low degree. At the same time, the pathology increases oxidation and inflammation. Basic micronutrients can help stop this vicious cycle.

**DESCRIPTION OF THE PROBLEM**

A 73-year-old man with cardiorespiratory insufficiency, bronchiectasis and sleep apnoea syndrome. Polymedicated with inhalers, corticosteroids, antibiotics, ACE inhibitors and omeprazole, among others. Go to a specialist for dyspnoea with minimal effort and poor quality of life. The patient is given, along with their usual medication, a low carb diet and micronutritional therapy composed of vitamins A, E, D and C, vitamins of group B methylated and phosphorylated, minerals in the form of citrates, coenzyme Q10, R-lipoic acid, N-acetylcysteine and free essential amino acids.

**RESULTS AND DISCUSSION**

After a week, the patient significantly improved his general condition, dyspnoea on exertion and oxygen saturation. 15 days later, there was a marked clinical improvement that allowed them to perform some activities. The progressive deprescription of some drugs begins. After one month, night home oxygen therapy is withdrawn.

In cardiorespiratory failure and COPD there is a mitochondrial dysfunction that drugs cannot reverse. Micronutrition provides the molecules necessary for mitochondrial functioning, controlling excess free radicals and improving the production of ATP, an essential molecule for cardiopulmonary function. Therefore, micronutritional therapy at optimal doses can help reverse chronic situations.

**CONCLUSION**

Patients with cardio-respiratory failure and COPD have few alternatives for treatment outside bronchodilators, diuretics, corticosteroids and treatment with CPAP and/or continuous home oxygen therapy, with progressive clinical and functional impairment. Micronutrition is shown as a useful adjuvant nutritional treatment to reduce drugs and improve the evolution of the pathology.

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## Title: Micronutrition modifies the evolution of a patient with terminal liver failure

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**BACKGROUND/OBJECTIVES:** Advanced liver failure is one of the diseases with the worst prognosis, especially when associated with renal failure.

### DESCRIPTION OF THE PROBLEM

A 79-year-old woman with hepatic (cirrhosis) and renal insufficiency, with frequent oedematous ascites decompensations. The patient requires weekly paracentesis of ascites fluid. She is prescribed a restrictive diet in carbohydrates and animal proteins (not fish, meat or dairy). Perform a daily micro-fast of 14h together with micronutritional therapy composed of vitamins, minerals, coenzyme Q10, R-lipoic acid, omega 3 and 6 fatty acids, essential amino acids, n-acetylcysteine and silymarin.

### RESULTS

After 15 days her physical-psyche state improves, and paracentesis are distanced. After 2 months, she no longer needs paracentesis, although she is still very limited for usual activities. After 4 months, she improves their quality of life to the point of going out alone and doing housework, with an almost normal activity life. Renal function is normalised. She only visits the hospital for check-up every 6 months. After 6 years of stability, she relapses due to an umbilical hernia operation. She has no strength to move, and she calls the clinic. At this time, the restriction of animal proteins is further affected, basic micronutrition is maintained with active vitamins, minerals, coenzyme Q10, R-lipoic acid, omega 3 and 6 fatty acids, essential amino acids, silymarin, silybin, and semi-essential amino acids, nucleotides, choline and myo-inositol are added. After a month, she feels strong enough and she physically visits the clinic. She reports having more energy than before and can resume normal activity.

### CONCLUSION

The liver is an organ with great regeneration potential, but to activate it, it needs help. Micro-foods, low-protein diets along with basic micronutrients help repair, regenerate and control excess tissue oxidation and inflammation.

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## Title: Randomised Study, Controlled with Placebo To Evaluate The Neuroprotector Effectiveness Of A Food Supplement In Oxaliplatin Neuropathy

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### Objectives

Chemotherapy-induced peripheral neuropathy (CIPN) is one of the most frequent side effects derived from chemotherapeutic treatment. It constitutes an important clinical profile in the cancer patient due to its high prevalence while also presenting a diagnostic and management difficulty.

Several preclinical studies and clinical trials show that certain natural products can reduce the side effects derived from chemotherapy, including neurotoxicity.

This paper aims to assess the effectiveness of a food supplement based on extracts of Bacopa, Melisa, a polyphenolic extract from whole Grape and wild Blueberry, as well as vitamins B5 and B6 and the mineral zinc, in the prevention of acute peripheral neuropathy induced by chemotherapy (NACQ) in patients with colon cancer under adjunctive treatment with oxaliplatin.

### Material and method

Trial that includes 30 patients diagnosed with colorectal cancer and initiating an oxaliplatin-based chemotherapy scheme. It is a randomised, prospective study with two branches. Patients will be randomly assigned (1:1 ratio) to treatment group A (oxaliplatin and placebo cellulose) or group B (oxaliplatin and dietary supplement). After completing chemotherapy treatment, patients will enter an additional 3-month follow-up period.

### Analysis

We use the EORTC QLQ-CIPN20 sensory scale and QQL quality of life questionnaire to clinically assess chemotherapy-induced neurotoxicity (NACQ), before starting chemotherapy, prior to the start of each cycle, subsequently every month and up to three months after the end of the chemotherapy treatment.

### Results and Discussion

Results pending assessment

Conclusions

Conclusions pending assessment.

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## Title: Reflexology user profile of a private centre in Catalonia

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### Summary

The objective of this study was to investigate the reflexology user profile in a private centre and explore the factors related to its use.

Design: Descriptive observational study

Methodology: The sample consists of 300 users, selected by systematic sampling. Data collection was carried out through a self-administered questionnaire with 18 items. The questionnaire used addresses, among other items, questions about demographic data, knowledge of complementary therapies, their use, degree of satisfaction, motivation and sources of information.

The subsequent analysis of the data was done with the statistical package SPSS v. 15.0. A descriptive analysis of the data is performed expressing qualitative variables frequencies, percentages, and quantitative variables with means and standard deviation. Statistical inference is made with 95% confidence, making confidence intervals for the mean or proportion according to the typology of the variable and evaluating the association of two qualitative variables with the chi-square test.

Results: 75.6% of users are aged between 15 and 65. 77% are women. 82% use complementary medicine in combination with biomedicine. 69% of users reside in urban areas with over 40,000 inhabitants. Regarding the level of education, 48% had completed university studies.

Conclusions: The profile of reflexology users corresponds to a 41-year-old woman, resident in an urban area, who has higher education qualifications and who usually knows and uses other complementary therapies that she integrates with biomedical system. The main source of information is family and friends. In this study, the three most commonly used modalities in addition to reflexology, were flower Bach remedies, kinesiology and osteopathy.

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## Title: Ramsay Hunt syndrome and Acupuncture, a case study

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The Ramsay-Hunt syndrome presents a vesicular rash in the atrial pavilion or oral cavity associated with peripheral facial paralysis. The cause is the involvement of the geniculate ganglion by the reactivation of the varicella-zoster virus, it is the second most frequent cause of nontraumatic peripheral facial paralysis.

The case we present in a 27-year-old woman is an otic case that has a poorer prognosis for recovery than the Bell's palsy not linked to this syndrome.

Conventional treatment with oral acyclovir, analgesics, corticosteroids and eye protection measures began 48 hours after the onset of symptoms and despite the improvement in facial paralysis at four weeks was very mild. This slight improvement meant that acupuncture, electro acupuncture, seven-pointed hammer for facial stimulation and Chinese phytotherapy were added to the usual treatment, thus achieving an increase in the improvement that became almost complete at 14 weeks after the incorporation of complementary techniques.

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## Title: Integrating Cupping Therapy in the Management of Sudden Sensorineural Hearing Loss in Meniere's disease: A Case Report

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Objective: 48 year old female with a four-year history of Meniere's disease, recurrent tinnitus, episodes of dizziness attacks and fullness of the right ear. The patient developed sudden sensorineural hearing loss (SSNHL). The patient received conventional treatment in the form of steroids, diuretics and betahistine. Full physical and otoneurological examinations of the patient were insignificant, but her hearing test showed typical low-frequency SSNHL. Methods: Patient received 6 sessions of wet cupping therapy (WCT). We measured and closely monitored the patient's blood pressure and random blood sugar pre and post each WCT session. Result: Pure tone audiometry tests revealed significant hearing improvement across almost all frequencies almost to normal hearing level. Conclusion: This case presentation is the first reported treatment of SSNHL using WCT. It adds a new modality of treatment to SSNHL secondary to Meniere's disease.

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## Title: A young man with neurosarcoidosis: Importance of oxidant status for pathogenesis and therapy

Hugo Stuer<sup>1</sup>

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A young man with neurosarcoidosis:  
Importance of oxidant status for pathogenesis and therapy  
Case report

June 2018, a young man asked additional treatment for serious complaints, two months after been diagnosed with neurosarcoidosis.

The problem started with general malaise and incapacity to work. Becoming short of breath an X ray was made, followed by CT Scan and biopsy, leading to the diagnosis. Extreme vertigo appeared followed by facial nerve paralysis.

Reasons for encounter where: vertigo and fatigue, pain of the skull, shortness of breath, without relief by regular therapy.

Anamnesis revealed an Epstein Barr episode in 2013. One week before onset of the syndrome, sport activities were extreme with supercooling.

Besides advice on high quality nutrition with vitamine C and daily amounts of nuts, we started supplements: Magnesium and Sodiumbicarbonate, beer and baker's yeast, cod liver oil and a mixture of fresh linseed and pumpkinseed.

As nutraceuticals: Acetylcysteine, Milk Thistle and Withania.

Within three weeks recovery was spectacular, all symptoms disappearing with possibility for working and sporting.

Discussion

Neurosarcoidosis as complication of sarcoidosis is assumed to be rare. Regular therapy is symptomatic. The cause is unknown. Hypothetically the immune system responds to infectious or chemical agents. Stress is mentioned.

Since the anamnesis of oxygen debt and supercooling we focussed on adjuvants for Reactive Oxygen Species (ROS): Zinc and Mg with amino acids, Withania (anti inflammatory), Milk Thistle (antioxidant) and Acetyl cysteine (detoxification).

The intake of nuts provides trace elements. Sodium Bicarbonate has anti inflammatory capacities in endothelial cells, and linseed is powerful for endocrine reset.

Conclusion

In this case of neurosarcoidosis, after regular therapies, symptoms continued leading to incapacity for working and sporting. Guided by the assumed pathogenesis of ROS a program was offered on three levels: high quality nutrition, food supplements and nutraceuticals, achieving full recovery within 3 weeks.

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## Title: 'What can I do?' A young woman with heart failure during oncological therapy

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### Case report

For her metastatic Adenoid Cystic Carcinoma of the parotis ACC she had impressive therapies: operations on parotis, both lungs and liver, chemo-, immune- and endocrine therapies and radiations.

Reason for encounter was discovery of heart failure (ejection fraction EF 23%, brain natriuretic peptides BNP 1330) communicated as 'irreversible' with possible serious complications.

She followed regular approach: increasing dose for Betablocking, Ace inhibition and diuretics, plus progressive briskwalking.

Besides advice on high quality nutrition with awareness on vitamin C and nuts we started supplements: Sodiumbicarbonate, beer and baker's yeast, cod liver oil and a mix of linseed and pumpkinseed

As nutraceuticals: Magnesium with amino acids and Omega<sup>3</sup> oil (cell membrane), co-enzyme Q10 (mitochondrial energy), Zinc (anti oxidant), Milk Thistle (detoxification), Curcuma (anti inflammatory) and Hawthorn (Inotropic).

After 2 months EF raised to 35%, BNP dropped to 400.

After 8 months: EF 55%, BNP normalized.

### Discussion

Explanations for Heart failure, common in oncology, are: Chemo-Radio-Immuno-and Endocrine therapies, Protonpumpinhibitors, Low bodily temperature, Insufficient sleep quality with lack of parasympathetic recovery.

A multimodality approach categorizes the program on 3 axes: regular therapies, adjuvants and personal elements.

Standard medication stayed on low dose due to symptomatic low blood pressure.

Adjuvants were divided in high quality nutrition, food supplements and nutraceuticals supporting mitochondrial energy, oxidation, detoxification, inflammation and inotropic.

The verdicts 'irreversibility' and 'dangerous' are important, seen the prognostic role of the parasympathetic system in cardiology and oncology. Transition came by answering the initial question: 'What can I do?'

### Conclusion

Adjuvants have many sided benefits for heart failure with evidence in therapy and prevention.

Despite the verdict almost full recovery was achieved in <8 months.

Integrative communication is required: useful tool is a multimodality model with 3 axes, regular, adjuvant, and personal.

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## Title: Kyolic aged garlic extract improves blood pressure, arterial stiffness and gut microbiota in hypertensives: The GarGIC trial

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### Objectives

To assess the effect of Kyolic aged-garlic-extract on blood pressure, arterial stiffness, inflammation, and gut microbiota.

### Background

Kyolic-aged-garlic-extract has demonstrated effectiveness in reducing blood pressure in a large proportion of hypertensive patients similar to first-line standard antihypertensive medication. High blood pressure has been linked to gut dysbiosis, with a significant decrease in microbial richness and diversity in hypertensives compared to normotensives. Furthermore, gut dysbiosis has been associated with increased inflammatory status and risk of cardiovascular events.

### Methods

A total of 49 participants with uncontrolled hypertension completed a double-blind randomised placebo-controlled trial of 12-weeks, investigating the effect of daily intake of aged-garlic-extract (1.2g containing 1.2mg S-allylcysteine) or placebo on blood pressure, pulse-wave-velocity and arterial stiffness, and gut microbiota.

### Results

Mean-blood-pressure was significantly reduced by 10±3.6 mmHg systolic and 5.4±2.3 mmHg diastolic compared to placebo. Vitamin-B12-status played a role in responsiveness to garlic on blood pressure in 17% of patients. Kyolic garlic significantly lowered central-blood-pressure, pulse-pressure and arterial-stiffness by an equivalent of 5 years' of ageing (p<0.05), important risk factors for cardiovascular morbidity. Furthermore, aged-garlic-extract improved gut-microbiota, evident by higher microbial richness and diversity with a marked increase in Lactobacillus and Clostridia species after 3 months of supplementation.

### Conclusions

Our trial suggests Kyolic-aged-garlic-extract to be effective in significantly reducing blood-pressure in patients with uncontrolled hypertension, has the potential to improve central hemodynamics including arterial stiffness, and gut microbial profile. Aged-garlic-extract is highly tolerable with a high safety profile as a stand-alone or adjunctive antihypertensive treatment, with beneficial effects on a variety of cardiovascular risk factors and gut health.

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## Title: Multimodal Program of Health Promotion and Quality of Life based on health theory by Mokichi Okada

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Objectives: Based on the principles established by Mokichi Okada in his theory of health, set forth in the 1940's, the present study aims at reporting the evaluation of a multimodal program of health promotion (MPHP) where the patient is taken care of by the practice of laying on hands called Johrei, dietary education based mainly on the intake of organic food and participation in art activities in order to widen his/her awareness of life, its senses and meanings. Materials and methods: It had been established as targets patients with chronic diseases. 27 individuals were distributed and they started: 1) the practice of Johrei, being cared of and also committed themselves to take care for other people through this practice; 2) started a systematic diet, where the consumption of organic foods and proper methods of food preparation were recommended; 3) activities concerning art appreciation and preparation such as ikebana. Before the beginning and three months later, quality of life (QOL) levels, spirituality, general health situation, and happiness index were measured. Analysis: was performed using the SPSS statistical software. Results: After three months of participation, the volunteers presented improvements in several aspects of QOL, as well as in topics related to their spirituality. Their general health also improved, and it was noticed a significant difference in happiness level. Discussion: The results are much in accordance with many studies on MPHP, through integrative and complementary health resources. The innovative character is the combination of three modalities that were separately evaluated and showed effectiveness. The imposition of hands in Johrei modality, the intake of organic food and art practices pointed out their effectiveness in the promotion of integral health. Conclusion: The program indicates its application in the improvement of health and quality of life of chronic patients.

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## Title: Mental illnesses and the use of integrative therapies. Systematic review

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Health professionals in our daily practice are presented with unknowns in the proper use of complementary instruments in mental illness. Can we recommend yoga, reflexology, Bach flower remedies or Reiki to patients with depression or schizophrenia?

The main objective will be to look for studies with evidence in relation to integrative instruments such as yoga, Reiki, Bach flower remedies and Reflexology in mental pathologies such as depression and schizophrenia.

Bibliographic search in PUBMED and CINAHL with the keywords: Depression, schizophrenia, yoga, reflexology, Bach flower remedy and Reiki. Boolean AND. Full text, in English, Spanish and under 5 years.

Only studies with evidence 1A, 2A or 1B will be analysed.

As results we obtain in PUBMED 166 articles on yoga and depression, of which we highlight 5 of them by presenting the evidence of our objective. For the words yoga and schizophrenia we find 17 studies of which 1 stands out for its methodology and results. No results are obtained from the rest.

In CINAHL we obtain 2 studies for the treatment of depression with yoga, without highlighting any and curiously here we find 13 studies for the use of reflexology in depression, of which one stands out for its evidence 1A.

We conclude after reading the outstanding articles we can, as health professionals recommend yoga and reflexology to complement the treatment of depression. In schizophrenia yoga will help us reduce psychopathology and improve patients' cognition.

However, the type of yoga used in most studies or the protocol of foot reflexology is not specified. It would therefore be necessary to improve the line of research in this regard. And of course introduce other integrative therapies such as Reiki or Bach flower remedies.

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## Title: Opinions of Romanian medical doctors regarding classic versus online training on adaptogens

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Introduction: Adaptogens (AD) are represent subject of research interest, also studied in various forms of organizing training courses. The objective was to assess the opinion of some medical doctors (MD) regarding classic versus online training on AD.

Material and method: MD without AD training, voluntarily responded to a questionnaire with topics (T): T1 - importance of medical AD education; T2 - AD use in prevention and therapy; T3 - AD application in medical practice; T4 - AD use in stress; T5 - only classical AD training (CT); T6 - only online AD training (OT); T7 - combined classical and online AD training (COT); T8 - what AD themes would be indicated, as OT. This questionnaire was applied before (M1) and after (M2) presenting the benefits of an AD on-line program. Themes T5-T8 were applied also to M2.

Results: MD answers to M1: T1 - medical AD education is important and necessary; T2 - AD may be useful in prevention and therapy; T3 - they do not apply AD in their current medical practice; T4 - they would like to know more about AD use in stress; T5 - 49% preferred CT; T6 - 12% preferred OT; T7- 39% preferred COT; T8 - OT favorite themes, were theoretical. MD answers to M2: T5 - 17% preferred CT; T6 - 12% preferred OT; T7- 71% preferred COT; T8 - OT favorite themes, were both theoretical and practical ones.

Conclusions: 1) Assessed MDs have shown interest in AD training. 2) MD participants would like to use AD in stress. 3) Combined, classical and online training on AD, is the most preferred by MD. 4) MD opted for online training of theoretical and practical themes about AD.

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## Title: Prevalence of health burdens in patients suffering from malignant diseases revealed by bioresonance – our experience

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### Background

Bioresonance machines are designed to assist a body to reduce its toxins and/or stress load and to help body to go back in balance and thus to heal itself.

### Objective

The aim of the paper was to present what health burdens we found in people diagnosed with neoplasm.

### Materials and methods

67 patients of both gender were included in the study (28 – 41,8% males, and 39 – 58,2% females). Mean age was 41,8+7,9yrs. They filled out questionnaire related to presence of diseases in accordance to International Classification of Diseases 10 (ICD-10). Afterwards they were tested with german bioresonance apparatus. Statistical analysis was done by using SPSS v. 17.0.

### Results and discussion

7 subjects (10,4%) were diagnosed with neoplasm. In all patients (100%), bioresonance revealed Streptococcus, Staphylococcus, Aspergillus, Candida, aflatoxin, Ascaris, Oxyuris, and mercury. In 85,7% tested subjects with neoplasm, bioresonance revealed presence of Adenovirus, Helicobacter, lead, chromium, formaldehyde, lack of selenium, zinc and vitamin D. Gluten, milk, and pork meat intolerance was found in 71,4% tested subjects. The same prevalence was found for Picorna virus, presence of aluminum, thimerosal, and organic solvents. Presence of EBV and Proteus was revealed in 57,1% subjects. Gluten intolerance and presence of VZV, HSV, CMV, HPV, Coxsackiae, Chlamidia, Salmonella, Mycoplasma, and Pseudomonas were found in 42,9% of tested subjects. All other health burdens were present in less than 30% of tested subjects.

### Conclusions

Bioresonance may be very useful tool to reveal presence of health burdens in subjects diagnosed with neoplasm and may be used concomitant with classical therapy with an aim to clean up body from toxins, bacteria, and fungi. This, in turn, will help and accelerate healing process. Further studies with bigger sample size are needed to better clarify this issue.

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## Title: Mineral deficiencies and food intolerance in patients suffering from chronic non-communicable diseases revealed by bioresonance

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### Background

Additional to classic therapy, bioresonance is very useful in treating patients with chronic non-communicable diseases (CnCD).

### Objective

The aim of the paper was to present the presence the most prevalent deficiencies we found in people suffering from CnCD.

### Materials and methods

67 patients of both gender were included in the study (28 – 41,8% males, and 39 – 58,2% females). Mean age was 41,8+7,9yrs. They filled out questionnaire related to presence of diseases in accordance to International Classification of Diseases 10 (ICD-10). Afterwards they were tested with german bioresonance apparatus. Statistical analysis was done by using SPSS v. 17.0.

### Results and discussion

7 subjects (10,4%) were diagnosed with neoplasm, diseases of blood and blood forming organs had 5 subjects (7,5%) and the same number of subjects suffered from mental and behavioral diseases; endocrine, nutritional, and metabolic diseases were diagnosed in 3 subjects (4,5%), diseases of nervous system were present in 4 subjects (6%), 8 (11,9%) subjects suffered from eye diseases, while 14 subjects (20,9%) had ear problems. Diseases of circulatory system were found in 14 subjects (20,9%), diseases of respiratory system were found in 19 subjects (28,4%), while 28 subjects (41,8%) had problems with digestive system. 31 subjects (46,3%) reported diseases of skin, 21 of them (31,3%) reported musculoskeletal diseases, while 20 subjects had problems with genitourinary system. Bioresonance testing revealed following results: 50 subjects (74,6%) were deficient in selen which was also true for zinc deficiency. 61 subjects (91%) lacked in vitamin D. As for intolerance, 83,6% were sugar intolerant, 80,6% were milk and pork meat intolerant, and 79,1% were gluten intolerant.

### Conclusions

Bioresonance may be very useful tool to reveal deficiencies and food intolerance in people suffering from CnCD. This may result in diet change and appropriate dietary supplementation which will help health improvement.

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## Title: Chickens Breast Meat Enriched With Propolis And/Or Bee Pollen – Implications For Human Health

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Objectives: Propolis and bee pollen belong to a group of natural substances of animal and vegetable origin with a particularly expressed antioxidant and antimicrobial properties attributed to its phenolic bioactive compounds. Chicken meat can serve as functional foods enriched with polyphenols. The aim of this study was to produce enriched chicken meat and to determine total phenolic (TP) content in breast meat of chickens fed with feed mixtures additionally supplemented with various amounts of propolis and/or bee pollen.

Materials and methods: This study was conducted on 200 Ross 308 chickens divided into five groups (control group - C, fed with feed mixture and four experimental groups - E1-E4, fed with following additions to kg of feed mixture: E1 (0.25 g of propolis + 20 g of bee pollen); E2 (0.5 g of propolis); E3 (1.0 g of propolis); E4 (20 g of bee pollen)). In breast meat samples the TP content was determined by the Folin-Ciocalteu method.

Analysis: One-way ANOVA and LSD test were used for data analysis.

Results: Mean values of TP content (mg/g) in all groups were: 78.52±13.73 (C); 95.32±10.55 (E1); 87.42±16.84 (E2); 92.94±14.67 (E3); 88.56±9.82 (E4). The study showed statistically significant differences between group C and group E1 (p=0.007) and between group C and group E3 (p=0.020).

Discussion: Recent studies showed that the antioxidant and anti-inflammatory properties of polyphenols may potentially prevent or serve as treatment against many non-communicable diseases (NCDs). The present study showed that dietary protocol E1 and E3 exerted the largest incorporation of phenolic compounds in chicken breast meat. Such innovative technological solution in broilers feeding enables the production of healthier meat that can be considered functional food.

Conclusions: Created functional food can find its significant place in prevention and integrative treatment of major NCDs in Croatian population such as cardiovascular and cerebrovascular diseases.

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## Title: Micotherapy and metabolic control

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### Background

A 77-year-old woman with hypertriglyceridemia who does not want to be treated with drugs. Background: Obesity, HBP, Insomnia, Constipation. Treatment: Irbesartan 150; Bisoprolol 2.5; Eplenorone 50mg, Red Rice Yeast, Omega-3 (eicosapentanoic acid (EPA) ethyl ester (460 mg) and docosahexanoic acid (DHA) ethyl ester (380 mg)) and high fibre diet. Father deceased due to MI aged 63.

### Description of the problem - Material and method

Patient diagnosed with hypertriglyceridemia, which despite treatment with Omega-3 (DHA-EPA) for several years, has presented a progressive elevation of triglyceride levels, maintaining cholesterol levels.

### Discussion

Triglycerides in February-2017 of 220 mg/dl (35-200 mg/dl); in June-2017: 287 mg/dl; and in February-2018: 302 mg/dl Due to their background and the lack of response with omega-3 to avoid the risk of cardiovascular accident, in February-2018 treatment begins with 8:1 organic pure extract of Maitake (*Grifolia funds*) at lunch and dinner for 1 month. Subsequently, the treatment continues with a mixture of organic Maitake 80% powder and 20% extract 2 cap/day, before lunch and dinner for 3 months. In the following analysis, four months later, the triglyceride value is 197 mg/dl.

The increase in plasma triglycerides is an alteration that affects a high proportion of the adult population in our environment.

Maitake has a hypolipidemic action with reduced triglycerides in animal models. The mechanism by which it is able to reduce plasma cholesterol is related to the inhibition in the expression of genes involved in the de novo synthesis of cholesterol. In addition, Maitake is able to promote  $\beta$ -oxidation of fatty acids.

### Conclusions

This experience underscores the potential of this approach to reduce cardiovascular risk factors without resorting to drugs and their consequent adverse effects, pending confirmation with appropriate clinical studies.

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## Title: Assessment of the tongue features associated with breast cancer using automatic tongue diagnosis System (ATDS)

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### Objectives

Breast cancer is the most common cancer in women, and survivors go through a complex and multidisciplinary treatment approach to the disease. This study investigates discriminating tongue features to distinguish between breast cancer patients and non-breast cancer individuals through non-invasive traditional Chinese medicine (TCM) tongue diagnosis.

### Material and method

This study comprised 253 subjects aged  $\geq 30$  years who were diagnosed with breast cancer from 2012 to 2016 and a total of 161 non-breast cancer individuals with no specific medical history were enrolled in the control group from 2014 to 2016. The tongue features are extracted by the automatic tongue diagnosis system (ATDS). A total of nine tongue features, namely, tongue shape, tongue color, fur thickness, fur color, saliva, fissure, ecchymosis, tooth mark, and red dot are identified for each tongue.

### Analysis

The tongue features in the breast cancer and non-breast cancer groups were analyzed and compared using chi-square test (or Fisher's exact) for categorical variables and one-way ANOVA was applied to compare difference between group means. A p-value  $< 0.05$  was considered statistically significant.

### Results

Patients with breast cancer possessed significantly larger covering area of small tongue ( $p < 0.01$ ), pale tongue ( $p < 0.001$ ), thick fur ( $p < 0.001$ ), yellow fur ( $p < 0.001$ ), wet saliva ( $p < 0.001$ ) than those of the non-breast cancer group.

### Discussion

This study used objective image analysis techniques to find that patients with breast cancer and non-breast cancer individuals have significant differences in many tongue features. In the future, further analysis of tongue features can be made for different stages or different treatment methods of breast cancer patients.

### Conclusion

The TCM tongue diagnosis can serve as a preliminary screening procedure in the early detection of breast cancer in light of its simple and non-invasive nature, followed by other more accurate testing process.

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## Title: The dance of electrons, the forgotten key to metabolism

**Title: The dance of electrons, the forgotten key to metabolism**

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Introduction: Every atom is essentially formed by positive electric charges (protons) and negative charges (electrons). REDOX reactions are the classic example of electron exchange between two atoms. All biochemistry can be rewritten in electromagnetic code. When we understand physiological processes from an electromagnetic view, concepts are greatly simplified, and other possibilities emerge.

Method and results: The formation of ATP through the Krebs cycle is conditioned by the existence of an electron pool in so-called cellular respiration. The different stages of the cycle are based on the exchange of electrons and protons, where electrons pass from higher energy states to lower energy states, from one atom to another, in a relentless dance that allows life to occur. The contribution of these electrons, and the coherence in the endogenous electromagnetic radiation then go from being a metabolic by-product to be turned into something with which it is possible to interact. When instead of thinking about a biochemical code (with a myriad of different compounds) we introduce electromagnetic concepts, we find a great variety of diagnostic and therapeutic possibilities that are still very minor and not sufficiently explored. Certainly, only some areas of medicine use electromagnetic technologies, widely known for their effects on aesthetics or physiotherapy. That is just the tip of the iceberg of an emerging field that needs to be understood from every possible angle.

Conclusion: An electromagnetic view of health and life in general allows us to understand new keys to health, with both diagnostic and therapeutic applications of great value. The great advantage is that electromagnetic concepts are very simple to apply, have no unwanted effects and act on the system as a whole, strengthening the body's own capacity for self-regulation.

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## Title: Effects of Chikung On Non-Hodgkin Lymphoma Survivors

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Objectives: The objective of this study has been to analyse the effects of an 8-week Chikung program in non-Hodgkin lymphoma survivors on the quality of life compared to conventional treatment.

Material and method: A controlled pilot study was carried out. All patients received an information sheet and signed an informed consent before their participation. All assessments were carried out at the Faculty of Health Sciences of the University of Granada. In the experimental group, participants attended 16 sessions of 60 minutes for eight weeks, including 15 minutes of warm-up and stretching, 25 minutes of Chikung exercises, coordination of breathing and flexibility, and 15 minutes of meditation and abdominal breathing exercises. The control group received the usual recommendations from the corresponding Haematology unit to avoid recurrences. The variables of anxiety, depression, happiness, fatigue, emotional support, resilience and sleep were collected before and after 8 weeks.

Results: Of the 25 non-Hodgkin lymphoma survivors recruited at the Virgen de las Nieves hospital in Granada, 16 completed the program, whose average age was  $44.00 \pm 11.51$  years. The analysis of the variance showed significant differences in the experimental group after 8 weeks, presenting a decrease in the state of anxiety ( $F=6.07$   $p=0.02$ ) and depression ( $F=5.46$   $p=0.03$ ), an increase in social support ( $F=6.05$   $p=0.02$ ), emotional support ( $F=9.12$   $p=0.01$ ) and resilience ( $F=5.8$   $p=0.03$ ), as well as an improvement in sleep ( $F=10.65$   $p=0.01$ ) compared to the control group.

Discussion and conclusions: Participation in a face-to-face 8-week Chi Kung program can increase resilience in non-Hodgkin lymphoma survivors, improving psychological status, sleep and social support.

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## Title: Adherence to allopathic treatment through complementary traditional medicine

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Traditional medicine can be a complementary therapy to allopathic medicine, helping the patient to recover through intervention in their emotional and mood states, which increases the chances of a comprehensive improvement of the patient. In the case of chronic degenerative diseases, given the time of medical intervention and the joint aggressiveness of the condition and treatment, this phenomenon of complementarity lends itself to study.

The present study deals with adherence to the allopathic therapy of a patient with testicular cancer from the intervention of traditional and complementary medicine. The objective was to determine the impact of complementary treatment to achieve adequate adherence to allopathic treatment, improving their quality of life even in times of greatest drug crisis.

To this end, a retrospective and cross-sectional descriptive study was carried out using a case report instrument to record the general data of the patient and their state of evolution. To achieve this, testimonies videotaped four years after the case were used. Additionally, interviews were conducted with both the patient and the traditional therapist.

It can be seen that the patient recovers adherence to allopathic treatment after the intervention of traditional medicine by providing relaxing massage therapy, accompanied by other therapeutic techniques, a diet rich in protein and vegetables, low in fat, carbohydrates and dairy, along with drinks based on medicinal plants, which improved the mood and physical state of the patient.

It can be concluded that the therapeutic technique of traditional medicine generates a high level of accompaniment in the patient in their illness, which contributes to the continuity and adherence to it, becoming both medicines complementary, with a better result for the patient.

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## Title: Quality of life of people suffering from chronic pain may be significantly improved by the use of natural oils and diet change

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### Background

Aside other morbidity in older population, presence of chronic pain may be significant factor that may have negative influence on quality of life (QoL).

### Objective

The aim of this paper was to present the results of intervention consisting of diet change and natural oils use on QoL in patients with chronic pain.

### Materials and methods

37 patients of both gender were included in the study (7 - 18,9% males, and 30 - 81,1% females). Mean age was 60,7+-11,9yrs. They filled out questionnaire related to presence and origin of pain before treatment commence and two months later. Intervention consisted of natural oils use and diet change according to following protocol: I) "Relax Tonic" was applied onto whole body including face; II) when the skin has become dry, person took a shower and applied "Olje 10" onto wet skin of whole body and face. This procedure was repeated once daily for the period of study. Oils were made by "Planet zdravja" (Slovenia). Statistical analysis was done by using SPSS v. 17.0.

### Results and discussion

Results are presented before vs. after the treatment as mean value +- standard deviation. Physical fitness score: 56,2+-9,7 vs. 61,3+-6,7 (p=0,000); psychological status score: 57,2+-13,9 vs. 65,3+-11,3 (p=0,000); attitude in relation to environment score: 73,6+-14,2 vs. 77,8+-13,3 (p=0,000). Improvement in social relations was also achieved, but was not statistically relevant - 66,2+-16,5 vs. 67,6+-16,2 (p=0,077).

### Conclusions

The study showed that the concomitant use of natural oils and diet change may help patients suffering from chronic pain to improve quality of life. Significant improvement was revealed in the field of physical health, psychological health, and attitude to environment; improvement was also achieved in the field of social relations, but was not statistically significant.

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## Title: Head lice at school: Natural products from traditional medicine and community engagement with theatre and music

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### Objectives:

To tackle and treat head lice infestations, a public health issue, through a community program using a recipe derived from traditional medicine as well as theatre for information and de-stigmatization.

### Background

The prevalence of head lice in poor rural communities and urban slums is estimated to be between 28% and 43% in Brazil. Children are among the most affected and the stigma surrounding head lice infestation creates a barrier between families who need help and community leaders. In addition, the cost of treatment is not affordable to low-income families.

### Design and methods

We developed a program around a theatre performance involving the entire school community to put the management of household head lice under the spotlight. A solution containing water, salt and vinegar, widely used in traditional Brazilian medicine and associated with good results in pre-tests was provided and for the first time was scientifically tested. Evaluation of the program was based on direct observation and a questionnaire. The study complied with criteria of Standards for Reporting Qualitative Research (SRQR).

### Results

Two hundred and eighty (280) participants, including parents and siblings of the school children took part in the program. Among them, 24% (N=67) had head lice, with girls representing 85% of cases; 74.7% of participants infested with head lice were between 4-10 years old; 55.2% (N=37) of participants infested treatment showed no signs of nits or adult lice after treatment.

### Discussions

Although a modest success rate in comparison with formulations containing chemicals, the building of resistance is unlikely. The use of a nit comb as a complement to the product's application will be investigated and may greatly increase the success rate.

### Conclusions

The theatre play associated with a well-known and accessible local product to treat head lice in low-income families gathered a high degree of community adherence.

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## Title: Neural therapy in the healing of chronic ulcer on graft in the scalp

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**Objective:** To assess the effectiveness of Neural Therapy (NT) in the healing of a chronic ulcer on skin graft in the scalp, which has not responded to conventional treatment.

**Material and Methods:** Neural Therapy is a technique developed in Germany that involves the injection of local anaesthetics into the skin, autonomic nerve ganglia, peripheral nerves, scars, acupuncture points, activation points and other tissues. It is based on the theory that any trauma, infection or surgery can damage the Autonomic Nervous System and produce long-lasting alterations in the electrochemical or electromagnetic functions of the tissues, interfering with the maintenance of homeostasis and the adaptation responses of the external and internal environment.

It is an ulcer in the graft area in the scalp, a year of evolution with progressive growth, where the protocol for the treatment of chronic ulcers has been followed.

We complete the conventional treatment with NT and acupuncture points based on the location of the wound and the territory of the meridian involved.

We start NT with weekly sessions and at 4 months every 2-3 weeks.

We perform: local therapy (papules), interfering field therapy: scars; local and distant acupuncture points of the related meridians.

**Material used:** 3cc syringe; 20x0.4mm needle; 40x0.4mm; 1% procaine; H.H

**Result:** Currently, healing has decreased the ulcerated area, covering much of the exposed periosteum without complications. The patient has not needed a new antibiotic treatment since the beginning of NT nor have they presented bleeding or bruises that have complicated the process.

**Conclusion:** NT has focused on the lesion on the scalp, interfering fields and acupuncture points according to the related meridian.

NT could be considered a good tool for healing wounds, acute or chronic. It could be the basis for designing deeper studies.

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## Title: Neural therapy in the treatment of complex regional pain syndrome (Sudeck's disease, reflex sympathetic dystrophy)

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**Objective:** To assess the effectiveness of Neural Therapy in the treatment of Complex Regional Pain Syndrome (CRPS).

**Material and Methods:** Neural Therapy is a technique developed in Germany that involves the injection of local anaesthetics into the skin, autonomic nerve ganglia, peripheral nerves, scars, acupuncture points, activation points and other tissues. It is based on the theory that any trauma, infection or surgery can damage the ANS and produce long-lasting alterations in the electrochemical or electromagnetic functions of the tissues, interfering with the maintenance of homeostasis and the adaptation responses of the external and internal environment.

Applying a nonspecific regulatory stimulus in a specific area, it manages to restore the vegetative nervous system and the regulation of the circulatory system.

In this case, conventional treatment is combined with Neural Therapy (NT).

We started NT with biweekly sessions.

Local therapy (papules, scar infiltration)

Segment therapy (sympathetic lumbar, femoral)

Material used: 3cc syringe; needle 20x 0.4mm, 60 x 0.4mm and 40x 0.4mm; 1% procaine and saline serum

**Result:** Neural Therapy has focused on the treatment of complex regional syndrome through segment therapy and interfering fields.

In view of the result, NT could be considered a good tool for the treatment of CRPS.

**Conclusion:** According to clinical guidelines, regional sympathetic block with lidocaine does not provide any prognostic benefit in the CRPS.

Contradictorily to the above, in our case we objectified clinical and functional improvement with puncture at the level of the left lumbar sympathetic.

The papules on the scar and the stimulation of the circulation with the intraarterial administration of procaine in the lower left limb together with the rehabilitative treatment contributed to the total recovery.

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## Title: Concomitant use of natural oils and diet change may help to reduce some eye symptoms in suffering from allergies

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### Background

Since the eyes are exposed and sensitive, they may become an easy target for allergens and irritants. Inflammation of the eyes is caused by chemicals release, including histamines.

### Objective

The aim of this paper was to present whether the use of natural oils and diet change may help patients to manage eye symptoms of allergy.

### Materials and methods

13 patients of both gender were included in the pilot study (5 - 38,5% males, while 8 - 61,5% were females). They filled out questionnaire related to presence of allergy symptoms before treatment commence and two months later. Intervention consisted of diet change and natural oils use according to following pattern: I) "Relax Tonic" was applied onto whole body including face once a day; II) three drops of "Olje 1", dissolved in half glass of warm water, were consumed three times a day. Oils were made by "Planet zdravja" (Slovenia). Statistical analysis was done by using SPSS v. 17.0.

### Results and discussion

Results are presented before (B) and after (A) the treatment: B – 15,4% of subjects reported no itchy eyes (IE), 38,5% had it occasionally, while 46,2% reported frequent IE; A - 61,5% of subjects reported no IE, while 38,5% reported occasionally presence of IE. B – 16,7% of subjects reported no watery eyes (WE), 50% had it occasionally, while 33,3% had it frequently; A - 69,2% of subjects reported no WE, while 30,8% reported occasionally presence. B – 69,2% of subjects reported under eye dark circles (UEDC), 15,4% had this symptom occasionally, and 15,4% had it frequently; A - 100% of subjects reported no UEDC.

### Conclusions

This pilot study revealed that concomitant use of natural oils and diet change may help patients to reduce allergy symptoms related to eyes (itchy eyes, watery eyes, under eye dark circles).

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## Title: Clinical Hirudotherapy: Rheumatoid Arthritis

**Konstantin Sukhov<sup>1</sup>**

<sup>1</sup>World Hirudotherapy Organization

**Material and method:** Over the 2008-2019 years observed the treatment of 14 patients with rheumatoid arthritis (6 men, 8 women, age 18 – 49 years). All patients had clinical and laboratory data confirming the activity of the disease. Prior to contacting us, 9 patients (with a disease duration of 2-5 years) received long-term treatment with drugs, 5 patients (duration of the disease 3-5 months) did not receive systematic treatment.

**Results and Discussion:** Against the background of the use of drugs began to add sessions hirudotherapy - application medical leeches (*Hirudo medicinalis*), according to the schemes individually selected for each patient (2 - 5 leeches per session). As a rule, from 5-7 sessions of hirudotherapy, after receiving a positive clinical effect (reducing the intensity of pain and swelling of the joints, reducing morning stiffness), the dosage of drugs was reduced, until complete withdrawal. The main criterion for the frequency of hirudotherapy sessions was the duration of the pain-free period in the patient. As a result, the total duration of treatment ranged from 4 to 25-30 months. In patients who have not previously received drug therapy, the effectiveness of hirudotherapy was higher. Of these patients, two patients could not stand the duration of the treatment cycle and refused to continue treatment (the duration of the pain-free period they were 1-2 weeks), and now their condition is unknown. Nine patients have fully recovered, there are no periods of activity of the process, they live without the use of any additional drugs, the duration of follow-up is from 1.5 to 4 years. Three patients are in the process of treatment and note a significant improvement.

**Conclusions:** I believe that hirudotherapy is a powerful and effective method of treatment of RA, provided it is used correctly and reasonably.

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## Title: Acupuncture treatment in the Post-operative period of Immediate Breast Reconstruction

**Cristina Domingo Gómez<sup>1</sup>, Cristina López de San Roman<sup>1</sup>**

<sup>1</sup>Campus Docent Sant Joan de Déu

**Objective:**

To evaluate the efficacy of acupuncture treatment in women undergoing Immediate Breast Reconstruction (IBR), to reduce complications associated with the intervention and improve the postoperative period.

**Material and Methods:**

A pilot study is carried out with four women between 25 and 57 years old undergoing IBR at the Dexeus Clinic in Barcelona. Two patients are treated with chemotherapy prior to the intervention and one receives chemotherapy after the intervention.

The inclusion criteria are: patients with a first breast cancer with sentinel node removal, requiring mastectomy, to which IBR is performed. Patients receive acupuncture treatment the next day.

The variables are analysed: pain assessed with analogue visual scale, measurement of seroma extracted, joint mobility of the shoulder

**Results:**

In all patients, pain decreases after treatment.

In three patients seroma extraction was not necessary and in one patient the amount of seroma was 10ml.

The four patients finished the treatment with a shoulder joint mobility of at least 95°.

**Discussion:** Patients who undergo IBR, in 80% of cases seroma is extracted twice with a volume of 50ml at a time, and in patients treated with Acupuncture only one patient needed a 10ml seroma extraction.

**Conclusions:** Acupuncture treatment helps reduce complications of pain, seroma, and shoulder mobility, after immediate breast reconstruction (IBR).

It is considered advisable to conduct a randomised clinical trial that can provide more scientific evidence.

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## Title: Reduction of allergic reactions in ears and throat by the use of natural oils and diet change – pilot study

Aleksandar Jevdic<sup>1</sup>, Dragan Jevdic<sup>2</sup>, Dusan Vesovic<sup>3</sup>, Drago Bozic<sup>4</sup>, Sonja Gospavic<sup>4</sup>, Zdravko Vulic<sup>5</sup>

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### Background

Itchy throat, ear congestion, itchy sinuses and/or ear canals, and painful sinuses are common symptoms of allergy.

### Objective

The aim of this paper was to present that the use of natural oils and diet change may help patients to manage symptoms of allergy related to throat and ears.

### Materials and methods

13 patients of both gender were included in the pilot study (5 - 38,5% males, while 8 - 61,5% were females). They filled out questionnaire related to presence of allergy symptoms before treatment commence and two months later. Intervention consisted of diet change and natural oils use according to following pattern: I) "Relax Tonic" was applied onto whole body including face once a day; II) three drops of "Olje 1", dissolved in half glass of warm water, were consumed three times a day. Oils were made by "Planet zdravja" (Slovenia). Statistical analysis was done by using SPSS v. 17.0.

### Results and discussion

Results are presented before (B) and after (A) the treatment: B – 16,7% of subjects reported no itchy throat (IT), 58,3% had it occasionally, while 25% reported frequent IT; A – 76,9% of subjects reported no IT, while 23,1% reported occasionally presence of IT. B – 69,2% of subjects reported no ear congestion (EC), 30,8% had it occasionally; A - 92,3% of subjects reported no EC, while 7,7% reported occasionally presence. B – 53,8% of subjects reported itchy ear canals (IEC), 38,5% had this symptom occasionally, and 7,7% had it frequently; A – 84,6% of subjects reported no IEC, while 15,4% reported it occasionally.

### Conclusions

This pilot study revealed that concomitant use of natural oils and diet change may help patients to reduce allergy symptoms such are itchy throat, ear congestion, and itchy ear canals. Further studies are needed which will clarify positive impact of his protocol on patients suffering from allergies.

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## Title: Acupuncture in the treatment of bruxism and tinnitus

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In the general population the prevalence of tinnitus is around 20% according to studies. The manifestation in the form of mandibular tension such as bruxism is present in 70% of the population and significantly increases its relationship with tinnitus.

### Objective

To evaluate the effectiveness of acupuncture treatment in patients affected by tinnitus, reducing muscle tension and improving bruxism.

### Material and methods

Clinical practice: Integral integrative medicine and school of health, together with the Master's Degree in Energy Assessment and Acupuncture of the Docent Sant Joan de Déu Campus accredited by the University of Barcelona.

Assessment of clinical cases in patients with tinnitus and bruxism, with treatments carried out following personalised criteria of Acupuncture according to traditional Chinese Medicine.

### Results

It is observed that there is a significant decrease in tinnitus and an improvement in decreasing muscle tension due to bruxism.

### Conclusions

Acupuncture treatment significantly decreases tinnitus, improves auditory perception and describes a general relaxation with which the quality of life in these patients is increased.

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## Title: The use of natural oils and diet change may help patients in reduction of pain of different origins – our experience

Dragan Jevdic<sup>1</sup>, Aleksandar Jevdic<sup>2</sup>, Katarina Jevdic<sup>3</sup>, Dusan Vesovic<sup>4</sup>, Drago Bozic<sup>5</sup>, Sonja Gospavic<sup>5</sup>

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### Background

Chronic pain is usually present in older population. Common chronic pain complaints include headache, low back pain, cancer pain, arthritis pain, neurogenic pain, psychogenic pain etc.

### Objective

The aim of this paper was to present the results of intervention consisting of diet change and natural oils use in patients with chronic pain.

### Materials and methods

37 patients of both gender were included in the study (7 - 18,9% males, and 30 - 81,1% females). Mean age was 60,7+-11,9yrs. They filled out questionnaire related to presence and origin of pain before treatment commence and two months later. Intervention consisted of natural oils use and diet change according to following protocol: I) "Relax Tonic" was applied onto whole body including face; II) when the skin has become dry, person took a shower and applied "Olje 10" onto wet skin of whole body and face. This procedure was repeated once daily for the period of study. Oils were made by "Planet zdravja" (Slovenia). Statistical analysis was done by using SPSS v. 17.0.

### Results and discussion

68,6% of subjects examined took pain killers, while only 31,4% did not. 71% of examined persons took drugs because of musculoskeletal disorders. After the treatment, 3,3% of subject "did not have attitude regarding treatment", 60% of them reported that they "believe that the treatment was successful", while 37,7% reported that "do not believe that the treatment was successful". 63,3% of subjects reported that "protocol is easy to use", while 36,7% reported it was not.

### Conclusions

Vast majority of tested subjects reported that they were satisfied with effects of protocol and reported that the protocol was easy for use. Therefore, this study showed promising results that the use of natural oils and diet change may be significant tool in medical practice to reduce pain in suffering subjects.

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## Title: The use of natural oils and diet change can improve quality of life in people suffering from allergy – results from pilot study

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### Background

Allergy symptoms may significantly affect subjects' quality of life (QoL).

### Objective

The aim of this paper was to present whether the use of natural oils and diet change may help patients to improve QoL.

### Materials and methods

13 patients of both gender were included in the pilot study (5 - 38,5% males, while 8 - 61,5% were females). They filled out questionnaire related to presence of allergy symptoms before treatment commence and two months later. Intervention consisted of diet change and natural oils use according to following pattern: I) "Relax Tonic" was applied onto whole body including face once a day; II) three drops of "Olje 1", dissolved in half glass of warm water, were consumed three times a day. Oils were made by "Planet zdravja" (Slovenia). Statistical analysis was done by using SPSS v. 17.0.

### Results and discussion

Results are presented before vs. after the treatment as mean value +- standard deviation. Physical fitness score: 51,08+-11,4 vs. 61,23+-6,0 (p=0,013); psychological status score: 54,8+-12,0 vs. 67,4+-10,2 (p=0,004); attitude in relation to environment score: 69,5+-14,4 vs. 75,6+-15,0 (p=0,013). Improvement in social relations was also achieved, but was no statistically relevant - 69,8+-15,9 vs. 72,1+-15,6 (p=0,177).

### Conclusions

This pilot study revealed that the concomitant use of natural oils and diet change may help patients suffering from allergies to improve quality of life. Further (placebo-control, double-blinded, longer duration) studies are needed to better clarify this issue and to reveal possible mode of action of this protocol.

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## Title: An influence of natural oils and diet change on the use of antihistamines and decongestants in people suffering from allergy – results from pilot study

Dragan Jevdic<sup>1</sup>, Aleksandar Jevdic<sup>2</sup>, Dusan Vesovic<sup>3</sup>, Drago Bozic<sup>4</sup>, Sonja Gospavic<sup>4</sup>, Zdravko Vulic<sup>5</sup>

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### Background

Antihistamines and corticosteroids are drugs in treating allergy.

### Objective

The aim of this paper was to present that the use of natural oils and diet change may help patients to reduce the use of drugs in allergy.

### Materials and methods

13 patients of both gender were included in the pilot study (5 - 38,5% males, while 8 - 61,5% were females). They filled out questionnaire related to presence of allergy symptoms before treatment commence and two months later. Intervention consisted of diet change and natural oils use according to following pattern: I) "Relax Tonic" was applied onto whole body including face once a day; II) three drops of "Olje 1", dissolved in half glass of warm water, three times a day. Oils were made by "Planet zdravja" (Slovenia). Statistical analysis was done by using SPSS v. 17.0.

### Results and discussion

Results are presented before (B) and after (A) the treatment: B – 23,1% of subjects reported no use of nasal sprays (NS), 30,8% took them occasionally, while 46,2% reported frequent use of NS; A – 69,2% of subjects reported no use of NS, while 30,8% reported occasionally use. B – 76,9% of subjects reported no use of eye drops (ED), and 23,1% took them occasionally; A – 100% subjects reported no use of ED. B – 23,1% subjects reported the use of antihistamines (AH), 23,1% used them occasionally, and 53,8% reported frequent use; A – 76,9% subjects reported no use of AH, while 23,1% reported occasionally use. B – 53,8% of subjects reported the use of corticosteroids (C), 23,1% used them occasionally, and 23,1% used them frequently; A – 100% subjects reported no use C.

### Conclusions

This pilot study came up with results that the use of natural oils and diet change may help patients to reduce the use of most common allergy drugs.

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## Title: Describe whether Tai Chi (TC) is effective in preventing falls in older people

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### Objectives

Describe whether Tai Chi (TC) is effective in preventing falls in older people.

### Material and methods

A review of the literature in PubMed of the last 23 years (1996-2019) has been carried out. Keyword "Tai Chi and prevention falls." Discarded studies in which the practice of TC was analysed along with other sports disciplines (Yoga); discarded comparative studies between TC and other therapies (Physiotherapy, Otago)

### Analysis

Various epidemiological studies (1 community intervention trial, 1 clinical trial, 1 descriptive study, 7 meta-analyses, 6 systematic reviews, 27 randomised)

### Result and Discussion

Falls in the elderly are a global public health problem. The incidence of falls increases with age. One in 3 people over 65 falls a year, and it reaches 50% in people over 80 years old. 5-20% of those who fall have serious injuries.

TC is an effective activity in the improvement of balance, in the prevention of falls, and in injuries produced after falls, in the elderly. Not all studies show that TC is effective in reducing falls. When the efficacy has not been demonstrated, it is because the program has not been long enough, or the sample size was small.

### Conclusion

Results show that TC is suitable for older people because it is aerobic, of moderate intensity, consisting of rhythmic, continuous and slight impact movements. It is an exercise that improves leg strength, balance, coordination, and decreased fear of falling.

Programs should be implemented in the community, in which Tai Chi practice is adapted to the needs and abilities of older adults, so that it has a positive impact on their health.

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## Title: Correlating Traditional Chinese Medicine Asthma Phenotypes to Objective Conventional Medicine Asthma Evaluation

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**Objectives:** To determine the distribution of childhood asthma phenotypes according to Traditional Chinese Medicine (TCM) philosophy and to correlate these to conventional medicine (CM) asthma evaluation methods.

**Material and method:** An observational, cross-sectional study was conducted at a tertiary paediatric hospital over 6 months. Patients aged 6 to 16 years attending respiratory outpatient consultation with spirometry done were recruited. Demographics, medical history and spirometry results were collected. Pulse characteristics, tongue appearance and clinical symptoms were assessed by TCM practitioners for classification into TCM phenotypes.

**Analysis:** Descriptive statistics and correlation analyses were performed.

**Results:** Ninety two patients were enrolled with mean age of 10 years old and 67% (62) were males. Main TCM asthma phenotypes identified were Lung-Spleen Chi Deficiency (LSCD) at 73.9%, Lung-Kidney Yin Deficiency (LKYID) at 20.7% and Spleen-Kidney Yang Deficiency (SKYAD) at 5.4%. The mean pre-bronchodilator forced expiratory volume at 1 minute (FEV1) for SKYAD is 77.8% of predicted, as compared to 84.2% and 89.5% respectively for LSCD and LKYID. Allergic rhinitis and eczema were reported by 90.2% and 41.3% of all subjects respectively. Eczema was found to be associated with non-LSCD phenotypes with an odds ratio of 3.26 (p-value 0.017).

**Discussion:** LSCD is the majority and SKYAD the minority of TCM phenotypes observed at the outpatient clinics. In TCM philosophy, SKYAD phenotypes have the weakest body constitution as a result of chronic deficiencies, and in our study SKYAD subjects have the lowest lung function (FEV1). LSCD phenotype has the lowest association with eczema.

**Conclusions:**

Differences in lung function and allergic co-morbidities can be observed in different TCM asthma phenotypes, suggesting corresponding physiological and clinical relevance of TCM asthma phenotypes when evaluated by objective CM methods. This suggests that further research into the added value of integrated asthma management using CM and TCM principles is clinically feasible.

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## Title: Danggui-Shaoyao-San for Dementia: Systematic Review

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**Objectives:** Although memory loss and other symptoms of dementia pose tremendous burdens to patients and societies, there is currently no cure for dementia. We conducted a systematic review and meta-analysis about the anti-dementia effects of Danggui-Shaoyao-San (DSS), derived from natural resources.

**Materials and methods:** We searched randomized controlled trials from inception through March 2019. We searched Pubmed, EMBASE, Korean databases (Research Information Service System (RISS) and Oriental Medicine Advanced Searching Integrated System (OASIS)), Chinese databases (China Knowledge Resource Integrated Database (CNKI) and Wanfang Database) and Japanese databases (Cinii and J-STAGE). Studies were included if they were a randomized controlled trial (RCT); investigated the efficacy of DSS or its modified form; and included participants with dementia. Use of DSS with other treatment (e.g., acupuncture, antidementia drugs, etc.) was included.

**Analysis:** Items of each trial were evaluated by two independent reviewers. Data were pooled by using random-effect models.

**Results:** 482 studies were identified, and five eligible studies for Alzheimer's disease (AD) and four studies for vascular dementia (VD) were included in the final analysis, representing a total of 567 participants. As for AD, pooled results of the Mini-Mental State Examination (MMSE)(MD 4.60; 95% CI 4.29, 4.91) and activities of daily living (ADL) (MD 11.40; 95% CI 10.94, 11.86) favored DSS. DSS had synergistic effect with acupuncture over acupuncture alone in MMSE(MD 1.69; 95% CI 1.05, 2.34), Hasegawa Dementia Scale (HDS)(MD 0.62; 95% CI -0.20, 1.44), and ADL(MD 2.38; 95% CI 1.92, 2.85). In VD, pooled results showed a significant difference in the score of dementia scales such as MMSE and HDS compared with nootropic drugs. DSS significantly reduced symptoms(OR, 5.02; 95% CI 2.76-9.11) in patients with VD.

**Conclusions:** These estimates suggest that DSS provides clinically important reductions in symptoms of AD and VD and can be a promising anti-dementia drug candidate.

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## Title: The presence of food intolerance, bacteria, and toxins in subjects with various diseases revealed by bioresonance

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### Background

Along with conventional approach in treatment of subjects with chronic non-communicable diseases (CnCD), the use of bioresonance may be very useful.

### Objective

The aim of the paper was to present the presence of food intolerance, bacteria, and toxins in subjects suffering from CnCD.

### Materials and methods

67 patients of both gender were included in the study (28 – 41,8% males, and 39 – 58,2% females). Mean age was 41,8+7,9yrs. They filled out questionnaire related to presence of diseases in accordance to International Classification of Diseases 10 (ICD-10).

Afterward they were tested at bioresonance therapy apparatus which was made in Germany. Statistical analysis was done by using SPSS v. 17.0.

### Results and discussion

7 subjects (10,4%) were diagnosed with neoplasm, diseases of blood and blood forming organs had 5 subjects (7,5%) and the same number of subjects suffered from mental and behavioural diseases; endocrine, nutritional, and metabolic diseases were diagnosed in 3 subjects (4,5%), diseases of nervous system were present in 4 subjects (6%), 8 (11,9%) subjects suffered from eye diseases, while 14 subjects (20,9%) had ear problems. Diseases of circulatory system were found in 14 subjects (20,9%), diseases of respiratory system were found in 19 subjects (28,4%), while 28 subjects (41,8%) had problems with digestive system. 31 subjects (46,3%) reported diseases of skin, 21 of them (31,3%) reported musculoskeletal diseases, while 20 subjects had problems with genitourinary system. Bicom testing revealed following results: mercury was present in 97,7% subjects, oxyuris, aspergillus, and aflatoxin in 93%, formaldehyde in 88,4%, Helicobacter pylori in 88,4%, sugar intolerance in 83,7%, thimerosal in 79,1%, milk intolerance in 76,7%, and gluten intolerance in 74,4% of tested subjects.

### Conclusions

Very high prevalence of toxins, fungi, bacteria, and food intolerance is present in patients suffering from CnCD. By using bioresonance treatment those health burdens may be diminished.

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## Title: Prevalence of bacteria, toxins, and food intolerance in subjects diagnosed with digestive system ailments revealed by bioresonance

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### Background

Bioresonance is very useful approach in defining health burdens in people suffering from various diseases.

### Objective

The aim of the paper was to present the presence of various health burdens in subjects diagnosed with digestive system ailments (DSA).

### Materials and methods

130 patients of both gender were included in the study (48 – 36,9% males, and 82 – 63,1% females). Mean age was 42,6+8,9yrs. They filled out questionnaire related to presence of diseases in accordance to International Classification of Diseases 10 (ICD-10).

Afterward they were tested at bioresonance therapy apparatus which was made in Germany. Statistical analysis was done by using SPSS v. 17.0.

### Results and discussion

Of 130 subjects enrolled into study, 61 (46,8%) were diagnosed with DSA. Bicom testing revealed presence of following health burdens in these subjects: mercury was present in 27 (96,4%) subjects, gluten intolerance, Helicobacter pylori, Aspergillus, aflatoxin, and lead were found in 26 (92,9%) tested subjects. Candida and formaldehyde were found in 25 (89,3%) examinees. Presence of oxyuris, aluminum, and vitamin D deficiency were revealed in 24 subjects (85,7%), while milk and pork meat intolerance, ascaris, and Staphylococcus were found in 23 (82,5%) examinees. Sugar intolerance was present in 22 (78,6%) subjects.

### Conclusions

The most prevalent findings in examinees diagnosed with DSA were mercury intoxication, gluten intolerance, presence of Helicobacter pylori, Aspergillus, aflatoxin, lead intoxication, followed by presence of Candida and formaldehyde. Bioresonance may be useful in finding out those health burdens and diminishing them.

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## Title: The most prevalent health burdens revealed by bioresonance in patients suffering from circulatory diseases - our experience

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### Background

Circulatory diseases are one of the most prevalent death causes in developed countries worldwide today.

### Objective

The aim of the paper was to present what health burdens we found in people diagnosed with circulatory diseases (CD).

### Materials and methods

67 patients of both gender were included in the study (28 – 41,8% males, and 39 – 58,2% females). Mean age was 41,8+-7,9yrs. They filled out questionnaire related to presence of diseases in accordance to International Classification of Diseases 10 (ICD-10).

Afterward they were tested at bioresonance therapy apparatus which was made in Germany. Statistical analysis was done by using SPSS v. 17.0.

### Results and discussion

14 subjects (20,9%) were diagnosed with CD. Bioresonance revealed presence of Candida, aflatoxin, and mercury in all patients (100%) diagnosed with circulatory diseases. Bioresonance found out presence of Asperillus and lead in 92,9% of tested subjects with CD. Milk intolerance, presence of Helicobacter pylori, Staphilococcus, and Oxyuris were revealed in 85,7% of subjects. 78,6% of subjects diagnosed with CD had Streptococcus, Ascaris, and vitamin D deficiency. 71,4% subjects were intolerant to gluten and pork meat, were chromium deficient, and had formaldehyde in body. 64,3% of those with CD had sugar intolerance and were selen deficient. 57,1% of subjects showed presence of EBV, Candida, Aluminum, thimerosal, and were zinc deficient. All other health burdens were present in less than 50% of subjects.

### Conclusions

Bioresonance may be very useful tool to reveal presence of health burdens in subjects diagnosed with circulatory diseases and may be used concomitant with classical therapy with an aim to clean up body from toxins, bacteria, and fungi. Also, bioresonance may reveal mineral/vitamins deficiencies which can be solved by appropriate diet change and supplementation. This, in turn, will help and accelerate healing process

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## Title: Natural oils and diet change may help people suffering from allergy – results from pilot study

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### Background

Shortness of breath, wheezing, and coughing are most common symptoms of allergy.

### Objective

The aim of this paper was to present that the use of natural oils and diet change may help patients to manage some symptoms of allergy.

### Materials and methods

13 patients of both gender were included in the pilot study (5 - 38,5% males, while 8 - 61,5% were females). They filled out questionnaire related to presence of allergy symptoms before treatment commencement and two months later. Intervention consisted of diet change and natural oils use according to following pattern: I) one natural oil was applied onto whole body including face once a day; II) three drops of other natural oil, dissolved in half glass of warm water, were consumed three times a day. Oils were made by firm from Slovenia. Statistical analysis was done by using SPSS v. 17.0.

### Results and discussion

Results are presented before (B) and after (A) the treatment: B – 30,8% of subjects reported no shortness of breath (SoB), 53,8% had it occasionally, while 15,4% reported frequent SoB; A – 76,9% of subjects reported no SoB, while 23,1% reported occasionally presence of SoB. B – 30,8% of subjects reported no wheezing (W), 53,8% had it occasionally, while 15,4% had it frequently; A – 84,6% of subjects reported no SoB, while 15,4% reported occasionally presence. B – 23,1% of subjects reported coughing (C), 38,5% had this symptom occasionally, and 38,5% had it frequently; A – 76,9% of subjects reported no SoB, while 23,1% reported it occasionally.

### Conclusions

This pilot study revealed that concomitant use of natural oils and diet change may help patients to reduce allergy symptoms such are shortness of breath, wheezing, and coughing. Further studies with bigger sample size are needed to put more light on the effects of this protocol on allergy symptoms.

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## Title: Effects of concomitant use of natural oils and diet change on some nasal symptoms in people suffering from allergies – pilot study

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### Background

Allergic conditions are one of the most common health issues affecting children and adults worldwide.

### Objective

The aim of this paper was to present whether the use of natural oils and diet change may help patients to manage nasal symptoms of allergy.

### Materials and methods

13 patients of both gender were included in the pilot study (5 - 38,5% males, while 8 - 61,5% were females). They filled out questionnaire related to presence of allergy symptoms before treatment commence and two months later. Intervention consisted of diet change and natural oils use according to following pattern: I) one natural oil was applied onto whole body including face once a day; II) three drops of other natural oil, dissolved in half glass of warm water, were consumed three times a day. Oils were made by firm from Slovenia. Statistical analysis was done by using SPSS v. 17.0.

### Results and discussion

Results are presented before (B) and after (A) the treatment: B - 23,1% of subjects reported runny nose (RN) occasionally, while 76,9% reported frequent RN; A - 61,5% of subjects reported no RN, while 38,5% reported occasionally presence of RN. B - 7,7% of subjects reported no itchy nose (IN), 38,5% had it occasionally, and 53,8% had it frequently; A - 69,2% of subjects reported no IN, while 30,8% reported occasionally presence. B - 7,7% of subjects reported no nasal congestion (NC), 23,1% had this symptom occasionally, and 69,2% had it frequently; A - 76,9% of subjects reported no NC, while 23,1% reported occasionally presence. Regarding sneezing, the same proportion was revealed as for IN.

### Conclusions

This pilot study revealed that concomitant use of natural oils and diet change may help patients to reduce allergy symptoms related to nose (runny nose, itchy nose, congestion, and sneezing).

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## Title: Hashimoto thyroiditis consensus document of the Spanish Society of Health and Integrative Medicine SESMI: An integrative vision

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### Objectives

Conventional treatment of autoimmune thyroiditis or Hashimoto's disease (HD) is based on hormonal replacement and periodic dose monitoring and adjustment. However, it is occasionally unable to control the symptoms and does not address its possible causes. This paper intends to describe the scientific evidence about the causes and promoters of the disease and the possible prevention and treatment strategies.

### Material and method

An exhaustive search of scientific literature has been carried out, updated to September 2018 (83 keywords in Pubmed, EMBASE, and Cochrane Library, 2 authors and separate review by 2 external reviewers). A first screening of references was made based on the title and summary of each of them and subsequently the full-text document of those shortlisted studies for the final selection was recovered.

### Results

A total of 318 original articles were selected for final review. According to the information found, there would be 3 main factors in the pathogenesis of HD: a genetically altered immune system; antigens capable of reacting against the immune system associated with mucous membranes, and a leaky intestinal mucosa that facilitates its entry into the systemic circulation. This includes robust scientific evidence that relates the disease to the following factors: intestinal permeability and/or dysbiosis, infectious factors, heavy metal and other toxic poisoning, vitamin D deficiency, gluten, excess iodine or low selenium/iodine ratio, hormonal factors and emotional factors. In addition, there is preliminary evidence that the correction of these alterations could facilitate the improvement of thyroid function and autoimmunity.

### Discussion

The evolutionary control and treatment of HD should include a multidisciplinary/integrative approach that can influence the different factors related to its pathogenesis and its multisystemic consequences.

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## Title: Naltrexone at low dose for the treatment of chronic pain

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**OBJECTIVES:** Low dose naltrexone is an opioid antagonist that has been shown to reduce the severity of symptoms in cases of fibromyalgia, multiple sclerosis, Crohn's disease and complex regional pain syndrome. In small doses, naltrexone may have analgesic and anti-inflammatory effects. It acts on the microglia through an antagonistic action with the non-opioid receptors called Toll-Like receptor4 and also temporarily blocks the opioid receptors producing a self-regulation of them. The dose of naltrexone is variable being between 0.5mg-4.5mg.

**MATERIAL AND METHODS:** Description of a clinical case and review of the literature.

**ANALYSIS:** 66-year-old woman, diagnosed with Sjogren 30 years of evolution. She presents tear and oral dryness, frontal alopecia and generalised pain with an EVA 8/10.

**RESULTS:** We start Naltrexone at a dose of 0.5mg/day, in 7 days there is an improvement in EVA from 8/10 to 4/10, after 15 days they report EVA 3/10 and a feeling of agility. Pending control analysis results.

**CONCLUSIONS:** Naltrexone at low doses may be an alternative to the treatment of chronic pain due to its anti-inflammatory and analgesic effects, having studies with significant results in diseases that encompasses the central sensitivity syndrome. The use of the drug in this case has decreased pain by 5 points on the VAS scale in only 15 days.

**DISCUSSION:** Naltrexone at low doses is a drug to consider in autoimmune diseases, which modulates inflammation and acts as an analgesic by different pathophysiological mechanisms. The side effects described are not considered serious. Although several studies have already been published, their size is small. A phase 3 study with a larger size for FDA-approved Crohn's disease has now been approved.

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## Title: Chronic urticaria and histaminergic angioedema

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**OBJECTIVES:** Histamine angioedema (HA) is often mediated by histamine or bradykinin. Recurrent HA ends up being diagnosed as chronic urticaria (CU), although there is no presence of superficial hives. CU is a benign disease, and autoimmune in 40% of cases. It is important to determine the origin of the symptoms to guide the treatment, which is composed of antihistamines, corticosteroids and epinephrine. **MATERIAL AND METHODS:** Description of a clinical case and review of the literature. **ANALYSIS:** A 46-year-old male, with a history of pulmonary tuberculosis, Gilbert's disease and changes in bowel movements. In follow-up by the hospital allergology service. Negative complementary tests except positive allergy for dogs and cats. The patient has HA and CU of 15 years of evolution, episodes of angioedema every month and a half that last about 24 hours, and generalised urticaria that occurs in weekly outbreaks. Is treated with levocetirizine every 48h. **RESULTS:** In initial analysis: leukocytes 5200, eosinophils 6.1% and lymphocytes 40.2%, IgE 916 kUI/L, together with DAO 6.8 kU/L, IgG EBV VCA 87 U.arb/ml and IgG EBV EBNA 7.20 U.arb/ml. Tested positive for *diatamoeba fragilis* in the intestinal dysbiosis test. We performed treatment with paramomycin 500mg/8h for 7 days, glutamine, megaquercetin and low histamine diet. In a control visit after 2 months, the patient presented with disappearance of hives, reduction of the intensity and frequency of episodes of angioedema and antihistamine medication. **DISCUSSION:** Chronic urticaria of more than 1 year of evolution has a prevalence of 11-15% of the population, in addition to a serious impact on the patient's quality of life. In CU the analysis of parasites in faeces along with serology for the Epstein Barr virus (EBV) is important, because coinfections can often be the cause of autoimmune diseases.

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## Title: Osteopathic treatment in Chronic Musculoskeletal Pain Diseases – Results of an Observational Pilot Study

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### Objectives

Patients with chronic musculoskeletal pain often use osteopathic medicine (OM). However the evidence regarding effectiveness and safety is unclear. We investigated the effects and safety of OM in patients with chronic musculoskeletal pain.

### Materials and Methods

The observational pilot study included patients suffering from chronic neck pain (cNP) (n=10), chronic low back pain (cLBP) (n=10), chronic shoulder pain (cSP) (n=10), or chronic knee pain (cKP) (n=10). All patients received six OM sessions every 3 to 4 weeks during 26 weeks in addition to routine care in an university outpatient clinic. Outcome parameters were among others the average pain intensity on visual analogue scale (VAS, 0-100mm, 0=no pain, 100=worst imaginable pain), the SF-12 health related quality of life and safety at baseline, after 26 and 52 weeks. The statistical analysis was descriptive, the analysis of the outcomes was explorative in comparison pre-post.

### Results

We recruited altogether 40 patients (female (n=29), mean age 47.7±8.3 years, at baseline: mean VAS pain 59.4mm [95% confidence interval, 55.4;63.4], mean SF-12 physical component 39.2 [36.7;41.8], mean SF-12 mental component 48.6 [45.7;51.5]). After 26 weeks improved were the mean pain intensity on VAS (-33.1mm [-40.5;-25.7]; p<.001) and the SF-12 physical component (6.9 [4.2;9.5], p<0.001), but not the SF-12 mental component (-0.02 [-3.1;3.0], p=0.990) in the whole population. We observed the best pain improvement in cKP (mean -38.1mm [-49.1;-27.0], p<.001), the lowest in cLBP (mean -28.2mm [-47.9;-8.4], p=0.006). The SF-12 physical component showed the best improvement in cSP (mean 9.1 [4.9;13.3], p=0.001), lowest in cLBP (mean 5.4 [-0.1;10.9], p=0.054). The improvements persisted until the follow up at week 52. No adverse events were observed.

### Conclusions

Study results suggest that OM with six sessions in addition to routine care might be beneficial and safe in chronic musculoskeletal pain diseases. These results should be verified in randomized clinical trials.

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## Title: Levels of vitamin D3 in blood and tear of athletes practicing indoor and outdoor activities and evaluation of effectiveness of vitamin D3 eye drops

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### Goal

To compare vitamin D3 levels in tear and blood of healthy young adults practicing physical activity and to evaluate the effects of supplementation with vitamin D3 eye drops

### Method

36 volunteers (19a 27years) separated into two groups: indoor activities (sun exposure <3h / week) and outdoor (> 7h / week). Vitamin D3 levels in blood (3 ml of venous blood) and tear (Schirmer tapes) were evaluated. Both the tear and the blood passed through the electrochemiluminescence method, to evaluate the levels of the metabolite 25 (OH) vitamin D3. After this, vitamin D3 eye drops were used to evaluate possible changes at these levels.

### Result

The mean plasma vitamin D3 level of the indoor group was 25.01 ng / ml, while the mean plasma vitamin D3 level of the outdoor group was 35.55 ng / ml (p <0.05). In all 36 participants, vitamin D3 levels in the tear were higher than 100 ng / ml (the maximum limit of the system used), well above the plasma levels in the two groups of participants (p <0.01). In 6 of these randomly chosen subjects, the prepared vitamin D3 eye drops were used, in which each drop contained 5000 IU, and 1 drop was instilled in each eye 2 times a day for 3 weeks to evaluate serum levels. An average increase in the plasma level of 25.18%, ranging from 9.2 to 42.8%.

### Conclusion

Lacrima levels of vitamin D3 were significantly higher than plasma levels in both internal and external physical activities (p <0.01). The eyedrops were effective and increased serum D3 levels by 25.18%, with only 3 weeks of use, proving the usefulness of the conjunctival pathway for vit D3 absorption. Both results are unprecedented in the world literature.

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## Title: Effects of vegan versus meat-rich diet on markers of inflammation – a randomized, controlled trial

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### Background:

Vegan diet has improved inflammatory activity in patients with rheumatoid arthritis (RA) in several small controlled trials. The underlying mechanism remains widely unclear. We investigated the effect of a vegan diet (VD) in comparison to meat-rich diet (MD) on markers of inflammation, which have been shown to be relevant in patients with RA, in healthy volunteers.

### Methods:

53 healthy, omnivore subjects were randomized to a controlled VD (n = 26) or MD (n = 27) for 4 weeks following a pre-treatment phase of one week of controlled mixed diet. Primary parameters were sialylation of immunoglobulins, percentage of regulatory t-cells and level of interleukin 10 (IL10). Usual care immune parameters used in patients with RA and amino acid serum levels were examined as secondary parameters.

### Results:

In the VD group total leukocytes, neutrophils, monocytes and platelet counts decreased and were after four weeks significantly lower compared to the MD group (leukocytes p = 0.001, neutrophils p = 0.001, monocytes p = 0.010, platelets p = 0.004). Leukocytes, neutrophils, monocytes and platelets correlated with each other and also correlated with serum levels of branched chain amino acids, which were significantly lower in the VD compared to the MD group. The primary parameters did not differ between the groups; BMI remained stable in the two groups.

### Conclusion:

Four weeks VD affected the number of neutrophils, monocytes and platelets but not the number or function of lymphocytes. The relation with branched chain amino acids suggests a mode of action via the mTOR signaling pathway.

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## Title: Effectiveness of Standard of Care versus Its Combination with Reflexology, and Sham Reflexology on Preoperative Anxiety in Patients Undergoing Laparoscopic Cholecystectomy: A Randomized Controlled Trial. Preliminary Results

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Background: Preoperative anxiety is associated with a negative surgery experience and increased morbidity with implications for public health. Several studies have shown that Reflexology can reduce preoperative anxiety. We assessed the effectiveness of standard of care combined with Reflexology or Sham Reflexology, versus standard of care alone, in reducing preoperative anxiety in patients undergoing Laparoscopic Cholecystectomy.

Methods: We conducted a Single Blind Randomized Controlled Trial in Bnai Zion Medical Center in Haifa. (The completed study will include approximately 300 patients divided into three equal groups of 100 each): Reflexology with Standard Of Care (SOC); Sham Reflexology with SOC; and SOC alone. Patients were assessed for anxiety using VAS-A (Visual Analogue Scale for Anxiety) questionnaires before and at entry to the holding room area. Prior to transfer to the surgery theatre, the same evaluation was repeated.

Treatment protocol: standard treatment included premedication with anxiolytics (Oxazepam and Diazepam) according to the anesthesiologist's decision. Reflexology and Sham Reflexology treatments were provided for approximately 15 minutes by a therapist. Main Results: 135 patients participated in the study so far. Preoperatively, Reflexology (5.5-2.6, p<0.001) and Sham Reflexology (5.4-3.6, p<0.001) treatments were associated with a significant reduction in anxiety level, but without significant clinical and statistical change (difference VAS-A=1.00, p=0.19). Comparison of mean anxiety showed significant improvement in the Reflexology group compared to the SOC group (p < 0.0001). In contrast, severe anxiety (VAS>7) indicated a significant clinical and statistical difference between the Reflexology group and Sham Reflexology (difference VAS-A=2.1, p = 0.01). Conclusions: Reflexology treatments combined with SOC reduce severe preoperative anxiety significantly, compared to Sham Reflexology and standard treatment alone. In light of the scope of preoperative anxiety and its implications for public health, the combination of Reflexology therapy with SOC should be considered for reducing preoperative anxiety.

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## Title: Interoceptive Awareness in Studies of Mind-Body Therapies: a Review of Research Studies

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**Objective:** Interoception is the sense of the state of the body. Interoceptive awareness is the awareness of sensations from inside the body. Enhancing interoceptive bodily awareness is a key mechanism of action for mind-body therapies, such as meditation, mindfulness, yoga, tai chi, Feldenkrais, Alexander, Breath Therapy etc. The Multidimensional Assessment of Interoceptive Awareness (MAIA) is a self-report measure that has been translated into 20+ languages, undergone numerous validation studies, and is applied worldwide in mind-body research. This review summarizes some of the best research that has applied the MAIA.

**Material and Methods:** Summary results from the following published studies will be presented:

- 1) 3 months of contemplative training changes interoceptive awareness
- 2) 8 weeks of Mindful Awareness in Body-oriented Therapy for women with chemical dependency
- 3) 8 weeks of Mindfulness-Based Cognitive Therapy for comorbid depression and chronic pain
- 4) 12 weeks of Integrative Group Exercise for war veterans with PTSD
- 5) 2 ½-day weekend workshop Mind in Labor based on Mindfulness-Based Childbirth and Parenting education
- 6) A 7-day 25 minutes mindfulness training for depression
- 7) Neural correlates (fMRI) of MAIA scores in healthy subjects and in obsessive compulsive disorder
- 8) MAIA scores at baseline predict treatment responses in patients with chronic low back pain

**Analysis:** narrative review

**Results:** Data from a variety of longitudinal studies including RCTs suggest that mind-body therapies differentially improve regulatory dimensions of interoceptive bodily awareness, which mediate the therapies effects on health benefits and correlate (cross-sectionally) with fMRI findings.

**Discussion/Conclusion:** This review demonstrates that interoceptive bodily awareness is a key parameter in mind-body therapies, and that the MAIA is an appropriate self-report measure for its assessment in research.

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## Title: Association between metabolic diseases and blood stasis: a survey of Korean medical doctors

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**Background:** Blood stasis is defined as slowing or pooling of blood and according to Korean medicine, it is regarded as a cause of metabolic diseases, including hyperlipidemia and atherosclerosis. The aim of this study was to present the opinions of Korean medical doctors (KMDs) on metabolic diseases with blood stasis.

**Methods:** A survey was conducted by Korea Institute of Oriental Medicine research team via Mediresearch, an online research company. The questionnaire consisted of questions relating to the perception of and the current state of treatment of metabolic disease related to blood stasis. The survey period was between October 2 and 18, 2018. All statistical analyses were performed with R 3.4.3 software.

**Results:** Of the total 908 KMDs, 609 (67.1%) answered that metabolic diseases are highly associated with blood stasis and 227 (25.0%) responded that blood stasis is the cause of metabolic diseases. The diseases most associated with blood stasis were as follows: vascular disease (n=405, 44.6%), heart disease (n=275, 30.3%), hyperlipidemia (n=157, 17.3%), diabetes mellitus (n=39, 4.3%), and hypertension (n=32, 3.5%). Most respondents thought that herbal medicine combined with conventional drug is good for managing blood pressure, blood sugar, and blood lipids (n=724, 79.7%), and that the higher cost compared to conventional drugs (n=463, n=51.0%) is the reason why herbal medicine is not frequently used for metabolic disease treatment. Among the herbal medicines for blood stasis, Gyejibongnyeo-hwan and Cardiotonic pills were chosen as the appropriate herbal medicines for treating metabolic diseases and for being covered under herbal medicine insurance.

**Conclusions:** This study provides practical evidence for further blood stasis research and suggests the necessity for exploratory clinical studies to determine the association between blood stasis and metabolic diseases.

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## Title: Herbal medicines for metabolic diseases with blood stasis: A systematic review and meta-analysis

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**Objectives:** Herbal medicines have the potential to be alternative treatments for metabolic diseases. The systematic review aims to assess the efficacy and safety of herbal medicines in treating metabolic diseases with blood stasis.

**Materials and Methods:** We searched seven databases for studies published through May 2018. We included all randomized controlled trials (RCTs) or quasi-RCTs evaluating the effectiveness of herbal medicine. Participants of both sexes and of any age with clinically diagnosed metabolic disease with blood stasis were included. Data extraction and risk-of-bias assessments were performed by two independent reviewers. The risk of bias was assessed using the Cochrane tool for assessing risk of bias. Primary outcomes included Blood-stasis syndrome score, TC, TG, HDL-C and LDL-C. Secondary outcomes included blood pressure, FBS, ECG, prevalence rate of heart disease, and response rate.

**Results:** Nine RCTs met our inclusion criteria. In the studies that compared herbal medicine with Western medicine or placebo, the herbal medicine resulted in a significant reduction in blood stasis scores (SMD -0.80, 95% CI -1.50 to -1.0;  $P = 0.03$ ). The effect of the herbal medicine intervention remained significantly better than that of others treatments (OR 3.41, 95% CI 2.33 to 4.97;  $P < 0.01$ ), and the heterogeneity among the studies was no heterogeneity ( $I^2 = 0\%$ ,  $P = 0.80$ ).

**Discussions:** Our review provided suggestive evidence of the effectiveness of herbal medicines for metabolic disease with blood stasis. However, these results are based on relatively few trials with small sample sizes. More high-quality studies are still needed to provide robust evidence.

**Conclusions:** The findings of this study provided a summary of the current state of evidence regarding the effectiveness of types of herbal medicine in managing metabolic disease with blood stasis.

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## Title: The Effects of Surgery on Plasma Vitamin C Concentrations and Cognitive Function

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**Background**

Post-operative cognitive dysfunction (POCD) is characterised by a significant cognitive impairment following a surgical intervention, affecting an estimated average of 35% of non-cardiac surgical patients. Our recent systematic review and cross-sectional study indicated that there is an association between plasma vitamin C concentrations and cognitive function, with higher concentrations correlating with higher cognitive performance.

**Objectives**

The aim of the present study was to determine whether deficiencies in plasma vitamin C concentrations following orthopaedic surgery is a potential contributor to POCD.

**Methods**

We conducted a meta-analysis which assessed changes in post-operative plasma vitamin C concentrations in a number of trials. We are currently undertaking a prospective cohort study recruiting elderly (>60 yrs.) patients undergoing orthopaedic surgery (hip/knee arthroplasty). These patients are having their cognitive function and plasma vitamin C assessed alongside a number of potential covariates 1-2 weeks before surgery and 1-2 weeks, 1 month, 3 months and 6 months after surgery. Cognition was assessed using a number of paper and pen assessments and a validated computerised assessment battery.

**Results**

Based on seventeen studies, our meta-analysis results revealed a significant depletion ( $p < 0.001$ ) in short-term (7 days) and longer-term (>7 days) post-operative plasma vitamin C concentrations. Additionally, the results of one tested patient (case-study) who had undergone total knee arthroplasty demonstrated a substantial post-operative plasma vitamin C depletion alongside compromised cognitive function on short term and long term recall, attention and focus, based on the cognitive assessments.

**Conclusion**

Based on our meta-analysis, previous studies have systematically demonstrated significant post-operative plasma vitamin C depletions. Additionally, our case study demonstrated a prominent depletion in plasma vitamin C concentrations alongside compromised cognitive function post-operatively. Further testing will confirm whether depletions in plasma vitamin C concentrations following orthopaedic surgery are a feasible contributor to POCD.

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## Title: Chronic fatigue syndrome and blood level of some hormones

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### Background

Chronic fatigue syndrome (CFS) is a serious, long-term illness that affects many systems of human body. So far, the cause of this condition is not known. CFS symptoms can include severe fatigue, sleep problems, loss of focus and concentration, dizziness etc. Aside other treatment methods, personal-holistic approach in healing may help to patients suffering from CFS.

### Objective

The aim of the paper is to present relation that we found between presence of CFS symptoms and some biochemical parameters, including hormones.

### Material and methods

Laboratory analysis of both, male and female patients was statistically analyzed. Patients were divided into two groups: group with no presence of CFS symptoms (noCFS), and group with presence of symptoms - CFS. All of patients were recruited from Center for Integrative Procedures and Supplements "Dr Dunjić", Belgrade (the Center). Holistic-personalized approach in patients healing was performed in the Center. Statistical analysis was done by using Statistical Package for Social Sciences (SPSS).

### Results and discussion

Total number of patients was 1048. There were 648 males (61,9%), and 400 females (38,1%). noCFS group counts 446 subjects (42,5%), while CFS group counts 602 subjects (57,3%). Mean age was 43,2+-14,8yrs vs. 47,2+-14,1 (p=0,000). Blood sugar level was 5,38+-1,1 vs. 5,55+-1,5; p=0,049. fT3 level was 4,96+-1,05 vs. 4,75+-1,09; p=0,012. Vitamin D level was 63,72+-28,9 vs. 57,8+-28,3; p=0,002. Cortisol level at 4PM was 220,7+-105,6 vs. 250,1+-110,7; p=0,006.

### Conclusion

The study revealed that subjects with presence of CFS had significant lower value of fT3 in their blood, as well as vitamin D. On the other side, level of cortisol in afternoon hours in those subjects was significantly higher than in those who did not report symptoms of CFS. At last, blood sugar level showed to be higher in people with CFS, but statistical significance was at border-line.

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## Title: Levels of some biochemical parameters in subjects with high blood pressure

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### Background

High blood pressure (hBP) is a major risk factor for coronary heart disease, ischemic, and hemorrhagic stroke. hBP is estimated to cause 7.5 million deaths worldwide. Aside conventional methods of high blood pressure treatment, holistic approach also plays an important role.

### Objective

The aim of the paper is to present relation that we found between presence of high blood pressure and some biochemical parameters.

### Material and methods

Laboratory data of both, male and female patients were statistically analyzed. Patients were divided into two groups: group with no presence of high blood pressure (noBP), and group with presence of high blood pressure (BP). All of patients were recruited from Center for Integrative Procedures and Supplements "Dr Dunjić", Belgrade (the Center). Holistic-personalized approach in patients healing was performed in the Center. Statistical analysis was done by using Statistical Package for Social Sciences (SPSS).

### Results and discussion

Total number of patients was 1045. noBP group counts 724 subjects (69,2%), while BP group counts 321 subjects (30,8%). Mean age was 41,8+-13,16yrs vs. 53,9+-14,2 (p=0,000). Blood sugar level (BSI) was 5,3+-1,01 vs. 5,9+-1,8; p=0,000. HbA1c level was 5,14+-0,51 vs. 5,43+-0,9; p=0,000. Erythrocyte sedimentation rate (ESR) was 16,4+-1,8 vs. 24,0+-2,21; p=0,005. Total cholesterol level (tCl) was 5,22+-1,18 vs. 5,5+-1,27; p=0,003. HDL cholesterol was 1,5+-0,44 vs. 1,4+-0,46; p=0,003. LDL cholesterol was 3,03+-0,95 vs. 3,31+-1,06; p=0,001. Triglycerides level was 1,34+-0,93 vs. 1,72+-1,3; p=0,000. Uric acid (UA) level was 279,3+-82,7 vs. 321,0+-91,3 p=0,000.

### Conclusion

These findings point that hBP is accompanied with numerous biochemical changes such are elevation of BSI, HbA1c, tCl, LDL cholesterol, triglycerides, UA, and ESR. HDL level was lower in BP group which was expected. All of these findings are well known risk factors for onset/development of hBP; however, an elevation of ESR and UA should be more studied.

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## Title: Interesting laboratory findings in female patients with inability to conceive

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### Background

Infertility is common health problem worldwide today. It is defined as trying to get pregnant for at least a year with no success. Female infertility, male infertility or a combination of the two, affects 10 to 18 percent of couples in USA.

### Objective

The aim of the paper is to present laboratory results we found in female patients facing infertility in relation to those who did not have conceiving problems.

### Material and methods

Laboratory analyses of female patients were statistically analyzed. Female patients were divided into two groups: control group with no-conceiving problem (N) and group having an infertility problem (I). All of patients were recruited from Center for Integrative Procedures and Supplements "Dr Dunjić", Belgrade (the Center). Holistic-personalized approach in patients healing was performed in the Center. Statistical analysis was done by using Statistical Package for Social Sciences (SPSS).

### Results and discussion

430 female subjects were included into study; N group counts 397 subjects (92,3%) and I group counts 33 subjects (7,7%). Mean age was 36,5+8,4 vs. 36+4,5 ( $p=0,744$ ). Homocysteine level (H) was 11,4+5,8 vs. 19,5+7,8 ( $p=0,036$ ). Prolactine level (P) at 4PM was 371,9+23,8 vs. 572,9+49,6 ( $p=0,003$ ). Free thyroxine (fT4) was 15,8+3,8 vs. 14+3,2 ( $p=0,048$ ). Free triiodothyronine (fT3) was 4,8+0,8 vs. 4,4+0,9 ( $p=0,076$ ).

### Conclusions

Female patients facing infertility had an elevated level of homocysteine in their blood. Today, there are some researches which try to identify the possible role of homocysteine in inability to conceive and this finding requires more attention of scientists in time to come. Also, it is found that females in I group had increased prolactine level during afternoon hours in comparison to N females. The levels of fT3 and fT4 hormones in infertile females were slightly lower in comparison with N group of subjects, but no statistically significant difference was found.

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## Title: Cinnamomum camphora ameliorates cognitive impairment and promotes neuroprotection in mouse model of Alzheimer's disease

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**Objectives:** Even though Alzheimer's disease (AD) is one of the leading causes of cognitive impairment, its etiology is not well known, and an effective treatment has not been established yet. Many herbs have been suggested as candidate therapeutics for AD as multi-target agents. We investigated the therapeutic effect of Cinnamomum camphora using amyloid  $\beta$  (A $\beta$ ) mouse model of AD.

**Materials and methods:** Pathological features were induced by an intrahippocampal injection of A $\beta$ 1-42. C. camphora was orally administered, and donepezil and a vehicle were administered as control. Behavioral changes in spatial learning and memory were tested using the Morris water maze and Y-maze tests, and the levels of proteins related to memory and neuroprotection were determined by immunoblotting and immunohistochemistry.

**Results:** A noticeable impairment of learning and memory developed after an infusion of A $\beta$  into the hippocampus. Administration of C. camphora reduced the memory deficit in the behavioral tests, especially at a dose of 200 mg/kg. The results of immunoblotting and immunohistochemistry demonstrated that C. camphora inhibited the neurotoxic effect of A $\beta$ , as shown in decreased deposition of A $\beta$  itself and reduction of neuronal loss and glial activation. C. camphora demonstrated the same efficacy as donepezil in reversing the protein levels of brain-derived neurotrophic factor (BDNF), phosphorylated extracellular signal-related kinase (ERK), and phosphorylated cyclic AMP response element binding (CREB) protein, which were reduced by A $\beta$ .

**Conclusions:** In conclusion, C. camphora significantly improved the memory function in a mouse model of AD with a mechanism of neuroprotection manifested through the BDNF-ERK-CREB pathway.

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## Title: Effects of two mushroom extracts on symptom alleviation in osteoarthritis patients: Pilot Study

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### Objective

To assess the efficacy, safety and tolerability of a daily oral dose of two combined edible mushroom extracts, obtained from cultured *Cordyceps sinensis*, *Ganoderma lucidum*, *Grifola frondosa*, *Lentinula edodes* and *Agaricus brasiliensis*, given over three months to patients with symptomatic Osteoarthritis

### Materials and Methods

This observational study was performed in a group of 20 patients with knee-osteoarthritis (Kellgren and Lawrence grade II or III). They were 58 years-old on average, 80% women; with BMI 25.8 on average; 80% with no hypertension and 85% non-smokers. During the first 2 months, extracts were given twice a day, whereas dosing was reduced to once a day during the third month.

### Analysis

Changes induced by extracts were assessed, before and after treatment, using the WOMAC Index, which evaluates pain, stiffness and physical function, and the visual analogical scale for pain (VAS). In addition, inflammation was evaluated by echography grey scale. Only an improvement equal or greater than 20% was considered as significant.

### Results

According to WOMAC questionnaire, 80% of the cohort reported an improvement of at least 15%, 63% of which exceeded the 20%. Fifty percent of the parameters presented a 20% improvement on the pain perception such as walking on a plain surface (25%) or getting out of bed (22.4%).

Before treatment, an average VAS for pain scale of 6,4±0,45 was reported, and 25% of the patients showed inflammation signs, as shown by ecography. After 3-months treatment, 75% of patients showed an improvement on the pain scale, with an average value of 4,9±0,55, which represents a 23.4% improvement.

### Discussion and Conclusions

Pain and stiffness improvement in Osteoarthritis patients after mushroom extracts treatment was in the range of values reported for chondroitin sulphate and glucosamine treatments. However, patients reported an enhanced physical function and energetic capacity, which adds an extra value to micotherapy.

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## Title: Series study of cases treated with Energy Regulation Therapy ( )

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**OBJECTIVES.** The purpose of this study is to publicise Energy Regulation Therapy (ERT) and to verify its effectiveness through scientific study. **MATERIAL AND METHODS.** Patients of different pathologies who attend the ERT consultation in Pamplona. Generally, finding no solution to your disease with Conventional Medicine. This study includes 17 cases between 2006 and 2019, which make up this descriptive observational case series study. **ANALYSIS.** Variables analysed: age, gender, type of pathology, time to attend ERT, number of ERT treatments, conventional medical treatments prior to ERT, effectiveness of ERT and cure of pathologies with ERT. **RESULTS.** 17 cases described, mean age of 39 years (between 5 and 75 years old), female predominance 70.6%. Case pathologies: depression, infertility, amenorrhea, anaemias (megaloblastic and iron deficiency), oncological pathologies (brain tumour, breast cancer, metastases and prostate cancer), Rett syndrome, congenital heart disease, Diabetes Mellitus, chronic pharyngitis, anal fissure, Neurapraxia of the radial nerve, gastrointestinal disorders, vaginitis and HPV. The time to go to the ERT from the diagnosis was variable between 1 day to 9 years. The number of treatments was variable between 5 and 80 treatments. In all cases treated with ERT no future pharmacological treatment was necessary. The effectiveness of ERT was 100% in all cases. **DISCUSSION.** ERT is effective in all the pathologies studied. The variables of this study demonstrate that each case is unique and the treatment is individualised, always ending in the healing of the patient. Cure is confirmed through clinical reports. **CONCLUSION.** Given the positive and striking results of this study, we believe there is a need to carry out further and more extensive future studies in order to include it in Integrative Medicine and study it officially.

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## Title: Influence of cocoa drink product, on acute physical stress, in sedentary persons

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Background: Physical exercise constitutes a stress factor. On the other hand, Cocoa (CO) is known for its anti-fatigue and antioxidant effects. The objective of the study was to evaluate the influence of a cocoa drink product (COP), on acute physical stress, in sedentary persons.

Material and method: The chosen stress model has been a short and intense exercise, accomplished by walking very fast on the treadmill, for 12 minutes. 24 voluntary healthy men subjects were randomized divided, in control group (C=12) without treatment and group that received COP (CO=12). Subjects of CO received COP for 21 days before subjecting them to stress. The analyzed indicators were fatigue (FT), determined by questionnaire, and heart rate (HR). The parameters determinations were made 24 hours (T1), 15 minutes (T2) before, 30 minutes (T3) and 4 hours (T4) after the physical effort. Statistical evaluation was based on the Student t test.

Results: It was found that for C compared to T1, the most significant increases were at T2 for HR and at T3 for FT. In the CO compared to C values were significantly low for HR at T2 and for FT at T3. At T3, the COP impact in CO was similar on HR and FT.

Conclusions: 1) There were differences for the dynamic developments of state of HR and FT, between the C and CO. 2) Under the COP influence HR and FT were significantly reduced in treated compared to untreated subjects, in the immediately pre and respectively post stress moments. 3) Influence of the COP was similar on HR and FT, in immediately post-stress moment. 4) We suggest COP use for HR and FT modulation, in stress caused by walking very fast on the treadmill, in sedentary people.

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## Title: Non-invasive brain stimulation in the treatment of chemotherapy-induced neuropathy

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Introduction:

Chemotherapy-induced Neuropathy (CIPN) is a limiting factor in active cancer treatment. It causes delays in a new cycle, dose reduction or even treatment suspensions (1). The symptoms caused by CIPN impair daily activities and the quality of life of patients (2-3-4-5-6). Its incidence reaches 80% of cases in drugs such as paclitaxel (widely used in breast, ovarian or lung cancer). CIPN is an invalidating complication where 30-50% of cases develop chronic neuropathy.

Currently, pharmacological treatment is very limited. However, recent studies published by Prinsloo et al. (MD Anderson Cancer Centre, 7) with the Neurofeedback in the treatment of CIPN, open a new line of research in neuromodulation, with a limiting side effect.

Design

Randomised, double blind clinical trial.

Objectives:

According to bibliographic data, we believe that neuromodulation could help reduce CIPN symptoms and achieve greater adherence to treatment. The main purpose of this research is to analyse the efficacy of treatment with NFB and tDCS against the control group.

As a secondary objective, assess the degree of synergy between both non-invasive brain stimulation treatments.

Materials and method:

The representative sample is of 60 patients that meet the defined inclusion and exclusion criteria. The methods used EEG, NFB, tDCS, and validated surveys.

- Electroencephalogram (EEG) is a measure of the electrical activity of synchronised cortical neurons.

- Neurofeedback (NFB) is a therapeutic modality that, through the use of brain waves, allows us to be aware of the brain activity itself and modify it.

- Transcranial direct current (tDCS). It is a type of brain electrical stimulation, a non-invasive neuromodulation technique used to modulate neuronal excitability.

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## Title: Effect of acupuncture on autonomic nervous system of hemodialysis patients : A randomized, double-blind, placebo-controlled trial

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**OBJECTIVES:** Hemodialysis (HD) patients often complain of fatigue and dullness after HD, and these symptoms are thought to affect their autonomic nervous system activity. Additionally it remains unknown whether acupuncture affects post-HD orthostatic tolerance. In this study we investigated the effect of acupuncture on the autonomic nervous system function of HD patients by assessing active standing load.

**METHODS:** This study was designed double-blinded, randomized, placebo-controlled. Twenty-two patients (10 males : 12 females, 64.2±12.3 years old, HD periods; 4.2±4.0 years) were assigned to a control group (no intervention), to a treatment group that received acupuncture with 0.6mm press tach needle (Pyonex, SEIRIN, Japan) and to a placebo group. We evaluated autonomic nervous system activity before and after HD using frequency analysis of heart rate variability in the orthostatic tolerance test (Kiritsu-Meijin, Crosswell, Jpn). Statistical analyses were performed using linear mixed effect model with a P value of < 0.05. We used software the R ver. 3.5.0 (<https://www.r-project.org/>). **RESULTS AND DISCUSSION:** The control group was 8 (4:4, 61.7±10.6, 5.8±4.2), the treatment group was 7 (3:4, 69.0±11.5, 3.1±3.2), the placebo group was 7 (3:4, 62.3±13.6, 3.5±3.8). There were no significant differences in heart rate ( $\Delta$ HR), autonomic nerve activity ( $\Delta$ CVRR), sympathetic and parasympathetic nerve activity ( $\Delta$ LF/HF and  $\Delta$ HF) on orthostatic tolerance test. In all groups,  $\Delta$ HR tended to increase after the measurement, we thought that these results were related to HD. This study was supported by JSPS KAKENHI Grant Number JP17K09291.

Disclosure: No potential conflict of interest (COI) to disclose.

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## Title: A New Discovered Chakra 3.5 “Janika” could be the missing link in the future research for integrative treatment of the Metabolic Syndrome

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**Background:** Major causes of death(s) are disorders/doshas situated at Water- resp. Earth-subdoshas-level (sd-L). Water-sd-L disorders including endocrine/metabolic diseases (3.8 mio), and diseases of the circulatory system (17.9m), as well as Earth-sd-L disorders such as diseases of respiratory system (7.9m), and neoplasms (9.6m), are responsible for about 40 mio/72% of all deaths (56.9m, globally, 2016) according to WHO.

**Aim:** To describe how the new chakra 3.5 “Janika” was discovered and could lead to integration of the Ayurvedic Medicine as a new strategy for treating metabolic syndrome.

**Methods:** We integrated all three, Hinduism-Philosophy mind-set and it's i.c. seven chakras, Eastern-Medicine mind-set and it's i.c. Ayurvedic (global) classification of doshas/disorders, and Western-Medicine mind-set and it's i.c. (international) classification of diseases(version 11).

**Results:** By integrating the three different mind-sets, we could create a new transdisciplinary 15-minor/1-major framework. We connected the opposite corners of the major-matrix, and obtained a matrix juncture just in the middle of the lower stomach and the small intestine, identified as the 3.5 chakra. According to anatomy/physiology, the 3.5 chakra is situated at the Papilla vateri where arrives both digestive radices: the pancreas and resp. gallbladder secretions. Gallic acid, an active component from Terminalia bellirica fruit is known to have hypoglycemic, hypolipidemic, and antihypertensive properties. In vitro it could inhibit the pancreatic lipase activity and enhance the secretion of adiponectin via adipocyte differentiation. Therefore Terminalia bellirica fruit shows promise as a good research candidate for treating patients with metabolic syndrome.

**Conclusion & Significance.** Integration of all three, Hinduism-Philosophy-, Eastern-Medicine-, and Western-Medicine- mind-sets leads to creation of a new transdisciplinary framework and a new Chakra 3.5 called “Janika” as a missing link for future research in preventive medicine, in particular for the metabolic syndrome.

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## Title: Medicinal mushrooms: A review of scientific evidence from systematic reviews and meta-analysis

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**Background:** There has been a significant increase in the use of mushrooms for medicinal purposes. The potential role that medical mushrooms can have as a complementary therapy alongside conventional medicine is of wide range interest.

**Objective:** To review the best evidence available at present about the clinical effects medicinal mushrooms can have, assessing both objective and subjective benefits.

**Methods:** A systematic bibliographic reach was carried out including only the highest level of evidence as limited to systematic reviews and meta-analysis published up to October 2018, with a total of 21 key-words being searched.

**Results:** for *Ganoderma Lucidum* 2 systematic reviews from the Cochrane Library are available. In cancer patients, a meta-analysis of 5 RCTs showed that patients who had been given *G. lucidum* alongside with chemo/radiotherapy were more likely to respond positively compared to chemo/radiotherapy alone (RR1.50; 95%CI:0.90-2.51, P=0.02). In cardiovascular patients, evidence from a small number of RCTs does not support the use of *G. lucidum* for treatment of cardiovascular risk factors. Regarding *Corolius Versicolor*, a meta-analysis on survival in cancer patients from 13 RCT, showed a 9% absolute reduction in 5-year mortality, in addition to chemo/radio-therapy. An individual patient based meta-analysis of *Lentinula edodesin* recurrent/inoperable gastric cancer showed an increase global survival rate (RR 0.80, 95%CI 0.68-0.95). *Cordyceps Sinensis* and *Shiitake* amongst other species could reduce toxicity of chemotherapy and radiotherapy. For other mushrooms such as *Agaricus Blazei* or *Hericium erinaceus* limited data were available.

**Discussion:** This review only included systematic reviews and meta-analysis limiting the overall evidence. High quality evidence from non-patentable medicines such as medicinal mushrooms is hard to obtain.

**Conclusions:** Although more research is required, the role of medicinal mushrooms as complementary therapy seems to be promising. Evidence coming from meta-analysis of RCTs is available. However, more in depth and better quality research is required.

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## Title: Ketogenic diet for dog with Brain Tumor

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### Objectives

This case is here to demonstrate the effectiveness of the Ketogenic Diet (KD) as adjunctive therapy in the treatment of brain tumor. The KD is an effective non-toxic metabolic therapy that can provide anti-angiogenic and pro-apoptotic mechanisms.

### Methods

Simba, a male Golden Retriever with severe seizures, caused due to a brain tumor detected by magnetic resonance imaging (MRI) was submitted on a KD. The KD is a high-fat/low-carbohydrate/adequate-protein diet has recently been proposed as adjuvant therapy in cancer treatment. Consists in the replacement of carbohydrates by healthy fats, which are converted to ketones, and in the intake of moderate amounts of high-quality protein to metabolize ketone bodies as an alternative fuel, when glucose availability is low.

### Analysis

These tumors vary widely in their level of malignancy and, unfortunately, there is still much that we still do not know about how different types of brain tumors behave in dogs. In Simba's case, it suggests that tumor cells have reduced the ability to metabolize these ketone bodies for energy.

### Results

After two months on a KD, the inflammation associated with the tumor was completely reduced, in addition, the fibrosis being visible and no additional neurological deficits were found.

### Discussion

There are alternatives other than conventional medicine. Diet must be included on therapy plans either as an adjuvant or whenever possible as the main treatment. Nutrition plays an important role in the future of Medicine.

### Conclusion

Integrative Medicine conducted with criteria and responsibility leads to health and vitality for patients. Participants will know about this non-toxic alternative to help their patients and themselves.

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## Title: Association between Living environment and allergic rhinitis in the Korean adult population: the Korean National Health and Nutrition Examination Survey 2013-2017

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### Objectives:

The living environment is one of the important determinants for promoting health. This study aims to investigate the relationship between Living environment factors and allergic rhinitis in Korean adults.

### Material and method:

The data from 2013-2017 Korea National Health and Nutrition Examination Survey (KNHANES) was used in this study.

### Analysis:

To analyze the predictive variables of allergic rhinitis, we used multivariable logistic regression, with allergic rhinitis as the dependent variable and demographic variables (age, sex, household income, academic background, marital status, chronic disease (hypertension, diabetes mellitus) and living environment factors (urbanization, apartment, house member number and Generation number) as independent variables.

### Results:

Of the 31295 people in this study, 3740 (12.0%) with allergic rhinitis. Apartment and urbanization showed a significant association. After adjusting for all confounders, who live in the urban, apartment, and live with two generations has a higher ratio of allergic rhinitis with Statistically significant. The adjusted odds ratio of who living in the apartment was 1.14 (95% CI 1.05-1.23), living in the urban area was 1.19 (95% CI 1.07-1.32) and live with two generations was 1.11 (95% CI 1.00-1.23).

### Discussion:

There are three types of AR; Congenital tracheal disease, allergen-related and neurological diseases induced. In Western medicine, allergic rhinitis is not a completely cured disease, only some drugs or some other methods can be used to alleviate symptoms. In this study, we focused on allergen-related AR, especially on Living environment factors. We found that who live in the urban, apartment, and live with two generations has a higher ratio of allergic rhinitis. Our result is similar to a previous study in the United Kingdom (2018) showed that living in conurbations or urban areas were higher prevalence in AR.

### Conclusions:

This study suggests that allergic rhinitis prevalence is significantly associated with the Living environment in South Korea.

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## Title: Impact of health-related behaviors on Metabolic Syndrome: using the Korea National Health and Nutrition Examination Survey

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Objectives: To identify differences of health-related behaviors between a non-metabolic syndrome group (Non-MetS) and a metabolic syndrome group (MetS) in Korea.

Material and method: Data from the Korea National Health and Nutrition Examination Survey (KNHANES) in 2015. We analyzed respondents who were over 20 years old and replied to all "Alameda7" items: (1) Drinking less than three drinks in one sitting, (2) Having never smoked, (3) Sleeping 7-8 hours a night, (4) Having physical activity 1.25~2.5 hours a week, (5) BMI: 18.5~<25, (6) Eating snacks less than four times a month and (7) Eating breakfast 5~7 days a week. Diagnosis conditions of MetS relied on three or more of the following: (1) blood pressure: 130/85 mmHg or above, (2) fasting blood glucose: 100 mmHg or above, (3) waist size: male 90 cm / female 85 cm, (4) HDL-cholesterol: male 40 mg/dL or less / female 50 mg/dL or less, and (5) triglycerides: 150 mg/dL or above.

Analysis: We used a multiple logistic regression analysis with adjustment for a complex sample design to find which health-related behaviors would affect MetS as a risk factor.

Results: 3,229 out of 7,380 subjects met the set of criteria; furthermore, the prevalence of Non-MetS was 2,412 (74.7%) and MetS was 817 (25.3%). Significant risk factors for MetS were as follows: BMI of 25 or above (OR=9.29; 95% CI [7.32, 11.80]), physical activity less than 1.25~2.5 hours (OR=1.55; 95% CI [1.23, 1.95]) and drinking three or more drinks (OR=1.50; 95% CI [1.13, 1.99]).

Discussion: Although BMI is an index of obesity, it has been also highly associated with prevalence of MetS. It could be indirectly risk factor because obesity could induce diabetes or dyslipidemia.

Conclusions: Our results showed that specific unhealthy behaviors – BMI, drinking alcohol and physical activity – were likely to be risk factors for MetS.

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## Title: Implications in lower members of vestibular dysfunction

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The objective of the work we present is to understand the whole of the patient, we focus on the interrelation of two postural captors, the vestibular system and the foot captor.

The vestibular system, its relationship with the renal and vascular system as graviceptors. As well as its relation with the emotion and the consequences that can be found in lower limbs.

In vestibular patients, the main consequences that we can observe in the lower limbs are very common in the podiatrist's consultation, fascial tensions are observed that trigger myofascial trigger points.

These tensions can give symptoms that can be confused with plantar fasciitis, morton neuroma, aquilea tendinopathy, knee pain and even lead to important deformities such as HAV and claw fingers.

The treatment of the patient with vestibular dysfunction should be approached from a multidisciplinary approach.

From podoposturology we perform postural templates with the aim of restoring stability, it can also be complemented with the application of laser therapy for the release of trigger points.

The role of the physiotherapist with training in Posturology is important for the rehabilitation of the vestibular system.

It is interesting to complete the study of the assessment of the vestibular system with the listening tests based on Dr. Tomatis' postulates. According to its principles, the way to listen to the serious tones (between 125 and 1000Hz) would be neurophysiologically related to the vestibular apparatus.

Checking the relationship of the listening test with the vestibular and its auditory assessment is part of this presentation.

If the patient presents a pathology at the foot level or some type of symptomatology at this level, it is very important to consider that there are different clinical situations present that can lead to produce consequences or functional compensations at this level, one of them are the alterations at the level of vestibular system.

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## Title: Microbloodletting in MC9 in cases of Arterial Hypertension

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Objective: The study hypothesis is to assess whether a microbloodletting in left MC9 (ZhongChong) is effective in lowering high blood pressure figures, at the time of the visit.

Material and Methods:

To this end, a research project is carried out with a pseudorandomised intervention of 30 patients who attended the Primary Medical Care Centre in Pallejà, with blood pressure figures between 140-179/90-109 mmHg. They were assigned alternately and consecutively in three study groups A, B and C, each group with an n of 10.

Group A: Microbloodletting of 5 drops of blood was performed on left MC9

(located in the most prominent area of the pulp of the 3rd finger of the left hand);

Group B: Microbloodletting of 5 drops of blood was performed on Shi Xuan of the fourth finger of the left hand to compare whether the puncture and microbloodletting at another point, of similar location, has an effect on blood pressure;

Group C: No intervention was performed, only 10-minute rest as in all the groups under study.

Results:

It is observed that there is a statistically significant decrease in systolic blood pressure in patients in group A (left MC9), compared to the other two groups B and C ( $p=0.006$ ).

In group A, systolic blood pressure is reduced by 18.6 mmHg on average. In contrast, both in group B and C, the decrease in systolic blood pressure is 10.8 mmHg on average.

Conclusions:

It can be affirmed that performing a microbloodletting of 5 drops of blood in MC9 on the left side is effective to lower systolic blood pressure in patients with BP figures between 140-179/90-109 mmHg, with a statistically significant difference ( $p=0.006$ ).

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## Title: Acupuncture and Moxibustion treatment for cervical ripening

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### Objectives:

Main objective: to evaluate the efficacy and safety of acupuncture and moxibustion treatment at Ho Kou (IG4), Taé Tsong (H3), San In Tsiao (BP6) and Zhinyin (V67) points, in pregnant women who have an unfavourable Bishop test from of 39 W.

Secondary objective: evaluate the incidence of spontaneous onset labour and pharmacological inductions at delivery (Propess).

### Material and method:

Descriptive study of intervention in 84 pregnant women (64 nulliparous and 20 multiparous) aged > 18 and <45, of low or medium obstetric risk, between 39 and 41 + 6 W, who attended the ACMAD consultation of the Hospital "Sant Joan de Déu" in Esplugues de Llobregat with a Bishop test < to 6. A posteriori, we investigated the clinical histories of the patients, assessing: number of inductions, type of delivery, gestational age (W), baby weight, sex and Apgar test.

### Discussion

Sterile stainless steel needles were inserted into points IG4, H3, BP6 bilaterally, and moxibustion was performed in V67 for approximately 15 minutes between 1 and up to 4 sessions with frequency twice a week.

### Results

71.4% of women did not have to undergo pharmacological induction at delivery. 56% achieved an eutocic delivery, 20.2% instrumented deliveries and 23.8% caesarean section.

There was significant statistical dependence ( $p = 0.007$ ) between pharmacologically induced deliveries and caesarean sections; and acupuncture and eutocic births. The relationship ( $p=0.008$ ) between parity and Propess was also observed: induction was more frequent in nulliparous (35.9%) than in multiparous (5%).

### Conclusions

Treatment with Acupuncture and Moxibustion for cervical ripening is effective and safe to reduce the number of pharmacological inductions at birth and the incidence of caesarean section.

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## Title: Acupuncture as a treatment in breastfeeding problems

Raquel Pérez Guervos<sup>1</sup>, Patricia Natalia Dolcet Romeo<sup>1</sup>  
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Breastfeeding (BF) is the ideal way to provide young children with the nutrients they need for healthy growth and development. The World Health Organisation (WHO) recommends exclusive BF until the first 6 months of life and that, at this age, weaning is carried out gradually, so that breastfeeding is maintained for a time not less than 2 years.

Breastfeeding problems such as mastitis, obstructions and/or cracks can lead to early abandonment of breastfeeding.

Objectives: To evaluate acupuncture treatment in affected women, to select the appropriate treatment and to assess its effectiveness.

Method: a clinical sample of five women is performed. The sample is collected from October to December 2014. A medical history, breast examination, pulses and tongue and assessment of the consumption is carried out. Individual energy diagnosis is performed and acupuncture points are selected. The average number of visits was 3 sessions.

Results: The common symptomatology is breastfeeding pain as well as tiredness, frequent awakening, irritability and nervousness. Difficulty in family relationships and little support for breastfeeding could be highlighted. Therefore the energy diagnosis was similar. The treatment was aimed at the reduction of symptoms and the resolution of problems.

Conclusions: Acupuncture is an effective tool in the resolution of mastitis, breast obstructions and/or cracks. The rapid remission of symptoms is surprising, in addition, they feel calmer and safer in raising their children. Research paths should be opened with clinical trials to demonstrate its effectiveness in the scientific community.

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## Title: A pilot study of standardization in the English translation of traditional Korean medicine prescription terminology

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**Objectives:** To explore the current state of standardization in the English translation of traditional Korean medicine(TKM) prescription terminology in domestic and international scientific journals

**Material and method:** We searched PubMed, Oriental Medicine Advanced Searching Integrated System(Oasis), National Digital Science Library(NDSL) in May 2019 for all published reviews on representative prescription of traditional Korean medicine, Ojeok-san. No restrictions on language and search period. First, we searched the Korean databases with the search term, and list up the English translation terms on included Korean studies. Then, develop the search strategy of English publications on in Pubmed.

**Analysis:** We used the frequency analysis to figure out various English translation terminology of Ojeok-san and compare the similarity with Korean Pharmacopoeia(KP) and OASIS - decoction part.

**Results:** Forty-two studies met the inclusion criteria. We found out that there were seven different types to translation version of terms on Ojeok-san in included studies. Fourteen studies used the OASIS version of English translation term and none were applied KP version.

**Discussion:** Currently, there are several English terminology references on traditional medicine, such as International Standard Chinese-English Basic Nomenclature of Chinese Medicine in China, Standards of Reporting Kampo Products(STORK) in Japan, etc.. Although, there were few studies on standardization of TKM terminologies in Korea, but still no proper references on TKM English translations were developed. Therefore, unified English terminologies on TKM should be needed for introducing the superiority of TKM in worldwide.

**Conclusions:** The standardizations on TKM terminologies should be thoroughly developed and it will help to show the superiority of TKM. We hope this result could be used as a meaningful reference for the development of future standard guideline of TKM English translation terminology.

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## Title: Integrative Nursing in clinical practice

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**Background:**

Integrative nursing represents a new approach to patient care and accompaniment. This approach draws on humanistic models and gives the person his multidimensional and interdependent conception.

It places the patient at the centre of care provision - the patient becomes actively responsible for their life process and also takes into account the importance of the care of the space in which the clinical practice develops and the self-care and self-preparation of the professional that establishes a therapeutic relationship with them.

The professional, in addition to being technically trained, must be trained with other skills, which the humanist approach gives to the profession.

**Objectives:**

To define integrative nursing and the pillars on which it is based.

**Description of the problem. Material and method:**

We understand that a new paradigm for the human being, such as the one that defines integrative medicine, also needs a new paradigm that draws a new approach in the way of caring, that integrates the human being, the environment in which they live and/or develop and their relationships.

**Results and discussion:**

Integrative nursing describes a new way of considering care plans and raises the possibility of applying them in any field of work.

**Conclusions:**

Integrative nursing in clinical practice responds to the need for nurses to adapt to the change in the medical paradigm that we are leading and likewise, it is an applicable model in the different fields that coexist.

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## Title: Generalized Tetanus: Successful Outcome When An Integrative Approach Is Incorporated

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A healthy 65-year-old caucasian woman sustained a stab wound above her left ankle from a piece of cane. The patient was admitted into hospital with a presumed diagnosis of a wound infection. Treatment with amoxicillin-clavulanic acid was initiated. The wound was debrided under local anesthesia two days after admission. Cramps became increasingly severe over the next 36 hours with spastic equino deformity of foot. The patient worsened with hyperexcitability to touch when wound was cleaned and dressed, bilateral spasms in both lower extremities to tactile stimulus, dysphagia and some desaturation episodes that required tracheostomy for mechanical ventilation on day 8. Clostridium tetani was isolated from the wound and a new surgery was required for wide debridement or amputation. At this point the patient was under treatment with midazolam, cisatracurium and bolus of atracurium during the change of dressings, then homeopathic treatment with Hypericum 30 ch and Nux Vomica 9 ch and Ledum Palustre 200 ch was given prior and after the surgery. Decompression fasciotomy and exeresis of peroneus longus, peroneus brevis and tibialis anterior muscles was performed on day 15. Cisatracurium was stopped the next day. She needed only the bolus of atracurium during the change of dressings. The patient exhibited clinical improvement the next postop 48h with a small aggravation (day 19) when wound was cleaned. On day 18 atracurium was not needed. On day 19 atracurium was given and then stopped definitely. The patient exhibited clinical improvement and she was extubated on day 30 and discharged to home on day 45 in good health.

Written informed consent from the patient was obtained for publication.

### Acknowledgements

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## Title: The dance of electrons, the forgotten key to metabolism

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Introduction: Every atom is essentially formed by positive electric charges (protons) and negative charges (electrons). REDOX reactions are the classic example of electron exchange between two atoms. All biochemistry can be rewritten in electromagnetic code. When we understand physiological processes from an electromagnetic view, concepts are greatly simplified, and other possibilities emerge.

Method and results: The formation of ATP through the Krebs cycle is conditioned by the existence of an electron pool in so-called cellular respiration. The different stages of the cycle are based on the exchange of electrons and protons, where electrons pass from higher energy states to lower energy states, from one atom to another, in a relentless dance that allows life to occur. The contribution of these electrons, and the coherence in the endogenous electromagnetic radiation then go from being a metabolic by-product to be turned into something with which it is possible to interact. When instead of thinking about a biochemical code (with a myriad of different compounds) we introduce electromagnetic concepts, we find a great variety of diagnostic and therapeutic possibilities that are still very minor and not sufficiently explored. Certainly, only some areas of medicine use electromagnetic technologies, widely known for their effects on aesthetics or physiotherapy. That is just the tip of the iceberg of an emerging field that needs to be understood from every possible angle.

Conclusion: An electromagnetic view of health and life in general allows us to understand new keys to health, with both diagnostic and therapeutic applications of great value. The great advantage is that electromagnetic concepts are very simple to apply, have no unwanted effects and act on the system as a whole, strengthening the body's own capacity for self-regulation.

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# ORAL COMMUNICATIONS

## Title: Role of Potassium (K) in Reducing Joint Pain in Rheumatoid Arthritis (RA): A Randomized Controlled Study of K Enriched Vegetarian Diet In Patients on Standard Care

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**Objectives:** to evaluate the therapeutic role of potassium (K) in RA  
**Material and Methods:** 172 consenting symptomatic active disease patients (American College Rheumatology/ACR 1988 classified; mean age 48 years, 89% women, 76% seropositive rheumatoid factor, mean disease duration 9 years) were randomized as per protocol into a 16 week study [Registered CTR India/2015/05/008963] into 3 arms- K rich diet (Arm A; 3 gm K daily), K rich diet plus K food supplement [Arm B ; 7 gm K daily] and routine diet (Arm C: 2 gm K daily). Patients continued supervised medication (72% methotrexate, 27% steroids) and vegetarian diet; monitored as per protocol . Standardized K food supplement contained a mixture of selected pulses and spices and K salt [ 4 gm elemental K per 100 gm]. Standardized food frequency questionnaire recorded diet.

**Analysis:** By (i) Indian Government food composition guidelines (ii) standard efficacy and toxicity measures/ indices (ACR) (iii) Standard statistical analysis (ANOVA); significant  $p < 0.05$

**Results:** Baseline intake of K was low. 155 patients (90.1%) completed. Adverse events were mild; none withdrawal. Overall, patients improved substantially. Arm B (high K intake) showed significantly reduced pain (visual analogue scale;  $p = 0.03$ ) and improved function (Health Assessment Questionnaire,  $p = 0.05$ ). K intervention was a significant predictor for pain relief (Odds Ratio 1.13, 5.27). Dietary compliance/recall were important concerns.

**Discussion:** RA is a difficult-to-treat disorder and diet is sparsely included in the current management guidelines (ACR, European). Low K intake is reported (RA). K, a critical micronutrient in health, is poorly researched (RA). Vegetables/fruits provide K and have several other potential benefits. This preliminary study focuses on role of food based K in treating RA. **Conclusions:** This true-to- life controlled study demonstrated a clinically beneficial adjunct role of increased food based K intake in RA patients on standard modern therapy.

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## Title: Four-year long-term effects of a Multimodal and combined Multimodal-Aerobic Therapy in Breast Cancer Survivors with Cancer-Related Fatigue (CRF) on hygio- and salutogenic measures and their impact on CRF – results of a comprehensive cohort design study

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**Objectives:** Cancer-related fatigue (CRF) and cancer-related insomnia are frequent symptoms in breast cancer survivors (BC). Evidence-based therapeutic approaches besides aerobic-training (AT) include sleep-education/restriction (SE), psycho-education (PE) and mindfulness-oriented therapies. A 10-week multimodal-intervention (MT) including SE, PE, eurythmy- and painting therapy, or MT combined with AT (CT) were compared to AT, respectively. We report the long-term effects on hygio-/salutogenic measures (autonomic regulation (aR), self-regulation (SRS), internal coherence (ICS)) and evaluate the predictive impact of these scales on CRF.

**Methods:** In this comprehensive cohort design study BC with chronic CRF were randomized or allocated by patient preference to one of the therapy arms. AR, SRS, ICS, Cancer Fatigue Scale (CFS-D) were measured after 10 weeks of intervention (T1), 6 months later (T2) and after 4 years (T3). Statistical analysis used multivariate, propensity-score adjusted regression modeling.

**Results:** 126 BC were included (65 randomized, 61 allocated by preference). Compared to AT, CT and MT were superior regarding SRS at T1/T2 or just at T1, respectively, with high SRS-levels persisting after 4 years. ICS was superior for both CT and MT at T2 and T3 (all  $p < 0.05$ ). AR improved from baseline in MT and CT without showing statistical superiority to AT, yet its rest/activity subscale was superior at T2 in MT ( $p < 0.05$ ). In multivariate regression analyses baseline AR and ICS were predictors for CFS-D after 6 months (aR:  $\beta = -0.41$ , ICS:  $\beta = -0.36$ ; all  $p < 0.05$ ), whereas end-of-intervention aR was the only 4-year long-term predictor for CFS-D ( $\beta = -0.54$ ;  $p < 0.01$ ).

**Conclusion:** In this study a multimodal and a multimodal-aerobic CRF-treatment were immediately or 6 months later superior to aerobic training in improving self-regulation and after 6 months rest/activity regulation and internal coherence, respectively, which remained sustainable even after 4 years. Autonomic regulation and ICS were baseline predictors for CRF after 6 months, while aR was the only long-term predictor.

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## Title: Prolonged overall survival in patients with metastasized non-small cell lung carcinoma after combined treatment of adjuvant chemotherapy and *Viscum album L.* versus chemotherapy alone, a multicentre real-world data analysis

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**Background:** Stage IV non-small cell lung carcinoma (NSCLC) is one of the most devastating diagnoses worldwide. Mistletoe therapy (*Viscum album L.*, VA) has effectively been applied as an add-on treatment within integrative oncological concepts to improve quality of life. Overall, there is little evidence for add-on VA on survival of cancer patients. However, recent results suggest a beneficial effect [1, 2]. A multicentre observational health services research study was conducted to compare the combination of chemotherapy and VA (CVA) versus chemotherapy (C) for patients with metastasized NSCLC. The primary outcome was the assessment of overall survival.

**Methods:** Patients with stage IV NSCLC living at least 4 weeks post-diagnosis were non-randomly assigned to groups C (chemotherapy) or CVA (chemotherapy and *Viscum album L.*). Demographic-, diagnosis-, histology- and treatment-related data were retrieved from the network oncology, a clinical cancer registry for health services research (register ID: DRKS00013335). Written informed consent from patients has been obtained prior enrolment; the study has been approved by the ethics committee of the Medical Association Berlin (Eth-27/10).

**Results:** A total of 158 eligible patients between February 2010 and June 2016 were enrolled. The median OS was 8.0 months for group C patients and 17.0 months for CVA patients (Hazard ratio - HR: 0.52, 95% CI, 0.33 - 0.83; P = .007; adjusted HR: 0.44, 95% CI, 0.26-0.74, p = .002). One-year

survival rates for C and CVA were 35.5% and 60.2%, three year survival rates were 14.2% and 25.7%, respectively.

**Conclusions:** The results of the present health services research analysis reveal that the survival is significantly prolonged in patients with metastasized NSCLC treated with a combination of adjuvant chemotherapy and VA.

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## Title: Herbal Formula improves upper and lower gastrointestinal symptoms: The Gut Relief Study

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#### Objectives

To investigate the tolerability and effectiveness of the Gut-Relief-Formula on gastrointestinal disturbances in Australian adults in a single-arm pre-post dose-response study of 16-weeks duration.

#### Background

Gastrointestinal (GI) problems affect half of Western populations. Symptoms can vary from frequent reflux to irritable-bowel-syndrome (IBS). The Nutrition-Care-Gut-Relief-Formula contains a combination of herbs and nutrients including curcumin, aloe-vera, slippery-elm, guar-gum, pectin, peppermint-oil and glucosamine, shown to benefit the gastrointestinal-system.

#### Methods

A total of 43 participants with gastrointestinal symptoms completed the study. We used a series of validated questionnaires, including the Leeds-Dyspepsia-Questionnaire, Bristol-Stool-Chart, Birmingham-IBS-Symptom-Questionnaire, and assessed gut-microbiota, and intestinal- permeability. After a run-in-phase, participants were provided with 5g/day, followed by 10g/day, or a choice of either 0g-5g-10g/day of the formula for 4-weeks each.

#### Results

The Gut-Relief-Formula significantly improved the frequency and severity of upper and lower GI- symptoms by 60-80%, including indigestion, heartburn, nausea, or constipation, diarrhea, abdominal pain, troublesome flatulence, as well as mouth-ulcers, bad-breath, rashes, improving quality of life and sleep.

All participants with normal stool, 90% with hard stool, and 66% with soft stool recovered from intestinal-permeability, evident by normal Lactulose/Mannitol-Ratios.

The Gut-Relief-Formula generally improved microbial profile in participants with normal or hard stool, with a marked increase in *Lactobacillus*, *Clostridium*, *Bacterioides-vulgatus*, and *Faecalibacterium-prausnitzii*.

Almost half of the participants with upper GI-symptoms taking proton-pump-inhibitors (PPI) for heartburn, no longer required PPIs at the end of the study.

A third of participants reintroduced food triggers, such as FOD-MAPs, garlic, onion, beans, and cruciferous vegetables, or reflux causing acidic/spicy foods, e.g. citrus, tomato, caffeine, curry in their diet at the end of the 3-month study, without symptom aggravation.

#### Conclusions

The herbal Gut-Relief-Formula significantly improved gastrointestinal symptoms over 3-months, while reducing intestinal permeability, and improving microbial profile, reducing the need for reflux medication, and enabling the consumption of previous food triggers.

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## Title: Repeatability & responsiveness of the warwick holistic health questionnaire

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### Introduction

Patient reported outcome measures are essential to health care evaluation. Repeatability and responsiveness (at group and individual level) are key psychometric properties of PROMs essential to assessment of impact. We measured these properties for the 25-item Warwick Holistic Health Questionnaire (WHHQ) developed to evaluate craniosacral therapy (1).

### Methods

Repeatability: Online version of WHHQ created using Qualtrics software. Sample of 109 completed WHHQ twice, 2-week interval without intervention. Anchor question assessed change in health status. Paired t test for change and Pearson's correlation coefficient for participants who had no change in their health were calculated.

Responsiveness: 146 participants completed the WHHQ before and after therapy; Distributional methods used to assess responsiveness. Cronbach's alpha and paired t test for change were calculated.

### Results

Repeatability: No significant change over two weeks ( $p=0.752$ ). Pearson's correlation coefficients were high for all participants (0.832;  $p < 0.001$ ) and for those ( $n=78$ ) showing no change in health status (0.822;  $p < 0.001$ ).

Responsiveness: Cronbach's alpha = 0.84; mean change score, 5.31(SD=10.01); effect size= 0.46. Standardized Response Mean=53 ( $p=0.7019$ ); Standard Error of Measurement (SEM)= 4.92.

Participants with  $> 2.77SEM$  increase= 16.4% ( $n=24$ ) and decrease=2.1% ( $n=3$ ) respectively. 49.3% of participants improved using Cohen D effect size  $> 0.5$ .

### Conclusions

Psychometrically sound PROMS are needed to evaluate complementary and alternative medicine. As well as being valid and reliable, the WHHQ is both repeatable and responsive to change.

Part-funded by Dr Janine Leach Research Award.

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## Title: New Integrative Cancer Care Expert Platform in Brussels for Advancing the Research of Comprehensive Patient Care – Opportunities for the Future

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Background: Cancer is 2d major cause (9.6 m) of all deaths (56.9 m) globally, according to WHO- Statistics 2016. With estimated impact of USD1.16 trillion (2010) and estimated increase of 0.66%/year, cancer will create ceteris paribus significant health and pharmaceutical costs in the future.

Aim: To integrate Ayurvedic and Conventional evidence-based Medicines in order to develop a new integrative cancer care expert platform in Brussels between Europe and India that could be the benchmark for comprehensive patient care at lower costs for the future.

Method: Based on Ayurvedic classification of diseases and ICD-11 with 26 + V(Supplementary Chapter Traditional Medicine Conditions) & X(Extension) codes for diseases, we created a new 15- minor matrices/1-major matrix model in order to link both systems.

Results: We could determine that cancer, according to cancer subtypes, is a common Pitta (37.50%)/Kapha (35.42%) doshas, resp. Earth (35.42%)/Water (29.16%) sub-doshas disease. Earth- Water sub-doshas level (sd-L) cancer-subtypes (C-st)(64.58%) and Fire sd-L (C-st) (14.58%) create about 80% of all cancers. In order to decrease health care costs and to optimize health (status) (immaterial) values (added), as strategy, new transdisciplinary cancer treatment at a new integrative cancer expert platform in Brussels (as capital of Europe/European Union), with universities of health/ pharmacy/(social)health sciences of both continents Europe and India is mandatory. Care with emphasis on hygiene, resp. diet/ herbal remedies, breath exercises/physical therapy, environment protection, stress control, meaningfulness, sleep and social support, yoga, and meditation, might optimize comprehensive patient care.

Conclusion: Integrating both systems gives a broad insight into the pathophysiology of the different cancer sub-types. A new integrative cancer care expert platform in Brussels with joint (between Europe and India) transdisciplinary cancer research could be a source for decreasing health (care) costs and optimizing health (status) (immaterial) values (added) and to optimize comprehensive patient care internationally as opportunities for the future.

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## Title: Beyond miracles: a qualitative study of the healing effects of pilgrimage to Lourdes

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**Objectives:** Pilgrims have been visiting Lourdes, France, since 1858 when a vision of the Virgin Mary appeared. Today, Lourdes hosts six million visitors annually, many of them seeking healing. We sought to understand the experiences of these pilgrims: what they feel, what changes occur within them, and how they explain these experiences.

**Material and method:** In June 2017 we spent ten days carrying out fieldwork in Lourdes: interviewing ‘malades’ – sick pilgrims– and the many volunteers and healthcare professionals who support them. We spoke to over 60 people, amassing 33 interviews, 10 focus groups, 19 participant drawings and extensive ethnographic notes.

**Analysis:** We collaboratively identified key concepts and themes in this rich data set, following the ‘Consolidated criteria for reporting qualitative research’ (COREQ).

**Results:**

A key theme was connection and sense of community, both between volunteers and the malades they cared for, as well as bonding between the volunteers. Some had noetic experiences, connecting to something beyond the self. A schoolgirl said “I came and I prayed to Mary and then she touched me a lot and I felt like I was actually talking to her. And then I was compelled to come again.” Altruism was important: everybody gives to everybody else and seeks self-improvement, both at Lourdes and when they return home. One woman described “a time to reflect on how I could be different and improve myself”. People experienced changes in how they saw and accepted illness and in their self-perception. Lourdes offers the chance to reset oneself.

**Discussion:** While many hope to be cured at Lourdes, instead they are often healed through other enriching elements of the experience.

**Conclusions:** People do not visit purely in the hope of a miracle: their motivations are more complex and diverse, and healing can be experienced through connection, giving and self-renewal.

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## Title: Solasodine rhamnose glycosides, review of 3 decades of clinical experience in the natural treatment of neoplastic skinlesions

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**Objective:** Review of 3 decades of clinical experience in the natural treatment of non-melanotic neoplastic skin lesions with Solasodine rhamnosed glycosides (SRGs) in a specific ointment formulation.

**Material and Method:** Phase 1 to 3 clinical trials, from controlled open-label to multicentre randomised single and double blind studies, with a total of 423 patients treating actinic keratosis, keratoacanthomas, and squamous cell basal carcinomas with formulation of SRGs in ointment, along with over 100,000 patients worldwide post-marketing of said ointment for the same pathologies.

**Analysis:** Follow-ups of up to 5 years with clinical, histological and biochemical evaluations. **Results:** With treatment periods from 3 days to 12 weeks and from 2 to 10 daily applications, the data collected demonstrate between 75 and 100% resolution of the treated lesions depending on the duration of the treatment, frequency of application and adherence to the recommendations. No documented systemic adverse effects and minimal side effects such as transient pain and local irritation at the application site have been the only adversities observed.

**Discussion:** SRGs are a group of glucoalcaloids that occur naturally in plants of the Solanaceae family, Solanum genus, and have demonstrated a high degree of specificity and a broad spectrum against multiple types of cancers. The authors present a review of their 3 decades of clinical experience in the effective use of SRGs in the treatment of skin cancers and premalignant skin lesions.

**Conclusions:** SRGs formulated in ointment is the treatment for non-melanotic neoplastic skin lesions with the highest cost-benefit rate, demonstrating results superior to all other existing modalities.

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## Title: Treating uncontrolled hypertension with Hibiscus Sabdariffa when standard treatment is insufficient: pilot intervention

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### Objectives

To assess a food product validated by several clinical trials, Hibiscus sabdariffa (Karkade), in case of uncontrolled hypertension either with or without medication.

### Background

Among >500'000 Syrian refugees in Jordan, 80% reside outside of refugee camps. In case of hypertension, they could benefit from using Hibiscus sabdariffa (HS) as it is locally available, affordable, and it is the most common herbal product used against hypertension in Jordan.

### Material and methods

In a multicentric, pilot clinical study, participants with blood pressure (BP) above 140/90 mmHg were encouraged to drink Karkade tea containing 10g of HS/0.5L daily. If during the second and third week BP was still high, this dosage was increased to 15g of HS/1L and to 20g of HS/1L. Results

Among 38 Syrian refugees living outside the refugee camps, 29 participants finished the program. 75% were already taking antihypertensive medication but their hypertension was uncontrolled; 28% used no medication. Based on the weekly measurement of blood pressure, improvements were observed after the first week of Karkade tea consumption.

HS was generally well tolerated (except 3 patients with mild symptoms, possibly related to other medications as well), and 38% of the participants have reached the target blood pressure at the end of this survey.

### Discussion

This study assessed the feasibility of a program supplying a food product, Hibiscus sabdariffa (Karkade) as adjuvant in the treatment of hypertension. For the first time in the literature a large proportion of participants (75%) used ongoing standard hypertensive medication.

### Conclusion

Hibiscus sabdariffa (Karkade) is generally well-tolerated and appears to be helpful to treat uncontrolled hypertension whether or not used with standard medication.

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## Title: Biomedical approach in autism spectrum disorders – the importance of assessing inflammation

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Background: Published findings have identified widespread changes in the immune systems of children with autism spectrum disorders (ASD) suggesting that autism may, in fact, be a systemic disorder with connections to abnormal immune responses. Evaluating autism is hindered by a lack of specific biomarkers, making these pathologies difficult to diagnose.

Methods: As part of the respective patient's biomedical assessment, samples from ASD-diagnosed patients were analyzed by R.E.D. Laboratories (Zellik, Belgium) The present study represents a retrospective investigation of existing clinical data. A total of 42 available files were surveyed.

Results and Discussion: The vast majority of patients tested show a notable increase in inflammation-related markers: 86.5% presented with elevated IL-8, 71% with elevated PGE2, 57% with elevated MCP-1, 47% with elevated IL-1 $\beta$ , and 41% with elevated elastase while 68% displayed an abnormal expression of sIgA in the stool. Overall, the fecal flora of autistic children tends to be perturbed when compared to the fecal flora of healthy children. Our data suggest the diversity index was low in 85% of cases and 39% presented with high Bacteroides while the increase of Streptococcus could be correlated with the worsening of cognitive abilities and aggressive behavior. The very high prevalence of increased inflammation-related markers is most probably the end result of several dysfunctions in ASD patients, as already reported in previous studies. Among them, a large number point towards intestinal dysfunctions (including gut dysbiosis and leaky gut) and chronic infections (including intracellular pathogens and tick-borne infections). This hypothesis is further supported by the very high percentage (84%) of patients with increased serum soluble CD14.

Conclusion: Our results, in conjunction with previous reports, clearly point towards the importance of an integrative approach involving the assessment of the inflammation-related biomarkers in ASD patients. A larger investigation is needed to further define the most useful biomarkers.

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## Title: Integrative treatment of community acquired pneumonia (CAP) without antibiotics

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The aim of the presented study was to evaluate feasibility, security and effectiveness of integrative treatment of CAP.

Methods: Patients with radiological confirmed diagnosis of CAP were retrospectively evaluated regarding pneumonia severity score CRB 65, inflammation parameters such as leukocytes, CRP, admission to intensive care unit (ICU), lethality, and rate of recurrent pneumonia comparing conventional with integrative treatment, in this study anthroposophic medicine (AM).

Results: 225 patients with CAP were evaluated – 101 with integrative treatment (IM) and 124 with conventional treatment (CM). 15/101 patients (14,85%) with IM were treated in addition with antibiotics (IM+AB) while 86/101 (86,15%) were treated with IM only and without antibiotics (IM- AB). All 124 (100%) CM-Patients were treated with antibiotics.

The two collectives (CM & IM) showed significant difference regarding age (CM: 75,1 years versus IM: 59,0 years; p-Wert <0,001) and severity of pneumonia (mild pneumonia: CRB-65 (1) 16,1% CM vs 46,5% IM; p<0,001, while in moderate or severe pneumonia: CRB-65 (2+3) 83,9% CM vs 53,5% IM; p<0,001). In both treatment collectives (CM & IM), significant reduction of inflammation parameters was observed while no significant difference regarding CRP-regression was observed between the two collectives, as well as no significant difference was observed regarding lethality.

However, CM patients showed a significant higher rate of recurrent pneumonia compared to integrative treatment (29,83% versus 12,87%, p=0,0016). With respect to heterogeneity regarding age and pneumonia severity score, subgroup analysis revealed decreased pneumonia recurrence rate in patients treated with IM with focus on elderly (p<0,0016) and patients with severe pneumonia (p<0,0016).

Therefore, we conclude, that in certain patients with CAP integrative medical treatment may be feasible, secure and effective, even without application of antibiotics. This is of utmost relevance within the context of antibiotic resistance. Moreover, our data document significant reduction of pneumonia recurrence rate due to integrative treatment (IM).

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## Title: Dyadic Integrative Exercise for Persons with Dementia and their Care Partners

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Objectives: In the absence of disease modifying treatments for dementia, non-pharmacological interventions are vital for enhancing the lives of persons with dementia (PWD). The Paired Preventing Loss of Independence through Exercise (PLIÉ) study is examining the effects of a unique integrative group movement program that targets preserved abilities and neural mechanisms in PWD and includes their care partners (CP). The intervention includes 1-hour community-based classes with 5 dyads, 2 days/week for 12 weeks and three monthly home visits. We present results from a randomized controlled study examining feasibility, efficacy and satisfaction.

Methods: Seniors with mild to moderate dementia and their CPs were enrolled and randomized to receive either an immediate or delayed start to the Paired PLIÉ program with outcomes measured at baseline, 12 weeks, and 24 weeks and anonymous evaluation surveys sent after withdrawal or completion. Feasibility was assessed based on enrollment and percent completion. Efficacy was assessed by calculating standardized effect sizes comparing change during Paired PLIÉ vs change during control period (difference-in-differences). Satisfaction was assessed based on quantitative and qualitative evaluation survey responses.

Analysis: Mixed effects models and descriptive thematic analysis.

Results: 30 dyads (60 participants) enrolled and 24 (80%) completed the study. Effect sizes suggested improvements during Paired PLIÉ for PWD depressive symptoms (Cohen's d=0.27) and PWD quality of life (caregiver-rated, d=0.28; participant-rated, d=0.22). Satisfaction was high (mean 1-5 Likert scale: 4.8), and participants were likely to recommend the program to others (mean 0-10 Likert scale: 9.4). Most caregivers reported observing physical, emotional, and social benefits for their loved ones and themselves.

Discussion/Conclusion: Paired PLIÉ is a promising integrative group movement program for PWD and their CPs that appears to be feasible and is associated with high levels of satisfaction and preliminary evidence of benefits to participant and care partner physical, emotional, and social well-being.

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## Title: Plasma Vitamin C Concentrations and Cognition: A Cross-sectional Study

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### Background

Vitamin C is a water soluble molecule that humans have lost the ability to produce. Despite this, the vitamin's vital biological roles have been well established, ranging from collagen and carnitine production, to white blood cell protection and immune stability. Literature indicates that the vitamin plays a role in CNS functions such as neuronal differentiation, maturation, myelin formation and modulation of the catecholergic systems.

### Objectives

Based on our recent systematic review, further research is needed that utilizes plasma vitamin C concentrations and sensitive cognitive assessments that are suitable for cognitively intact adults. Material and Method

A cross-sectional trial was conducted on a number of healthy adult samples (n = 80, age range: 24- 96 years) likely to be displaying a range of plasma vitamin C concentrations. Cognitive assessments included The Swinburne University Computerised Cognitive Assessment Battery (SUCCAB) and the pen and paper tests, including the Symbol Digits Modalities Test (SDMT) and Hopkins Verbal Learning Test - Revised (HVLTR). Following cognitive assessments, blood samples were taken and plasma vitamin C, with serum vitamin B12 (secondary measure) were measured. Nutritional intake of these vitamins was also assessed through food frequency questionnaires.

### Discussion

An analysis of covariance revealed significantly higher scores on total recall, delayed recall and recognition in the adequate group on the HVLTR and scores on the SDMT. Additionally, an ANCOVA revealed significantly higher performance on choice reaction time (decision speed) and the congruent stroop (inhibition cognition) in the adequate group. A plateau in cognition with concentrations >70 µmol/L supports the homeostatic mechanism of vitamin C in the central nervous system.

### Conclusion

The present cross-sectional study revealed significantly greater cognitive performances in those displaying adequate plasma vitamin C concentrations. Cognitive tasks included those assessing total recall, delayed recall, recognition, decision speed and inhibition.

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## Title: Living with chronic pain - an existential and molecular perspective following integrative health care provision

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Patients suffering from chronic widespread pain (CWP) constitutes a great challenge for the healthcare system. CWP is often overlapping with other symptoms such as depression, anxiety, headaches and IBS, hence the patients display a variety of illness. These complex health issues often are misunderstood and misinterpreted by the healthcare system, leading to existential suffering. Recently, studies by Nobel laureate Elizabeth Blackburn have shown that healthcare that promotes positive changes in existential dimensions also might play a crucial role in the maintenance of our genome. Blackburn, has shown that the enzyme telomerase prevents genetic information from being lost in cell division, and that chronic stress and affective diseases are associated with shorter telomere length and decreased telomerase activity. Objectives: The PhD project aim to assess changes in telomere length (TL) and telomerase activity (TA) in CWP patients, associated with different types of multimodal care over time and whether changes can be linked to validated existential outcomes such as EQ5D, HAD, SF36, WHOQoL, FFMQ, PCS and CPAQ as well as inductive qualitative explorations. Material and method and analysis: This is a prospective clinical observation study with two cohorts of pain patients (n=50) with CWP received at Vidar Rehab (anthroposophical integrative care) or The Pain Center in Linköping (standard care). The study follows a ABA-design, where each patient cohorts constitute their own control. Different statistical tests will be used for the analysis. Results: Preliminary results will be presented for the first time at the conference. Discussion: The project will contribute to information that can be used to calculate sample size and power for future randomized studies for TA and TL investigations.

Future results will be triangulated (data, method and theory triangulation) by combining subjective and objective results with qualitative findings wherever possible to inform future evidence based integrative health care reform.

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## Title: Environmental and neurodevelopmental factors

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**INTRODUCTION:** In recent years, from the epidemiology and environmental toxicology, there has been growing interest in environmental factors that are contributing to the increased prevalence of neurodevelopmental disorders; in order to understand them better and establish, as far as possible, appropriate prevention strategies. The academic literary base in this regard is broad.

**JUSTIFICATION:** Environmental factors contribute to the increased prevalence of these disorders. Identifying, preventing and treating them can have a positive effect in their reduction.

**OBJECTIVE:**

To conduct a 2000-2019 literature review of the most relevant environmental factors associated with the prevalence of neurodevelopmental disorders.

**MATERIAL:** Indexed journals **METHOD:**

**BIBLIOGRAPHIC ANALYSIS I:** Endocrine disruptors and neurodevelopmental disorders. Many publications have evidenced the association between endocrine disruptors and neurodevelopmental disorders.

**BIBLIOGRAPHIC ANALYSIS II:** Pesticides and neurodevelopment. Several research projects since 2000, and numerous publications show that mild exposure to pesticides affects the Intellectual Quotient (IQ) and foetal and childhood neurodevelopment.

**BIBLIOGRAPHIC ANALYSIS III:** Air pollutants and neurodevelopment. Air pollutants contribute to the decrease in IQ and affect neurodevelopment.

**BIBLIOGRAPHIC ANALYSIS IV:** Heavy metals and neurodevelopment. Scientific evidence causally associates neurotoxicity of heavy metals with neurodevelopmental disorders.

**DISCUSSION AND CONCLUSIONS:** Identifying environmental neurotoxins and minimising the exposure of pregnant women, fetuses, babies and children, is a good strategy to reduce the prevalence of such disorders.

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## Title: Prostate health: inflammation, cancer and advanced cancer

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**OBJECTIVES:** Use rigorous scientific methods to determine effect of plant extracts (Pao pereira, Rauwolfia vomitoria) on each stage of cancer: pre-cancer (chronic inflammation), established tumors, and advanced metastatic disease. Prostate inflammation, prostate cancer and advanced prostate cancer were studied.

**MATERIALS AND METHODS:** Inflammation: BPH-1 and RPWE-1 cells for in vitro and in vivo experiments for BPH, gene expression, Western blots. Human clinical trial in men to test effect on PSA and BPH. Cancer: LNCaP cells and MTT assay for cytotoxicity, xenografts for in vivo studies with TUNEL staining. Advanced Cancer: PC3 (androgen independent) cells, flow cytometry, wound healing, RT-PCR, NFKappaB binding.

**ANALYSIS:** Positive results from the assays were analyzed by standard statistical methods and data shown with standard deviation and t-test with P<0.05 or P<0.001.

**RESULTS:** Research at Columbia University Medical Center showed that the Pao and Rauwolfia vomitoria extracts suppress growth of prostate cancer cells and shrink prostate tumors. A clinical study demonstrated that the Pao/Rauwolfia combination lowered PSA and alleviated symptoms in men with enlarged prostates (BPH). Biochemical evidence for anti-inflammatory effects comes from research at Nanjing University showing Pao and Rauwolfia suppress growth of BPH cells and specifically down-regulates inflammatory response.

A second Nanjing study revealed that the Pao extract is active against advanced prostate cancers that are insensitive to testosterone-reducing drugs. These late stage cancers are considered untreatable yet Pao acts to restrain the NFKappaB complex from promoting tumor growth and metastasis.

**DISCUSSION:** The extracts are nontoxic to healthy cells and induce no negative side effects. They are active against all types of cancer in men and women.

**CONCLUSION:** The Pao and Rauwolfia plant extracts have comprehensive therapeutic potential for prostate cancer in early, mid- and advanced stages. There is evidence that the extracts will also work in all three stages of other types of cancer.

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## Title: An integrative approach for acute peritonitis: a retrospective study of 517 patients

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### Aims

To determine the impact of an integrated approach on the postoperative complications in patients operated upon secondary acute peritonitis.

### Methods

A non-randomized, retrospective, single-center clinical study of 517 consecutive patients operated on for community-acquired secondary peritonitis admitted as surgical emergencies from 1994 to 2004. An integrated approach (Homeopathy and Bach Flowers Remedies plus standard care) was given to 84 patients (Group IA) whereas standard care alone was provided to the remaining 433 patients (Group SC). Standard care included surgical management, broad-spectrum antibiotherapy and metabolic support measures, as needed. Major and minor postoperative complications (Clavien- Dindo Classification) were obtained from 213 patients, postoperative hospital stay and postoperative mortality were compared between both groups.

### Results

The distribution of main primary conditions were comparable in both groups, and included Acute Appendicitis (44.10%), Acute Cholecystitis (15.08%), Acute Left Colon Diverticulitis (5.99%), Perforated Peptic Ulcer (16.05%), Small Intestine perforation (3.86%), Colon perforation (5.41%) and Others (9.47%). Significant differences in major complications were found between groups (12.86% IA vs 27.99% AT;  $p < 0.05$ ) and postoperative hospital mortality (4.28% IA vs 13.28% AT;  $p < 0.05$ ). A trend towards fewer minor postoperative complications (Clavien 0-II) was found in the SC group. Postoperative hospital stay length was significantly shorter for patients of the IA group ( $8.92 \pm 1.0$  vs  $11.98 \pm 0.6$  days;  $P < 0.001$ ). No complications potentially related to AT were observed.

### Conclusions

Patients receiving IA had a significantly shorter postoperative stay length, major complications and mortality.

### Acknowledgements

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## Title: Hepatic failure of a Breast Cancer Patient improved by administration of Silibinin and other adjuvants

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### Case report

By urgency, an additional intervention was offered to a young woman, since one year continuously treated for breast cancer with chemo-immuno-and endocrine therapy, evolving into life threatening liver failure.

After 10 days bilirubin levels dropped and bodily temperature,  $35.6^\circ$  rose into fever.

3 Months after initiation physical condition was good. CT of the liver showed involution of the meta's. Liver parameters and tumor marker Ca 15.3. normalized.

### Discussion

Hepatic failure is a common complication of chemotherapy. Several adjuvants are candidate for therapy: Milk Thistle and Acetylcysteine are well documented in intoxications, Curcuma as hepatoprotection in alcoholic liver damage and enzymes as promising antineoplastics.

Literature reported just one similar case of hepatic failure with continuation of chemotherapy in combination with silibinin extract from Milk Thistle.

In our case chemo was also continued. Besides the silibinins other adjuvants were: enzymes, acetylcysteine and curcuma.

The differences between the two cases were: dose, time of response and the combinations with silibinins. The final result was similar: after initiation of adjuvants it was possible during 3 months to continue chemotherapy, with a positive impact on liver failure, tumor marker and quality of life. Explanations for recovery of the liver and tumor marker rely on the opportunity to continue chemo and on intrinsic benefits of the adjuvants.

### Conclusions

In this case of life threatening liver failure 3 months of additional adjuvants made it possible to continue chemotherapy, with positive impact on liver failure, tumor marker and physical condition. There is growing evidence of effectivity and safety of the described adjuvants for therapy and prevention.

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## Title: Holographic analysis of the blood – a 40 years review

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### Introduction:

Bechamp defined the “terrain” as the inner microenvironment that defines the real health of a person. If the terrain is unhealthy, different microorganisms are going to grow as a consequence and as a correction mechanism. My father has dedicated 40 years to analyze the terrain and its information, developing the holographic analysis of the blood. This process has allowed my father to be one of the most efficient doctors in the USA during the last century.

### Method and results

Using a darkfield microscope, capillary blood is observed at 40X. Different patterns are analyzed: shape, distribution and amount of cells, darkness of the plasma, amount and movement of the symbionts, and also shape, colour and size of the symplasts. This collected data and interpretation show the information about the global health of the person, both physical and emotional. It also gives something really difficult to obtain by other means: the real cause of the symptoms, that clearly appear in the symplasts in the blood. With this method it is possible to understand that the body works as a whole, and the underlying interconnection among each part of the human beings.

### Conclusions

The blood is living tissue that reflects clearly the homeostasis of the whole body. The holographic analysis uses a darkfield microscope to not only observe the plasma and the blood cells, but to also find out the causes of the unbalances. A deep analysis of the different structures brings the information of the things the body is trying to fix. It also provides a tool to observe if the treatments are being effective or not. After 40 years of working and developing this method, the Holographic analysis offers an invaluable information to understand the connection between symptoms and causes.

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## Title: Let’s talk about herbal medicine: Insights from an international medical student project to enhance doctor-patient communication in herbal medicine

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Let’s talk about herbal medicine: Insights from an international medical student project to enhance doctor-patient communication in herbal medicine

Introduction: In the framework of an international cooperation project of the Bnai Zion Medical Center, and the Technion, Israel, and Charité Universitätsmedizin Berlin, Germany, medical students from both countries and Complementary and Integrative Medicine (CIM) experienced mentors worked together to improve doctor-patient communication skills by CIM strategies. Five groups evolved from the process: Traditional Chinese Medicine; mind-body medicine; touch therapies; mindful mindset; and naturopathy/herbal medicine. The goal of the naturopathy/herbal medicine group was to design an educational e-learning module for medical students and physicians in order to improve doctor-patient-communication regarding herbal medicine. The project was supported by the German-Israeli Future Forum.

Methods: The naturopathy/herbal medicine group consisted of three Israeli and two German students (age 23-30) and two mentors with education and long-term experience in naturopathy and herbal medicine. Between April 2017 and March 2018 the project group met in three intensive working phases once in Haifa and twice in Berlin. They worked out an e-learning module following a literature research and self-experience with herbal therapy.

### Results and Discussion:

Together with the mentors, the students developed an educational module consisting of a film- documented doctor-patient roleplay ([http://www.b-zion.org.il/pages\\_e/6683.aspx](http://www.b-zion.org.il/pages_e/6683.aspx)) on taking history about herbs, and instructions about websites for herbal treatment. The video includes a short quiz and a pocket guide on communication strategies while talking about herbs and supplements with patients.

### Conclusion:

The intensive cultural exchange and explorative process in this international medical student collaboration led to substantial improvements in patient-doctor communication strategies as reported by participating students. The results of this international collaboration, specifically the educational modules, can be used by medical students and physicians to enhance communication with patients regarding herbal medicine.

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## Title: The potential of videography and expert interviews for differentiating between motivation and need for recreation of neurorehabilitation patients in physiotherapy and music therapy sessions

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### Objectives

As part of a larger mixed-methods study focusing on the optimum time for non-medical therapies (e.g. physiotherapy, occupational therapy, music therapy) in the field of neurorehabilitation, the main objective of this part of the study was to differentiate between motivation and need for recreation of patients during physiotherapy or music therapy sessions through videography and interviews.

### Material and method

Data collection included videographies (n=6) of physiotherapy and music therapy sessions as well as qualitative expert interviews (n=6). The data was collected in an Austrian neurorehabilitation center in a rural area. Grounded Theory was used both as a methodology and as a method of data analysis (coding). The computer software Atlas.ti (Vers. 7.0) was used for both interview and video analysis.

### Results

Experts can differentiate between motivation and need for recreation of patients by analyzing physiotherapy and music therapy video data. In any case, there are no specific categories referring only to motivation or need for recreation of patients. "Posture & motor function", "spoken language", "activity", "concentration" "facial expression" and "interaction" were the most frequently categories used by experts.

### Conclusions

As there are no unique categories for motivation or need for recreation of patients, the context of the therapy must be taken into account as well as parameters like the subjective motivation of the patient. The results can be used for the development of a tool for identifying motivation or need for recreation of patients undergoing neurorehabilitation, to enhance personalizing and therefore improving the quality of non-medical therapies.

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## Title: What's going on in A1 Integrative Medicine Evidence? A1 en Medicina integrativa y tradicional

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### Objetivos:

Poner en conocimiento y utilizar la máxima evidencia científica en la práctica clínica diaria en medicina integrativa y tradicional.

Valorar los tratamientos con mayor seguridad y eficacia en las patologías más comunes. Material y método:

Basado en la graduación SORT (Strength of Recommendation Taxonomy) (ABC) y en el grado de daño potencial (1,2, 3). A través de los trabajos publicados en Integrative Medicine, con el permiso del autor, David Rakel hacemos un escrutinio de la evidencia A1 de todo tipo de tratamientos desde el farmacológico, dieta, ejercicio, fitoterapia, suplementos, bioenergética, psicológicos, acupuntura, asistencia espiritual, homeopatía. Extraemos la graduación A1 de las patologías más comunes.

### Análisis:

Dentro de 15 especialidades médicas concretamos las más frecuentes 71. Siendo A la mayor evidencia y 1 la ausencia o el mínimo daño potencial.

### Resultados:

De las 71 patologías evaluadas en un 23,9 % no se encuentra evidencia tipo A1.

El tratamiento más importante A1 es la dieta con indicación en un 38% de las patologías. Le sigue el ejercicio con 30,9%, los suplementos 29,5% y la psicoterapia con 21,1% de las indicaciones en enfermedades médicas.

Un 14% se beneficia de acupuntura. El tratamiento con fármacos A1 supone el 12,6% y con fitoterapia el 9,8%.

La restricción o evitación de ciertos alimentos, sustancias y ó fármacos constituyen el tratamiento más seguro y eficaz en el 35% de las patologías.

### Discusión:

Apenas encontramos fármacos con evidencia máxima y seguridad completa (la mayoría A2, con lo que no están exentos de daño potencial).

### Conclusiones:

Curiosamente la mayor evidencia científica se acerca a los orígenes de la medicina natural: la dieta y el ejercicio. Con la importante aportación de la psicoterapia en la patología médica: Relación cuerpo-mente.

Medicina integrativa con evidencia científica y seguridad para curar, aliviar, acompañar el proceso de vida del ser humano.

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## Title: Modulated electro-hyperthermia induced stress can potentiate doxorubicin efficacy in vitro and induce immune response in vivo in C26 mouse colorectal carcinoma cell line

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Modulated electro-hyperthermia (mEHT; oncothermia) at ~42°C can selectively induce damage in malignant tumors. Here we assessed mEHT as a chemosensitizer in vitro; and as an inducer of immune response in vivo.

C26 mouse colorectal adenocarcinoma cell line was treated with mEHT (42°C) alone or in combination with doxorubicin (mEHT+Dox) in vitro. In vivo, C26 allografts were treated with mEHT alone or in combination with a chlorogenic acid rich T-cell promoting extract of *Marsdenia Tenacissima* (MTE). Stress response, cell death, apoptosis and proliferation related markers were detected using qPCR, resazurin viability assay, clonogenic assay for counting tumor stem-cells, flow-cytometry, immunocyto- and immunohistochemistry.

mEHT induced significant hsp70 and calreticulin protein release (24h) and reduced the number of tumor stem-cell colonies. Significant decrease of anti-apoptotic and elevation of pro-apoptotic mRNA levels were detected, besides increased P21 expression. Between 24-48h mEHT reduced tumor cell-viability by apoptosis, which was increased after mEHT+Dox combination. Nuclear phospho-p53(Ser15) protein levels were significantly increased in treated groups, while phospho- Akt(Ser473) levels were reduced only after mEHT and mEHT+Dox.

Damage associated molecular pattern (DAMP) signals were released from mEHT treated tumors. In vivo, a single shot of mEHT led to progressive tumor damage and accumulation of CD3+ T-cells and S100+ antigen presenting dendritic cells. These changes could also be seen in the distant tumors when mEHT was combined with MTE.

mEHT treatment induced irreversible cell stress, apoptosis and the release of DAMP signals in colorectal cancer models. In vitro data revealed p21-mediated growth arrest and apoptosis possibly due by p53 signaling. Furthermore, mEHT promoted the uptake and potentiated the cytotoxic effect of doxorubicin. In vivo, mEHT induced progressive tumor damage with increasing immune-cell infiltration indicated a secondary tumor destruction by immunogenic cell death both locally and systemically at distant tumor sites.

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## Title: The Havelhöher Eurythmy Questionnaire (HEQ-2): A peer-report instrument to assess movement, language and gesture expression during Eurythmy Therapy

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Introduction: Eurythmy Therapy (ET) is a mindfulness-oriented therapy commonly used in anthroposophic medicine. However, validated instruments to evaluate patients' movement, language and gesture expression are underrepresented.

Method: In a comprehensive cohort study evaluating ET as part of a multimodal intervention in breast cancer patients with cancer-related fatigue, we validated the Havelhöher Eurythmy Questionnaire (HEQ). Its 83 items were completed by eurythmy therapists capturing single ET sessions for each patient regarding movement, language and gesture expression. Baseline and 10-week ET sessions of 68 patients were assessed. Interrater-reliability (IRR) was estimated by Cohen's weighted kappa ( $\kappa_w$ ) for all items, followed by a reliability and principal component analysis (PCA). Additionally, patients completed the self-report measures Satisfaction with Eurythmy Therapy (SET) and Inner Correspondence with Movement Therapy (ICPH).

Result: In 41 of the 83 items IRR met the statistical threshold ( $\kappa_w = 0.25$ ), with a mean weighted kappa of  $\bar{\kappa}_w = 0.40$  ( $SD = .18$ , range = 0.25 to 0.85). Reliability analysis resulted in exclusion of 25 items with insufficient item-total correlations  $< 0.40$ . A PCA with 16 items revealed 3 subscales and 1 single item: 1. Mindful Movement (7 items), 2. Activity & Skills (5 items), 3. Gait Pattern (5 items) and Respiration (1 item), explaining 66% of total variance. Psychometric properties for the modified HEQ-2 questionnaire showed sufficiently high reliability with Cronbach's alpha coefficients ranging from 0.84 to 0.87 across subscales. Subscale inter-correlations were small to moderate (0.24 - 0.67,  $p < 0.05$ ). Respiration and Mindful Movement correlated with the ICPH ( $r =$

0.22 and 0.24, respectively; all  $p < 0.05$ ). No correlation with the SET was found. Conclusion: The HEQ-2 is the first validated peer-report instrument to measure movement,

language and gesture expression during ET and reveals sufficiently high consistency and reliability. Further studies to measure responsiveness and applicability are indicated.

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## Title: Clinical study on the efficacy of Pluralistic Homeopathy in Asthma

Rosalia ZUERAS GELABERT<sup>1</sup>  
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### OBJECTIVES

The objective was to analyse the response to homeopathic treatment in patients diagnosed with chronic bronchial asthma and assess its effectiveness.

### MATERIAL AND METHODS

This is a retrospective study of 171 patients treated by the same homeopathic doctor for bronchial asthma for 28 years. They consulted for frequent acute crises that required urgent or permanent attention to respiratory distress and superinfections. The patients were selected according to the following criteria: having been diagnosed and treated in a health centre, permanently continuing classical treatment and having followed homeopathic treatment for a minimum of one year.

Symptom evolution time and treatment performed were collected.

### ANALYSIS

The main remedy and the complementary remedy are analysed. The follow-up time, the onset of remission of the symptoms and the result of the treatment.

### RESULTS

The ages of the patients range from 1 to 71, 50% were under 20 years old.

The most used remedies were Natrum Muriaticum and Ignatia. The onset of remission of symptoms was observed in a range from the first month to 48 months. The total follow-up time was between 2 and 16 years.

In 58% of cases, patients stopped needing any treatment and were discharged by the reference health centres. There was no improvement in just 16% of cases. An association was observed between the best results and the youngest age of the patients and the shortest evolution of the asthmatic process.

### DISCUSSION

Part of the efficacy of homeopathy can be considered related to the contemplation of emotional causes in addition to physiological ones.

### CONCLUSIONS

Homeopathy proves to be effective in the treatment of asthma. The youngest age and the shortest time of evolution of the symptoms are factors that favour a better response to the treatment.

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## Title: Indications of Calendula according to the levels of evidence

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### Background and Objectives:

Natural and complementary therapies require scientific evidence for their application in healthcare centres.

The objective of this work has been the search for studies related to the use of calendula and the subsequent classification according to the different levels of evidence.

### Material and Method:

Comprehensive bibliographic search and subsequent critical review.

The consulted databases were: Cuiden, Pubmed, Cinhal and Google Scholar. Writings in English or Spanish and with full text availability were included. A total of 150 articles were identified.

In addition, manual searches were conducted on websites, institutions, associations and professionals of recognised prestige.

### Results and Discussion:

In the Pubmed database there are 5 randomised clinical trials published less than 5 years ago Calendula is indicated for dependency lesions, diabetic ulcers, radiodermatitis, gingivitis, venous ulcers.

### Classification according to the levels of evidence.

Studies show that calendula stimulates both proliferation and migration of fibroblasts, which are involved in the early stages of the process of reconstruction and granulation of wounds.

### Specification of the selection of articles. Conclusions:

The bibliography shows that calendula therapy is safe, with good results. However, more randomised clinical trials with a number of patients on a larger scale are missing, to establish a more priority use in the application of marigold in wounds and ulcers.

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## Title: The efficacy of Homeopathy in the treatment of Acute Otitis in children

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<sup>1</sup>CAM study group of Italian Society of Pediatrics

### Aim

The aim of the study was to verify the efficacy of the homeopathy in the treatment of the acute otitis in children and its effect in reducing the use of antibiotic therapy.

### Materials and methods

6 pediatricians of the Study Group of CAM inside the Italian Society of Pediatrics contributed to the study. 90 children with otalgia have been enrolled with no more than 12 hours fever, divided according to randomization in 2 groups (A and B) of 45, comparable for age, sex and relevance of the clinical picture at onset.

The parameters considered were fever and otoscopic feature and evaluated at time 0 and after 48 hours.

The children of the group A were treated with anti-inflammatory drugs in 48 hours, the children of the group B with homeopathic medicines selected according to phenomenological criteria shared by the operators in addition to anti-inflammatories. Antibiotic therapy was prescribed in absence of improvement at the 48-hour check-up

### Results

Group A: average age 4a-11m, 24 males. At T0 33 patients (73%) febrile, average otoscopy score 2.2; at 48 hours, febrile 16 (35%), average otoscopy score 3.0, antibiotic need 28/45 (62%) Group B: average age 5a-5m, 27 males. A febrile, average otoscopy score 2.6; at 48 hours, febrile 13 (28%), average otoscopy 1.7, antibiotic need 15/45(33%)

### Discussion

Our data show a more favorable trend in patients treated with homeopathic therapy compared to patients treated with conventional therapy, both in terms of clinical improvement and, above all, in terms of reduction of the antibiotic prescription.

### Conclusions

Homeopathic therapy in the treatment of acute otitis of children reduces the use of antibiotic therapy, fighting the antibiotic-resistance phenomenon

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## Title: Launching a Collaborative International Medical Education Initiative in Integrative Oncology: Lessons from a MOOC on Herbal Medicine

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**Background & Objectives:** Medical schools and postgraduate medical education programs provide only limited and cursory programs on complementary/integrative medicine (CIM), if at all. We present a Massive Online Open Course (MOOC) in Integrative Oncology and herbal medicine, addressing implications for international collaboration in undergraduate and graduate medical education.

**Material and method:** The MOOC on traditional herbal medicine in supportive cancer care (Technion, Israel; Coursera Online Learning Platform), is a 15-week program with 60 online lectures of 10 minutes (11.7 hours); 13 individual chapters; 27 interviews with leading professionals in the field of Integrative Oncology; and 2 simulated interactions between Integrative Physicians and oncologypatients.

**Results:** After 5 months, the MOOC has been visited by 3200 Coursera subscribers, with 773 enrolled, 470 beginning and 69 who have signed up for certification. The majority (60%) are female, 31% between 25-34 and 25% between 35-44 years old. A third (30%) have a Bachelor's degree, 26% a Master's and 12% an MD degree. Enrollees are from 85 countries, including the U.S. (29%), Israel (18%), India (5%), the United Kingdom (4%), Canada and Brazil (each 3%), and Germany and China (each 2%).

**Discussion & Conclusions:** Medical education in Integrative Oncology and herbal medicine is feasible by a MOOC at the undergraduate and postgraduate levels. While a MOOC delivers a theoretical base there is also a need for experiential interactions. These will be provided in a follow-up international program, in which mentors from the field of CIM will provide practical teaching in herbal medicine to students and healthcare practitioners in leading faculties of medicine.

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## Title: International cross-sectional study on the effectiveness of Biofield Therapy for the relief of various symptoms

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**Objective:** To investigate whether the effectiveness of biofield therapy for relieving various symptoms differs across countries/regions and to determine factors associated with change in outcomes.

**Methods:** This study involved 12,101 participants in total aged 16 or older from 14 different countries: 7,555 from Japan, 1,494 from Latin America (Argentina, Brazil, Chile, Mexico, Peru), 1,441 from Hawaii, 1,281 from Asia (Taiwan, Thai, South Korea), 330 from Europe (Belgium, France, Portugal, Spain). They received a single session of biofield therapy (Okada Purifying Therapy: OPT) lasting 30 minutes or longer from the volunteer practitioners. Before and after OPT, they reported the severity of physical pain, autonomic symptoms (palpitation, dizziness, etc.), psychological symptoms (irritation, depression, etc.) and overall symptoms. The team examined the adjusted odds ratio of the variables related to the change of each category of symptoms.

**Results:** Of the total participants, 75.8%, 73.7%, 78.6% and 77.6% reported an improvement in the severity of physical pain, autonomic, psychological and overall symptoms, respectively. Those rates, however, varied based on the participants' country/region and the duration of OPT session. The improvement rates were consistently highest among participants from Latin America (odds: 3.0-5.0, reference category: participants from Japan) and who had received OPT for 51 minutes or

longer (odds: 1.4-1.8, reference category: 30 minutes). The reason for participation, past experience, and the location of receiving OPT were also associated with improvement of different symptoms.

These findings occurred regardless of the participants' age or presence/absence of illness. In terms of safety, the exacerbation rates of symptoms were 2.5%, 1.7%, 0.8% and 2.8%, respectively. Of those who expressed exacerbation of symptoms, 72% recovered in a few hours. None of them needed emergency medical treatment.

**Conclusions:** The effectiveness of a single session of biofield therapy differed across countries/regions, and a longer duration of therapy were associated with better outcomes.

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## Title: Electroacupuncture vs. Sham procedure for the treatment of fatigue in patients with quiescent inflammatory bowel disease

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**Background and Aims:** Fatigue is a common symptom in inflammatory bowel disease (IBD) and often persists despite clinical remission. Acupuncture has been shown to be effective for treating fatigue in many chronic diseases. The main objective of the study was to assess the efficacy of electroacupuncture (EAc) vs. sham electroacupuncture (ShEAc) and wait-list (WL) for treating fatigue in patients with quiescent IBD in a single-blind randomized trial. **Methods:** Fifty-two patients with IBD in clinical remission and fatigue were randomized to EAc vs ShEAc vs WL. Patients in EAc and ShEAc groups received nine sessions over eight weeks. Fatigue was evaluated with the IBD-validated Functional Assessment of Chronic Illness Therapy-Fatigue Scale (FACIT- FS). **Results:** Baseline characteristics were similar in the three groups. Both EAc and ShEAc presented improved FACIT-FS scores compared with baseline: the respective improvements were 9.53 (95%CI: 6.75-12.3, p<0.001) and 5.46 points (95%CI: 2.7-9.7, p=0.015). No significant

changes were observed in the WL group. Comparing treatment groups, EAc was non-significantly better than ShEAc (EAc:33.27, ShEAc:28.13, p=0.168); both EAc and ShEAc improved fatigue scores significantly compared to WL (24.5; p=0.01 and 0.04 respectively). **Conclusions:** Both EAc and ShEAc reduced fatigue scores in IBD patients when compared to WL. No differences were observed between EAc and ShEAc, although the study was not powered to rule out a difference.

Acupuncture may offer improvements to patients with few other treatment alternatives.

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## Title: “Words that treat”. An Internet-based teaching of “Crisis dialogue”, a verbal tool for the care of acute psychosis. Pilot intervention

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### Objective

The “Crisis Dialogue” (CD) can be used by non-specialists including family members of psychotic patients (with e.g. mania or schizophrenia). A precise and specific verbal tool, CD requires 3-5 minutes of talk. It is designed to help calm down, reassure and ideally it facilitates the deconstruction of the delirium and delusions. It is still not conventional medicine, although it has been subjected to a randomized controlled trial and to field tests in several countries. This technique is meant to complement usual work in emergency psychiatry.

An Internet version of the CD teaching material was made available to the whole French-speaking world on the website of the “Journées de la schizophrénie”. The objective was to help spread a technique that has already proven helpful and then to assess whether the teaching material was sufficient for a fair understanding of the technique.

### Material and Method

An internet questionnaire was filled by participants who wanted to test their understanding of the CD after use of the internet-based teaching material.

### Results

During the first 2 months of internet availability, the CD teaching page was accessed by 1028 persons. Among them, 131 downloaded the attached teaching material, 139 looked at the provided on-line questionnaire and 98 tested their knowledge with it. In 11 of the 13 questions a correct answer was found by 80-95% of the respondents. Two concepts seemed to remain more difficult to grasp: how CD could help the patient “see his/her delirious thoughts in another manner” (77% missed this point); the way CD can help “de-construct the delirium” (53% missed this point) Conclusion

In this pilot study, the internet-based teaching of Crisis Dialogue appears to be a promising tool to make the “words that treat” available to those concerned by psychosis. A feed-back questionnaire helped to spot parts of the teaching material that still need to be improved.

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## Title: A three year observational study of a standardized Ayurvedic medicine (RA-1) in the treatment of Rheumatoid Arthritis (RA) and if required in combination with modern medicine disease modifying anti-rheumatic drugs (DMARD): An integrative medicine approach

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Objective: To evaluate the long term effectiveness of RA-1 both as a monotherapy and in combination with DMARD for inadequate response

Material and Methods: 165 consenting symptomatic active disease patients were enrolled into the current a-priori prospective observational design study. Patients were naïve for DMARD and had just completed a 16 week placebo controlled evaluation of RA-1 (published); 57 were on low dose steroids. RA-1, a multi-plant formulation, was standardized using modern pharmaceutical methods. 57 patients were on fixed low dose prednisone. Patients were examined every 10-14 weeks in a routine community rheumatology practice using standard norms. Patients continued RA-1 (2 tablets twice daily) throughout the study period along with healthy life style but no other Ayurvedic advise. Based on clinical judgement, rheumatologist added DMARD and/or steroid to patients with inadequate response; chloroquine and/or methotrexate were used predominantly.

Analysis: Treatment response was assessed using American College of Rheumatology (ACR) efficacy measures and the benchmark ACR 20% improvement index. Standard statistical software (SAS and SPSS) were used; significant  $p < 0.05$ .

Results: 158, 130 and 122 patients completed evaluations at 1, 2 and 3 year primary end point. ACR 20 response (range 34-40%) remained stable ( $p=0.33$ ). All round sustained improvement included function and quality of life. Steroids and DMARDs were prescribed in 42-49% and 20-34% patients respectively for varying periods. 40% patients were controlled with RA-1 monotherapy. 77% patients reported mild, adverse events; nonewithdrawals.

Discussion: Treatment of RA is fraught with drug toxicity, poor access and affordability. Can modern medicine and Ayurvedic drug be combined for a better therapeutic response? We describe a novel integrative medicine strategy (RA).

Conclusion: RA-1 is a safe and effective drug for long term management of RA in several patients. If required it can be strategically combined with DMARDs and steroids.

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## Title: Reversal of grades in Avascular Necrosis of Hip Joint through Ayurveda Panchakarma Treatment: Case Series of Seven Patients

Dr. Pardeep Sharma<sup>1</sup> Sukhayu Ayurved

### Background:

Avascular Necrosis of the hip joint (AVNOH) is a disabling condition of the hip joint commonly affecting young individuals. Use of alcohol and corticosteroids are two common

pathological causes. These causative factors block blood arteries carrying blood to head of femur. And lack of nutrition leads to necrosis.

AVNOH is a progressive condition. Where grades keeps on increasing with decay of the bone and cartilage of the head of femur. The ultimate destination for these patients is- total hip replacement (THR).

In this backdrop, this clinical work was aimed on the pathological reversal of the AVNOH. These are 7 cases done at an Ayurveda hospital in India between 2017 to 2019, where we got reversal in grades of the AVNOH through Ayurveda treatment.

### Material and Method:

These are seven case studies. 6 male and 1 female. 2 of these patients were in grade I and 1 in grade IV and 4 in grade III.

Panchakarma Treatments were given to all the 7 patients. Which included Tikta Siddha Ksheer Basti in Niruha and Anuvastana pattern. First session of Basti was 15 days (Karma Basti) followed by 8 days (Kaal Basti). MRIs were got done after 6 months after initiation of treatment.

### Results:

All of these cases not only showed great relief in signs and symptoms like- pain, limping while walking but also in these cases reversal of the Avascular necrosis was evident.

Grade I patients were reported without AVNOH and two grade III patients shifted to grade II and Grade IV patient reversed to III.

### Discussion:

If we follow the classical text of Ayurveda and work on reversal of pathology according to principles of Ayurveda, reversal of the progressive disease like AVNOH is possible. Which might be very successful if done in integration with modern medical science.

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## Title: Retrospective study of a standardized acupuncture/acupressure protocol for hot flushes in women with breast cancer

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More than 60% of breast cancer survivors develop hot flushes (1). Acupuncture is an option (Grade C evidence) for the management of hot flushes (2). An A standardized acupuncture protocol in a specific study of menopausal symptoms showed comparable results to an individualized approach (3). Acupressure can be an effective self-care intervention to manage cancer side effects (4). To our knowledge, there is no study investigating a combined and standardized acupuncture/acupressure (AcuP2) protocol for hot flushes in breast cancer survivors.

We conducted a retrospective chart review in order to compile the reported effects following a protocolled AcuP2 treatment. This data will facilitate the planning of a prospective controlled study. Study population and selection criteria: Women with breast cancer complaining of invalidating hot flushes (N=25) addressed by their oncologist (during 2018) for acupuncture at a University Hospital Integrative Medicine Center.

Intervention: Minimum 8 sessions of acupuncture with a standardized WMA style protocol of 8 points. Whenever possible, patients received instructions to practice daily acupressure on all points. Outcomes collected: number of sessions, patient's self-reported diminution of frequency (Y/N) and intensity (Y/N) of flushes.

Eleven patients were excluded (5 never initiated treatment, 6 with ongoing treatment). The data of N=14 was analyzed: 13 reported a positive outcome (yes on both criteria) and 1 a partial response. Nine patients got AcuP2, and five only acupuncture (including the woman with a partial response). The mean number of sessions was 8.4 (4-14), with 5 patients not completing the recommended minimum.

Combining acupuncture and self-delivered acupressure appears to be efficient in alleviating hot flushes. It might also enhance self-care and empower women in their battle against cancer compared to a passive acupuncture protocol. A prospective randomized study will be planned, using standardized outcomes.

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## Title: Acupuncture and Moxibustion in the treatment of breech presentation at the Hospital Sant Joan de Déu

Cristina Domingo Gómez<sup>1</sup>, Maite Miranda Garcia<sup>1</sup> <sup>1</sup>Campus Docent Sant Joan de Déu

The WHO recommends that the number of births by caesarean section should decrease to 10-15% of births.

The use of complementary therapies such as acupuncture and moxibustion, in pregnant women with non-cephalic presentation, has been experienced and the results published, in systematic reviews and meta-analyses, which promote its use.

### Objective

To evaluate the effectiveness of acupuncture and moxibustion treatment together with the External Cephalic Version (ECV), in pregnant women with non-cephalic presentation, in the third trimester, to favour the foetus version, compared to pregnant women who only perform ECV.

### Material and Methods

Female Medicine area of the Sant Joan de Déu Hospital in Barcelona. The study is carried out in two phases:

Preliminary experimental phase, with a single group and a second phase, with a randomised clinical trial.

### Results

In the preliminary phase, the version of the foetus at a cephalic presentation was 53.5%, compared to the expected 30%. In pregnant women with post-treatment cephalic presentation, vaginal delivery is 75%, while those who do not version, have caesarean section 97.9%.

In the second phase, in the intervention group, the version is 60.8% and in the control group 45%, with an improvement of 15.8%.

Caesarean delivery is lower in the intervention group by 12.35%.

### Conclusions

The acupuncture and moxibustion treatment is effective in pregnant women with a breech presentation, if it is introduced before the completion of the ECV.

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## Title: Clowns in Hospitals: Promoting Resilience, Well-Being, and the Systematic Transformation of Healthcare

Monica Culen<sup>1</sup>  
<sup>1</sup>RED NOSES International

### Objectives:

For the past 25 years, RED NOSES International (RNI) has provided psychosocial support to children in hospitals through the use of clown visits. Clown visits aim to increase children's emotional well-being and resilience through humour, playfulness, and creativity.

### Material and Method:

RNI provides clown visits to 735 medical and social institutions in 11 countries. Clowns practice a sensitive, empathetic style of interaction that counteracts the depersonalizing aspects of modern medical care, while their adoption of a low-status role allows children to take on a position of authority and regain control over their situation. Clowns also have positive impacts on children's families, letting them release stress and providing a safe space for them to process both positive and negative emotions.

### Analysis:

The impact of clown visits is measured through regular monitoring exercises, as well as internal and external evaluations that include the voices of medical staff, parents, and children through surveys, interviews, and focus group discussions.

### Results:

A substantial body of research shows that clowns reduce the anxiety of hospitalized children and their families. In the long term, clowns create a lasting change to the hospital environment. For example, a recent survey of medical staff in Palestine visited by RED NOSES shows that clown visits make them aware of specific strategies to show empathy to children. This kind of feedback from medical staff suggests that clown visits help to transform hospitals into spaces that no longer undermine but rather support children's confidence, interpersonal engagement, and emotional well-being.

### Discussion:

Clown visits provide an immediate source of relief and psychosocial support, while in the long term they promote systematic improvements to the provision of holistic, humanistic healthcare.

### Conclusions:

Clowns are increasingly understood by families, medical staff, and ministries of health as an indispensable addition to the hospital environment.

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## Title: Effect of yoga on pain, functional disability and corticomotor excitability in chronic low back pain patients

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**Objectives:** The aim was to study objectively, effect of yoga on pain, functional disability and corticomotor excitability in Chronic Low Back Pain (CLBP) patients.

**Material and methods:** It was a randomized controlled study conducted at a tertiary hospital in New Delhi, India. Thirty (females, n = 18) CLBP patients, consented and were randomly assigned to yoga group or standard care group. Patients with other systemic illness, neuropathy and other

contra-indications to transcranial magnetic stimulation were excluded. Patients reported severe pain, had severe disability and reduced corticomotor excitability at baseline.

Pain-related outcomes were assessed by Visual Analogue Scale (VAS) and Oswestry Disability Index (ODI). Functional assessment of low back disability and corticomotor excitability were objectively assessed with the American College of Sports Medicine's Sit and Reach Test and recording Resting Motor Threshold (RMT), Motor Evoked Potential (MEP) respectively.

The intervention consisted of a 4-week supervised yoga program including Asanas (twenty-one selected), Pranayama (breathing practices) and Meditation. Standard care group practiced at home exercises instructed by the physiotherapist.

**Analysis:** Data was analyzed using GraphPad Prism version 8.0. D'Agostino-Pearson and Mann-Whitney U tests were applied for determining normality and for comparison of the groups respectively.

**Results:** The data had a non-Gaussian distribution. There was a significant reduction in VAS and ODI scores after yoga intervention ( $p = 0.001$  and  $p = 0.001$  respectively). Yoga group, when compared to standard care group, had significantly higher reduction in pain ( $p = 0.045$ ) and disability scores ( $p = 0.035$ ). Spinal flexibility improved significantly more in yoga group than standard care group ( $p = 0.001$ ). RMT decreased both in yoga ( $p = 0.033$ ) and standard care group ( $p = 0.048$ ) but MEP remained unaltered.

**Conclusions:** In patients with Chronic Low Back Pain, a four-week yoga intervention reduced pain and pain-related functional disability and improved corticomotor excitability better than standard care.

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## Title: A Randomized Controlled Trial of mHealth Mindfulness Intervention for Cancer Patients and Informal Cancer Caregivers -A feasibility study within an integrated healthcare delivery system

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**Objectives:** To conduct a pilot randomized clinical trial (RCT) of a mobile/online-based (mHealth) mindfulness intervention for cancer patients and their informal caregivers to assess feasibility and to obtain preliminary efficacy of the intervention in improving quality of life (QoL).

**Material and method:** Within Kaiser Permanente Northern California, an integrated healthcare delivery system, we recruited cancer patients who were receiving chemotherapy and their informal caregivers who had no current meditation practice. The intervention group used a commercially-available mindfulness program for 8 weeks, 10-20 minutes a day. The waitlist control group received usual care.

**Analysis:** To obtain preliminary efficacy results, we performed repeated measures ANOVA tests comparing change in outcome measures between baseline and 8-week follow-up surveys on distress, QoL, sleep, mindfulness, and post-traumatic growth. Feasibility was assessed using retention and adherence rates.

**Results:** 97 patients and 31 caregivers were randomized, and 74% of the patients and 84% of the caregivers completed the study. Adherence rate to the intervention was high: 65% of the participant practiced at least 50% of the days during the 8-week intervention period. We observed preliminary efficacy of the intervention on overall and emotional well-being domains of QoL score among patients in the intervention arm compared to those in the control group. Caregivers in the intervention group experienced increased mindfulness and post-traumatic growth compared to the controls.

**Discussion:** We demonstrated the feasibility of conducting an RCT using technology-delivered mindfulness intervention for cancer patients and their caregivers. Overall, participants appreciated the convenience of being able to access the intervention from any location and the usefulness of the mindfulness skills they obtained from the program in managing stress.

**Conclusions:** Results from fully-powered efficacy trials would inform the potential for clinicians to use this low-cost, scalable, and well-accepted intervention to help improve QoL of those affected by cancer and their caregivers.

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## Title: Occlusal disorders rehabilitation through non-occlusal therapy

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Objectives: identify clearly and precisely the purpose of the study

Occlusal disorders are even involving remote body districts or postural syndromes. They are usually treated within allopathic and conventional dentistry by modifying the mastication through occlusal splint, orthodontic appliances or prosthetic dentistry.

Taking in account that the uncorrect mastication usually is a compensation of problems of remote origin from the mouth, the teeth and the TMJ, the authors proposal is concerning a new and holistic approach paradigm.

Their objective is the tolerance window widening of occlusal disorders in order to avoid invasive procedures for the mouth. That goal passes through the rebalance of the main causes of energy deficit allowing the real etiopathological resolution of the problem.

Material and method:

Study population

Inclusion selection criteria

Patients with occlusal disorders as situation molarless, open bite, deep bite, mandibular retrusion, mandibular deviation, headache, painful pelvis rotation

Exclusion selection criteria

Patients wearing occlusal splint or orthodontic appliances

Sample size Twenty

Variables

Esposito's RPTO - Occlusal Tolerance Range Proprioceptive reset

Measurement methods Applied Kinesiology semiotics

Analysis

Are considered and valued through the Applied Kinesiology semiotics the following entity: Mudra PBS et al., Occlusal Challenge, T.L. Therapy Localization of mastication muscles as Anterior Temporal, Medium Temporal, Posterior Temporal, Masseter, Internal Pterygoid, External Pterygoid, Upper Trapezius, Sternocleidomastoid

Results

It is possible reset the occlusal negative afference without occlusal therapy

Discussion

When the holistic dentist is diagnosing an occlusal disorder his goal is not considering it only according to the measures as angles or millimeters but valuating it regarding the individual tolerance window

Conclusions:

After identifying and after solving the upstream causes inducing the mouth to compensate, the occlusal disorders become tolerated by the patient

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## Title: A randomized controlled clinical trial investigating the efficiency of Physiotherapy on low back pain

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Objective: The purpose of this study was to compare the effectiveness of four physical therapy treatment including kinesio taping, exercise, manual therapy and reflexology for lumbar disc pathologies without neurologic deficit. Materials And Methods: Ninety volunteers with low back pain were randomly divided into four groups as follows: Group 1, Soft tissue mobilization techniques and stabilization exercises (n=24); Group 2, Kinesio® Taping and stabilization exercises (n=24); Group 3, Stabilization exercises (n=22); and Group 4, Reflex Therapy and stabilization exercises (n=20). Visual analog scale (VAS) scores for pain intensity, goniometric measurements for the range of motion and hamstring flexibility, the sit and reach test for flexibility, an isokinetic evaluation for strength at 60°/sec, and a side-plank position test for trunk stabilization were measured. The functional status was evaluated with the Oswestry Disability Index. All groups were assessed at the beginning, after a four-week treatment and four weeks of follow-up. Analysis: The Shapiro-Wilk test was used to analyze the normal distribution of sociodemographic parameters within the groups. Results: The manual therapy and exercise group showed significantly greater improvements than the other groups at week 4 and 8 in terms of pain intensity at night and at rest (p<0.05). There were no significant differences in other tests among groups (p>0.05). The Kinesio® Taping and Reflex therapy groups showed a decrease in pain during activity and relaxation right after the treatment. Oswestry Disability Index results showed improvements at the second and third assessments, which indicated that patients' functionality quickly improved after treatment, allowing the patients to be more painless and functional when performing activities of daily living.

Discussion: Regular stabilization exercise programs seem to be sufficiently effective for decreasing pain and increasing strength and the functional level of patients with lumbar disc pathologies.

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## Title: Effects of Reflexotherapy on postural control measured with Stabilometric Platform

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### Introduction

The posture is the result of the position and orientation of the body and the limbs in balance with the movement and the force of gravity, its main sensory captors, are the feet, eyes, passage and mouth. Reflexotherapy is a modality that applies specific pressures in the reflex areas of the feet, favouring the regulation of vital energy, promoting vitality, comfort and well-being.

This study investigated the effects of reflexotherapy on the postural control system. Methodology: Prospective experimental study. 35 nursing students participated in the study. Reflexotherapy was applied for 45 minutes, once per week, for 5 weeks. Participants signed an informed consent. They were evaluated by postural analysis on a stabilometry platform in two conditions (pre-post).

Inclusion criteria: participants had to be enrolled in complementary techniques. Exclusion criteria: participants suffering from plantar skin lesions, suffering or having suffered balance disorders or being treated with drugs with action in the central nervous system.

Variables: Surface with open eyes (SOE), closed eyes (SCE). Trusted ellipse area. Length with LOE/LCE. Length depending on the LDSOE/LDSCE surface. Romberg coefficient for the surface (S), velocity (V), length (L) and variation depending on the position measured in Y (VDY).

Statistical analysis: ANOVA of Repeated Measures with Post-hoc adjustment for Bonferroni was applied.  $P < 0.05$  was used as a significance criterion. The results were performed using the statistical package SPSS V.19.

Results: Significant changes were obtained in the measurements of SOE, LOE, LDSOE, and in VDY OE /CE. In all the changes the values approached the average.

Conclusion: The results showed that reflexotherapy had effects on the muscle tone of the posterior chain and visual control. More studies are necessary to generalise results.

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## Title: Stress reduction and team enforcement by Mindfulness: Mindfulness based intervention (StreAM)

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Objective: To evaluate the practicability, effectiveness and sustainability of a concentrated stress reduction training program (modified according to MBSR, J. Kabat-Zinn) we focused on stress reduction, quality of life, and team communication within the scope of interdisciplinary and inter-professional co-working teams (physicians and nurses of oncology, surgery, obstetrics) at the Kantonsspital St.Gallen (Switzerland).

Methods: A four week concise program training medical staff (twenty female participants) of three clinical departments (oncology, surgery, obstetrics) for mindfulness stress reduction: 4 x 2,5h weekly plus one whole-day retreat (7h) after the third week, while participants should practice formal mindfulness 20-30 minutes daily during this time period.

Application of a web-based questionnaire (Qa) regarding feasibility before and after each lesson (six times) and Qb (based on validated, established instruments: MAAS; WHOQoL-BREF; BOSS; KomminO, TKI), focusing on mindfulness, work-life balance, quality of life, communication and team-clime applied before, immediate and three months after the course. Additionally a focus-group interview (FGI) was performed.

Results: The concentrated modified mindfulness intervention seemed feasible. In the context of private life mindfulness appeared most effective while in professional day-life integration of mindfulness was more challenging. FGI revealed high relevance of mindfulness for all professions and disciplines. Although not significant, overall intensity of mindfulness increased, while in certain items significant increase was documented: The impression to fulfill duties and commitments without being aware of what am I doing as well as physical complaints decreased during the mindfulness intervention (MAAS:  $p=0.049$ ; BOSS:  $p=0.012-0.034$ ). Quality of life index increased during the mindfulness course most in midwives (WHO-QoL-BREF:  $p=0.021$ ) and less significant in staff of surgery and oncology. A slight benefit in communication was documented (KomminO/TKI:  $p=0.01-0.062$ )

Conclusion: This evaluated concentrated mindfulness intervention is feasible and may increase mindfulness in daily routine while quality of life, team communication as well as team atmosphere may improve.

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## Title: Is Posturescreen® mobile app an accurate tool for male and females to evaluate the correlation between age, body mass index, soft tissue problems and posture?

Gul Baltaci<sup>1</sup>, Nazli Sari<sup>1</sup>, Ayse Uzun<sup>1</sup> <sup>1</sup>Private Guven Hospital

Objective: Measurement of posture is important for those with a clinical diagnosis as well as researchers aiming to understand the impact of faulty postures on the development of musculoskeletal disorders. A reliable, cost-effective and low tech posture measure may be beneficial for research and clinical applications. To determine whether PostureScreen® Mobile app is a useful, simple tool that is accessible for healthy people to evaluate the correlation between age, body mass index, soft tissue problems and posture. Materials and Methods: Two hundred and sixty-six subjects (n= F:150, M:116, BMI n= Normal: 150, Obese: 116) evaluate postural exam with PostureScreen® Mobile app, a photographic method. Pictures of subjects were taken in three standing positions. The app calculated posture variables, including sagittal and coronal plane translations and angulations. The subjects were divided into groups depending on their age, gender, body mass index and soft tissue problems features. Analysis: The postural parameters were then compared between female vs male, under 40yrs vs over 40yrs, BMI normal vs obese and healthy vs posture pathologies. Results: Statistically significant differences ( $p < 0.05$ ) for some postural parameters (shoulder  $p < 0.01$ ) were obtained for the healthy group and posture pathological group during standing position. There were no significant differences between female vs male, under 40yrs vs over 40yrs, BMI normal vs obese and posture parameters ( $p > 0.05$ ) Discussion: Shoulder and posture pathological problems can be interrelated. PostureScreen® Mobile app might represent a useful tool in the early diagnosis of posture pathologies. This application may have utility in clinical and research settings.

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## Title: From EBM to Real Life Medicine, the way to manage chronicity

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Randomized and controlled clinical trials (RCTs) represent the golden standard of the methodology studied to obtain information on the effectiveness of treatments; for this purpose they are designed to test a therapeutic hypothesis in optimal conditions and in the absence of confounding factors, which gives them a high internal validity, especially for the management of acute events. In the chronic patient things change, because the strict and controlled conditions in which the RCTs are conducted are not always generalizable, mainly because they are performed in very different conditions from normal daily care. For this reason, we are starting to talk about Real Life Medicine (RLM), taking in consideration studies on real life where other parameters (PRO, Patient-Reported Outcomes) related above all to the quality of life of the patient should be considered to evaluate subjective treatment: unlike randomized trials, real-life tests have a high level of generalization, but low internal validity, because the objective shifts from illness to the patient and from the acute to the state of chronicity.

The in-depth examination of the patient and his modalities of adaptation to the external environment constitute the methodological heart of the complementary disciplines, homeopathy in the first place, in support of the validity of a methodology, Integrated Medicine, which combines the advantages of EBM (Evidence Based Medicine) with the deepening of the RLM, each with its own prerogatives and peculiarities; with the advent of the National Plan of Chronicity it seems that even in Italy public health is becoming aware of how the two approaches can be complementary and can guide the interpretation of the mutual results to the benefit of the patient's health and a more effective treatment of chronic diseases.

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## Title: Effectiveness of Osteopathy in Professional Violinists and Violists with Chronic Neck Pain: Results of a Randomized Controlled Trial

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### Background

Chronic neck pain (cNP) is one of the most common problems in professional violinists and violists and is often treated with osteopathic medicine (OM). However, the effectiveness of OM in cNP is unclear. Study aim was to evaluate the effectiveness and safety of OM in professional violinists and violists with cNP.

### Materials and Methods

In a two-armed randomized controlled single-center open trial, adult professional violinists and violists with cNP ( $\geq 12$  weeks) were randomized to either five individualized OM sessions within 10 weeks (OM group) or to no intervention (control group, CG). All patients received paracetamol on demand and a semi-standardized musicians' medicine consultation before randomization. The primary outcome parameter was the neck pain intensity on a visual analogue scale (VAS, 0-

100mm, 0=no pain, 100=worst imaginable pain) after 12 weeks. Secondary outcomes included neck function (Neck Disability Index Score, 0-100%), perceived stress (VAS, 0-100mm), and safety after 12 weeks, last follow up after 52 weeks.

### Analysis

Statistical analysis included analysis of covariance adjusted for respective baseline value. Results

In total, 62 outpatients were included (OM group (n=28), CG (n=34), 81% female, mean age 41.6 $\pm$ 11.1 years, mean baseline VAS neck pain 55.9 $\pm$ 11.6mm). After 12 weeks OM was associated with improvement in OM group compared with CG in VAS neck pain (14.6mm [95% confidence interval 8.0;21.2] vs. 40.8mm [34.7;46.9],  $p < .0001$ ), neck function (8.8 [6.7;10.8] vs. 17.2 [15.3;19.1],  $p < .0001$ ) and perceived stress (30.4mm [21.6;39.2] vs. 46.1mm [38.0;54.2],  $p = 0.0130$ ).

Improvement of neck pain and neck function seemed to be maintained until 52 weeks follow up in OM group. No serious adverse events were observed.

### Conclusions

Five OM sessions were effective compared with no treatment in addition to paracetamol on demand without generating adverse events. Further high quality RCT research is needed to investigate OM in comparison to standard care interventions in cNP.

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## Title: Case study projects by a Korean national research agency: Past 12 years and future

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### Objectives

Scientific rigor is a known challenge to establish in heavily individualized practices of traditional medicine. A national research agency in Korea carried out a 12-year project to promote case reports among clinics of Korean Medicine (KM). This report aims at providing challenges, achievements, and thoughts for future endeavors.

### Methods

We reviewed all the projects executed by the Korea Institute of Oriental Medicine between 2005 and 2017 promoting case reports in clinics of KM. The findings were categorized stage of project development, themes of project stage, achievement, and challenges.

### Analysis and Results

The implemented studies include eleven prospective- and five retrospective - case series, and one comparative trial. The project stages are divided into four, initial (surveying and building a database on Korean acupuncture), transitional (educating Korean Medicine doctors on writing case reports and building a case report system), stagnation (partially attributable to IRB's considering case report projects as clinical trial) and resurrection (building a rigorous evidence base from local clinics). The major challenges included practitioners' in clinics feeling burdened by the rigor of documentation requirement, the limited options of usable objective measurement tools available at general KM, and IRB's categorizing case report projects as clinical trials hence imposing unrealistic compliance burden.

### Discussion and Conclusions

Promoting case reports in local clinics, while being warranted to remain as a crucial research method to build evidence based KM practice, requires supports from stakeholders including motivated clinicians of KM, extended use of diagnostic device available at KM practice, and insightful and flexible regulatory bodies' decision making.

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## Title: Role of hetero-poly-saccharides derived from rare medicinal mushrooms in Chemoprevention and Carcinogenesis

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### Objectives:

1. Understanding role of mechanism of action of mushroom polysaccharides or polysaccharide- protein complexes derived from rare medicinal mushrooms in activation and modulation of the body's immune system and in cancer chemoprevention.

It was only in the last 20 years that technology was capable of biochemically dissect traditional medicinal mushrooms and isolate their most active anticancer constituents. Many polysaccharide- bound proteins produced by medicinal mushrooms have been classified as anti-tumor chemicals by the US National Cancer Institute. Medicinal mushrooms are adaptogens, acting as immunomodulators by up-regulating or down-regulating immune system depending if a patient is in an immune-deficient state such as cancer, hepatitis or HIV, in that case the number and activity of the white blood cells will increase, in hyper-immune state such as found in Lymphoma, Lupus or Rheumatoid arthritis, the number and activity of the white blood cells would drop, while the red blood cells often increase in number. The mechanism lies in controlling differentiation phase of blood cell production that signals the body where to direct these immature cells for maturation.

Most important points of anti-tumor and immunomodulating effects of mushroom polysaccharides are:

prevention of carcinogenesis.

direct antitumor activity.

immunopotential activity against tumors in combination with chemotherapy;

preventive effect on tumor metastasis.

Hetero-glucans from mushrooms produce their anti-tumor effects in two ways, by activating many kinds of immune cells of innate and acquired immunity that are important for the maintenance of homeostasis, (such as macrophages, monocytes, neutrophils, natural killer cells, dendritic cells) and chemical messengers (cytokines such as interleukins, interferon, colony stimulating factors), triggering complement and by direct cytotoxic effect by triggering apoptosis in mitochondria of cancer cells.

Cancer chemoprevention is the best intervention before invasive disease develops and is Non Toxic.

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## Title: Patients' experiences attributed to the use of Angelica archangelica. Results of a qualitative study and clinical implications for the field of complementary medicine

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Objectives: This qualitative study aimed at analyzing patients' experiences as well as their values, views and interpretive processes that formed their perceptions of the use of a liquid extract preparation of Angelica archangelica. The study provides insights into how Angelica archangelica is currently used and experienced as a medicinal plant by Swiss patients.

Methods: Patients who routinely received Angelica archangelica by their physician specialized in phytomedicine were included. They filled in pre- and posttreatment questionnaires, kept diaries and were interviewed in a face-to-face setting. For data analysis, descriptive statistics, qualitative content analysis, narrative inquiry and documentary method were applied. For this purpose, qualitative data analysis software MAXQDA, version 11.0.11, was used.

Results: A total of 13 patients with mainly gastro-intestinal complaints participated in this explorative, qualitative observational study. Data collection comprised about 20 hours of audio- data, 379 transcript pages, 78 pages of diary and 26 questionnaires. First results show a broad range of experiences attributed to the use of Angelica archangelica, from physical and sensory experiences to psychological, emotional and spiritual perspectives. Patients also report about dosage, multimorbidity and comedication and reflect on changes in their daily routines and personality.

Discussion: This is the first qualitative study of patients' real-life experiences with an ethanolic extract of Angelica archangelica. The study provides an additional perspective on the use of Angelica archangelica as a medicinal plant.

Knowing about patients' real-life experiences might provide guidance for a more individualized approach during treatment and for choosing Angelica archangelica among several herbal ethanolic extracts that can be considered when treating gastro-intestinal complaints combined with states of weakness.

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## Title: Key Points for Establishing and Implementing an Integrative Medicine Service for Hospitalized Patients

Elad Schiff<sup>1</sup>, Samuel Attias<sup>1</sup> <sup>1</sup>Bnai Zion Medical Center

**Objectives:** Integration of complementary medicine (CM) is common in ambulatory settings. However, integration in hospitals for in-patients is a relatively new phenomenon. In this presentation, I will share key concepts on how to develop and implement an integrative service in a hospital setting for in-patients.

**Material and method:** In this narrative presentation, I will present the integrative service evolution at Bnai Zion Medical Center, in its nine years of operation. I will focus on barriers and facilitators of integration on system and departmental level, safety issues, practitioner experience, clinical protocol development, and the role of research.

**Analysis:** Narrative analysis of the various aspects of the service will highlight themes associated with integration in hospitals.

**Results:** Key themes that evolved include practitioner selection; medical and CM teams preparation phase; visibility & presence; establishing clinical and safety protocols; various roles of research; surprising routes of integration; and sustainability.

**Conclusions:** Providing CM for hospitalized patients is feasible and can serve as an important leverage point for Integrative Medicine in health systems.

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## Title: Integrative surgery: from minimum invasion to maximum care

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**Objectives.** "Minimum invasion" with all its variants has been imposed to a greater or lesser extent in the last 30 years, according to procedures and hospitals, and has generated significant advantages in patient recovery. Obviously, the refinement and the greater precision of the techniques facilitate such recovery. But there are more factors that influence it. The objective of this presentation is to propose the movement of the focus from the technique towards the patient, incorporating the concepts of integrative medicine into surgery.

**Proposal.** Being able to further improve the results of surgery depends on changing the point of view of surgeons: from "organ" surgery to integral or "patient" surgery. From a global view of the patient, the surgeon can create a therapeutic relationship from its inception, which achieves: 1. In the preoperative period, a responsible, confident and safe attitude that makes the preparations for surgery flow properly, and 2. In the postoperative period, minimise pain, inflammation and trauma associated with the intervention, and minimise the time required for complete recovery, using all possible means. This implies the possibility of using natural medicine, relaxation and respiratory techniques, yoga, homeopathy, mindfulness, acupuncture... all this depending on the training and experience of both the patient and the surgeon, or the possibility of working in multidisciplinary teams.

**Conclusion.** We propose expanding the concept of minimal invasion in all surgical specialties: beyond a less aggressive surgical technique, a harmonic patient-surgeon relationship, of integral collaboration, that maximises the possibilities of achieving an excellent postoperative period adapted to each patient.

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## Title: *Viscum album*: ideal complementary treatment in oncological immunotherapy

Juan Camilo Botero Gomez<sup>1</sup>

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The ideal cancer treatment is Immunotherapy (IT): the patient's immune system selectively destroys cancer cells. Its effectiveness is conditioned by immunosuppression secondary to chemotherapy and/or cancer disease. Since 1920, the *Viscum album* has been used as an immunomodulator, stimulating adaptive immunity (lymphocytes infiltrating the LIT tumour) and innate immunity (dendritic cells) of the patient, which translates into improving quality of life and survival probability. *Viscum* is the ideal complementary treatment to IT, enhancing the LITs programmed by the tumour antigens exposed by IT, rescuing the patient from the Escape phase to the Balance phase.

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## Title: Brief analysis of the Sport-Ginseng relationship, from the perspective of PubMed publications

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Introduction: Sport (S) and Ginseng (GSG) represent subjects of research interest, but S-GSG relationship is, yet, modest investigated. The objective of the present paper was a brief analysis of the Sport-Ginseng (S-GSG) relationship, from the perspective of PubMed publications.

Materials and methods: S-GSG relationship was analysed in two types of investigations. A) Comparative analysis for the keywords combinations: Sport AND Ginseng (S-GSG), Sport AND Ginseng AND Fatigue (S-GSG-F), Sport AND Ginseng AND Performance (S-GSG-P), Sport AND Ginseng AND Endurance (S-GSG-E). B) Analysis for all keywords combination, being evaluated the Sex filters, with corresponding sub-filters: male (M), female (F).

Results: The total number of S-GSG publications was 150, for a period of 35 years, since 1983, to date. % of publications from S-GSG is: 17% for S-GSG-F; 38% for S-GSG-P; 24.6% for S-GSG-E.

% of publications for M is: 63.3% for S-GSG, 40% for S-GSG-F, 54.3% for S-GSG-P, 62.1% for S-GSG-E. % of publications for F are: 20% for S-GSG, 8% for S-GSG-F, 21% for S-GSG-P, 13.5% for S-GSG-E.

Conclusions: 1) Number of PubMed publications for S-GSG has an average of 4.2 publications per year, and the number of publications for 2018 is 7. 2) Of the S-GSG, most of the publications were for S-GSG-P. 3) Most M publications were for S-GSG-E, and F publications were for S-GSG-P. 4) Studies on the S-GSG relationship, although numerically reduced, are still increasing in recent years, covering the areas of interest F, P and E.

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## Title: Prooxidative effects of sulforaphane in human T cells: Beneficial in chronic inflammatory diseases, but potentially harmful in immunotherapy of cancer

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Many cancer patients use complementary medicine including dietary supplements in addition to conventional antitumor therapies. Among those is sulforaphane (SFN) derived from plants of the Brassicaceae family. SFN has been reported to be chemopreventive, to induce tumor cell death and to improve the efficacy of chemotherapeutic drugs. However, little is known about effects on T cells, which is surprising because T cells play a crucial role in tumor defense.

Using advanced methods of biomedical and immunological research, we studied the effects of SFN on primary freshly isolated human T cells. We found that in human T cells SFN increases the concentration of reactive oxygen species (ROS), and reduces the level of the cellular antioxidant glutathione. Such a prooxidative milieu selectively suppresses T cell activation. This newly discovered immunosuppressive effect of SFN could explain the rather low therapeutic benefit of SFN seen in clinical trials with cancer patients. On the other hand, our data reveal that SFN may be beneficial in T cell-driven chronic inflammatory diseases such as rheumatoid arthritis (RA). T cells from RA patients show reduced ROS production, and thus develop into interleukin 17 producing T cells (Th17) that play a central role in the initiation and progression of inflammatory diseases. We found that the transcription factor STAT3 that critically regulates the expression of Th17-related genes is a major target of oxidation in T cells. Testing the effects of SFN on whole blood from RA patients indeed revealed an increase in ROS levels in lymphocytes as well as a markedly decreased production of proinflammatory Th17-related cytokines.

In conclusion, SFN may be a promising immunosuppressive substance for the treatment of Th17-related chronic inflammatory diseases such as RA. However, intake of SFN may be counterproductive in cancer patients, at least during T cell-based immunotherapies (e.g. checkpoint inhibitors or CAR T cells).

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## Title: Maternities. Woman and creative will

Manuela Cuevas Expósito<sup>1</sup> <sup>1</sup>MD, Ginecologa, Barcelona

### JUSTIFICATION

Fertilisation in the laboratory specimen expresses the maximum dissociation of sexuality and reproduction. This binomial until more than half a century ago was inevitably linked. Separating sexuality and reproduction was one of the milestones in the feminist struggle. The appearance of the pill, the use of different contraceptive methods helped to make it possible.

However, in this dissociative essay we are losing focus. Today women are no longer slaves to their reproductive system. They have left it behind... Immersed in the world of the intellect, split from their body.

When they consider becoming a mother, it is one of the moments that turns their gaze to their uterus. In this communication I would like to make an approach to motherhood through the analysis of 5 cases that came to my office due to infertility/subfertility problems.

### OBJECTIVES

To show the interrelation of the causes of infertility according to the plane in which they act (functional, physical, psychological...).

To publicise the effectiveness of integrative medicine in the cure of these health problems.

To present graphically the imbalance in women with this problem from the diagnosis of Anthroposophical Medicine.

### MATERIAL AND METHOD

Analysis of 5 clinical cases treated in my office.

Investigate the concept of the invisible man/woman in us, the field of anthroposophical medicine. RESULTS AND CONCLUSIONS

Separating sexuality and reproduction requires a process of consciousness and transformation in women to avoid body/mind dissociation.

The creative force of the uterus (CREATIVE WILL) if it is not transformed/integrated can cause pathology that can be expressed in the physical or functional plane. Many cases of idiopathic infertility are rooted in this dissociation.

Working these imbalances from integrative gynaecology can help women as an alternative to assisted reproduction programs.

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## Title: Healthy parents, Healthy children. Healing the next generation by using the purest ingredients: Superfoods, Homeopathy and Biofield therapy

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Objective: To show that chronic and autoimmune disease can be managed and in some cases reversed solely by using custom tailored diet, homeopathy and Biofield therapy.

Introduction: ASD (Autism Spectrum Disorder ) is wide spread (1 in 50 kids affected) and PANS/PANDAS (Pediatric Autoimmune Neuropsychiatric Syndrome +/- associated with Streptococcal infections) is just getting more recognized

as a disease in kids.

Methods: Children diagnosed with varying types of behavioral disorders were evaluated weekly by their parents on a variety of behaviors. Initially, children had a basal evaluation on the following attributes: Focus/Attention, Communication, Mood, Memory, Tantrums, Aggression, Appetite and Tics. Following initial scoring, children enrolled in the study age 6-14 (total 33 subjects, 22 boys and 11 girls) were given a titanium patch (sticker) charged with extremely low Electromagnetic frequencies beneficial for brain function, and they wore it for a seven-day period. After the first 7 days, behaviors were evaluated and a new patch was applied for another 7 days. This was repeated for 7 weeks. At week 3 homeopathic medicines and supplements were added.

Results: Our study showed obvious improvement in behavior after 2 weeks of wearing the patch and not returning to the baseline after patch was removed. Adding specialized nutrition and supplements as well as homeopathy to the initial patch therapy further improved behavior results. Conclusion: Children suffering from ASD, ADD and PANS/PANDAS improved dramatically their behavior and communication, lessened anxiety, become more social and engaging, and less sensitive to the environment after wearing low electromagnetic frequency patch and further more improved after adding supplements , anti-inflammatory diet and homeopathic medicine in their therapy without returning to their

baseline once all treatment was stopped.

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## Title: Establishing Integrative Care for Children with Cancer – The Nurse Perspective

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Introduction

While prognosis in pediatric oncology is improving through achievements of modern medicine, patients are suffering from multiple side and late effects. To ease the associated suffering external applications as used in anthroposophic medicine and care have shown to be useful in ameliorating nausea, abdominal pain and sleeping problems.

An integrative care concept based on anthroposophic medicine was implemented at a pediatric oncology ward at a German university hospital. Leading question of this contribution is the perspective of the nursing staff on in integrative care and the implementation process.

Methods

We conducted problem centered interviews with nurses at the pediatric oncology ward before and after the one-year implementation period. In addition we carried out a focus group discussion with a core team of nurses that specialized in integrative care throughout the implementation period.

The transcripts of the interviews and focus group were analyzed according to thematic analysis. Core categories were identified and further analyzed.

Results

In the beginning reservations were expressed by the nursing staff regarding lack of time for training and realization of the new integrative care interventions. Through the course of the implementation period the core team that specialized in integrative care developed confidence in applying the new skills and assertiveness in their new role.

All members of the nursing team noticed the positive feedback of patients and parents. In combination with the experience that the new interventions are not as time-consuming as suspected they even now wish for further training within the team.

Discussion/ Conclusion

The attitude towards the integrative care concept within the nursing team shifted over the time of the implementation period. The next challenge is to sustain the grown positive attitude and to keep the integrative care concept alive.

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## Title: Education of feelings through flowers

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**Introduction:** In our Clinic in Buenos Aires where we work with Integrative Medicine, Floral Arrangement workshops are held as part of the Comprehensive Health System. Creating a floral arrangement with serenity and tranquillity offers a positive influence to the mind.

**Objective:** Descriptive/comparative work, consisting of assessing the emotional and behavioural impact on children after creating a floral arrangement.

The drawings made before and after the floral arrangement were compared.

**Material and method:** A flower arrangement workshop held at the 26th Primary School of the City of Buenos Aires with 7 girls and 10 boys aged between 9 and 10

Another workshop in Primary School 3. 61 students from 7-13 years old participated. 29 girls and 32 boys

Vases made with recycled material, natural flowers and branches in vases were placed on a table.

First they were invited to create a free drawing on white paper with pencils. The second drawing was completed after the Floral Arrangement.

The task was to take a flower that they liked, take it to its place to observe, feel and enjoy it, choose a vase, and create the arrangement to their liking.

**Analysis:** The drawings made before and after the floral arrangement were analysed. Results:

In school 26: The most relevant conclusions were the following: 9 out of 17 showed signs of aggressiveness in the first drawing, in the second, 5 of the 9 participants improved the strokes showing more ease, more joy.

In school 3: There was a positive impact and changes in the second drawing in 79% of the girls and 55% of the boys.

**Conclusions:**

The comparison of the drawings certified the change of mind of the participants when making the floral arrangement. The drawings had more colour, more complexity and joy and it follows that the flowers induced positive feeling

## Title: The effects of Thoracolumbar Fascia Taping on posterior capsule tightness in patients with Subacromial Impingement Syndrome

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**Objectives:** Posterior capsule tightness of the shoulder joint is an important factor affecting both incidence and prognosis of subacromial impingement syndrome (SAIS). The first recommendation of the treatment of SAIS is to reduce posterior capsule tightness. Another newly found factor affecting SAIS is the hipomobility of thoracolumbar fascia. There are studies in the literature about treatment of SAIS by taping to decrease pain and improve function. But yet, no studies have been found about the effects of taping thoracolumbar fascia correction technique on posterior capsule tightness in patients with SAIS. **Material and method:** A total of 30 volunteer patients (Age X±SD: 24.83±7.10, BMI X±SD: 22.91±5.14) with SAIS were included in our study. Posterior Capsule Tightness was measured with tape measurement for the flexibility of posterior capsule region.

Kinesio Taping Fascia Correction Rams Head Technique was applied on the contralateral thoracolumbar fascia region with 25-50% tension applied to the tape. Assessments were done before and 45 minutes after taping application. **Analysis:** SPSS 21.0 statistics package program was used for statistical analysis. Wilcoxon Test was used to analyze the difference between pre-post taping application results. All statistical analysis was set a priori at an alpha level of p<0.05.

**Results:** Statistically significant differences were found at posterior capsule tightness results for dominant (p=0.060) and nondominant (p=0.001) sides between before and after treatment.

**Discussion:** Taping application for thoracolumbar fascia correction may be an effective method for reducing of posterior capsule tightness and thus affecting the treatment of SAIS. **Conclusions:** Treating thoracolumbar fascia is also a condition to be considered for treatment of SAIS as well posterior capsule tightness.

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## Title: A novel highly effective and simple face-lifting procedure for beauty acupuncture

Tamae Hera<sup>1</sup>Ryota Fujiwara<sup>2</sup> <sup>1</sup>Oriental Treatment Clinic Etre <sup>2</sup>Sun Park Nakanoshima Clinic

### (Background)

In recent years, more and more people have an interest in health and beauty. Therefore, the needs of beauty acupuncture are also increasing.

However, there are very few beauty acupuncturists due to the difficulties of mastering beauty acupuncture techniques.

As such, the author proposes a novel simple treatment for face-lifting. (Objective)

This study was undertaken in order to confirm the effectiveness of a novel simple face-lifting procedure for beauty acupuncture.

### (Method)

Press tack needles were used as acupuncture needles. 14 subjects (5 men and 9 women) were studied.

All are acupuncturists. They treated each other in pairs. This treatment was carried out as training to learn the skills.

The needles were attached on the following acupoints of the meridians. These selected points are as follow,

1) GB13: Honshin, 2) GB15 : Rinkyu, 3) TE23: Shichikuku, 4) Ex-HN4: Gyojou,

5) BL2: Sanchiku, 6) Ex-HN3 : Indou, 7)ST6:Kyousha, 8) ST5:- Daigen,

9) ST7: Gekan, 10) ST18 : Kenryou, 11) LR3: Taishou, 12) K13: Taikei, 13) ST36: Ashi-Sanri (Results)

An observable face-lift effect was seen in 13 of 14 persons. Our study almost had 92% reproducibility for this treatment. Among the 13 people, their faces became more firm.

Furthermore, asymmetrical facial distortions of thin muscles such as front face muscles and masticatory muscles in 11 cases were improved through the procedure.

### (Discussion)

An observable face-lift effect was found in 13 of 14 subjects. This demonstrates that our novel simple face lift technique has high reproducibility.

### Conclusion

The proposed novel simple beauty acupuncture technique is effective for face-lifts.

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## Title: Depression: Evidence in structural neuroimaging

Santiago Contreras<sup>1</sup>  
<sup>1</sup>Independent investigator

From its dawn, the science demonstrated the indications of the mind/body relationship. We intend to demonstrate that the Depressive Syndrome belongs to psychosomatic diseases. We have evidenced images that justify that said mood disorder is a consequence of systematic stress.

We worked with around ten already diagnosed patients whose diagnosis evolved without response to the treatment of Psychiatry and who, in their medical history, reported some degree of frustration regarding the effectiveness of the treatment. The premise of the work consisted in evidencing the psychic trauma as the aetiology of the disease.

Brain tomograms were interpreted, compared with the patient's clinic practice, and a neuroanatomic/etiological relationship was discovered, allowing us to use a new theoretical framework that differs from the orthodox model.

It was concluded that it is imperative to review the epistemological nature of knowledge to write new foundations and elaborate on the rigour of scientific language, solid arguments that allow us to defend the most important points of this proposal. We hope that, in the near future, this model may become an alternative for diagnosis and possible therapeutic approach, trying to overcome the closure that tarnishes this scourge that disrupts the life of any human being without distinction of age.

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## Title: The most prevalent health burdens in subjects diagnosed with respiratory system ailments found by bioresonance

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ences, Belgrade, 11.000, Serbia

### Background

Bioresonance therapy has become widely used approach in healing patients in integrative medicine. Objective

The aim of the paper was to present the presence of various health burdens in subjects diagnosed with respiratory system diseases (RSD).

### Materials and methods

130 patients of both gender were included in the study (48 – 36,9% males, and 82 – 63,1% females). Mean age was 42,6+8,9yrs. They filled out questionnaire related to presence of diseases in accordance to International Classification of Diseases 10 (ICD-10). Afterwards they were tested with german bioresonance therapy apparatus. Statistical analysis was done by using SPSS v. 17.0. Results and discussion

Of 130 subjects enrolled into study, 43 (33,1%) were diagnosed with RSD. Bioresonance testing revealed presence of following health burdens in these subjects: Helicobacter pylori was present in 18 (94,7%) subjects; the same prevalence was found for mercury and lead intoxication. Pork meat intolerance, Aspergillus, and aflatoxin were revealed in 17 (89,5%) subjects. Gluten and sugar intolerance, presence of Candida, Oxyuris, formaldehyde and aluminum intoxication were found in 16 examinees (84,2%), while Staphylococcus, Ascaris and zinc deficiency were revealed in 15 (78,9%) subjects enrolled in analysis.

### Conclusions

The most prevalent health burdens revealed by bioresonance in examinees diagnosed with RSD were presence of Helicobacter pylori, mercury and lead intoxication. Other important factors that may be associated with respiratory system diseases are pork meat intolerance, Aspergillus, aflatoxin, gluten and sugar intolerance, Candida, Oxyuris, formaldehyde, aluminum, Staphylococcus, Ascaris, and zinc deficiency. Bioresonance is very useful method in identifying health burdens and may help to diminish them.

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## Title: Importance of Āhāra (diet), Āhāra-vidhi vidhāna (dietary guidelines) and Digestive power) for maintaining healthy life

Dr. Shivaranjani Kantharia<sup>1</sup> J.s. ayurveda college, nadiad

Āhāra (Food), Nidrā (Sleep) and Brahmacharya (Abstinence) are the three factors which play an important role in the maintenance of the health of a living organism, thus are termed as sub-pillars (Upastambha) of the physiology of the human body. The inclusion of Āhāra (Food) in the three upastambha proves its importance. In this present era, in a very fast and competitive life, people do not follow the proper manner of diet and consumes junk food, incompatible food and contradictory foods which produce negative outcome on health. Mental and emotional states are also influenced by the digestion of food. People who take healthy and hygienic food but if they have any kind of mental disturbance, their food doesn't digest appropriately and they have not to get proper nutrition. The ancient Ayurveda ācāryas have given "Āhāra and Āhāra-vidhi vidhāna" (Diet and Dietary guidelines) in which they tremendously described why (importance of food), how (proper methods of food consumption), when (timing of consuming food), where (place of eating) and which types of food is consumed for maintaining the health in healthy individuals as well as for relieving disease in ill person.

Here there is an effort to elaborate the knowledge about the ayurvedic concept of "Āhāra, Āhāra-vidhi vidhāna and role of Agni" in digestion and nutrition and its importance for maintaining healthy state, the effects of Pathya āhāra (wholesome food) and Apathya āhāra (unwholesome food) on the body and mind, health issues emerges due to the consumption of Viruddha Āhāra (incompatible food).

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## Title: Simple novel symmetric acupuncture therapy with 7 press needles is effective for muscle pain and stiffness

Ryota Fujiwara<sup>1</sup>, Tamae Hara<sup>2</sup>, Sun Park Na-kanoshima clinic<sup>2</sup>, Oriental treatment clinic Etre

### (Background)

Acupuncture treatment seems difficult to perform, because there are so many invisible acupoints. In addition, treatments depend on a patient's condition, so there are so many variables. This situation presents difficulty for acupuncture.

The author proposes a novel simple technique. It uses only 7 press needles. (Objective)

This study was undertaken in order to confirm the effectivity of the simple novel symmetric acupuncture therapy for muscle disturbances.

### (Method)

Press needles are used as the acupuncture needle. Acupoints are selected in symmetrical positions. Treatment steps for correlating acupoints are as follows. Step 1: foot: Koukan (LR 2): R&L (2 points). \_

Step 2: arm: Kyokuchi (LI 11): R&L (2 points). \_ Step 3: knee: Kekai (SP10): R&L (2 points). \_ Step 4: sacral: Youyu (GV2) : Center (1 point)

Total: 7 points (Result)

Patients had several muscle problems such as muscle pain, muscle stiffness and joint movable range limitations.

This therapy has made their problems better. The symptoms got better soon after treatment.

In most cases, the symptoms had already changed when the 7th press needle attached the acupoint. (Discussion)

This therapy has several positive effects. Especially for muscle pain and joint movable range limitations, they clearly and quickly improved.

This novel therapy needs a very short time to take effect. It takes only 1-2 minutes. It is simple and effective.

Several acupoints (LI 11, SP10) are located on tendon areas. This fact seems to be the cause of the effectiveness of muscle pain and stiffness.

### (Conclusion)

The author proposed a novel acupuncture method. It is simple symmetrical acupuncture with 7 press needles. This method was effective for various muscle disorders.

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## Title: Clinical Thermography applied to Health Sciences

Pedro Rodríguez Picazo<sup>1</sup>  
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### Introduction

Clinical thermography is a physiological imaging technology that provides information on the functioning of various body systems and subsystems as well as local inflammatory processes. When used in a clinical setting, it is an imaging procedure that detects, records and produces a thermogram of the skin's surface temperatures and thermal patterns. The objective of this work is to describe the clinical experience and the scientific basis of said technology.

### Material and method

A clinical image bank review of the consultation and bibliographic review with various pathologies and their corresponding correlations is carried out.

### Results and Discussion

Findings that correlate acupoints and kinetic chains are described (Wang et al 2019). The literature has also described some utility in preventing phlebitis in peripheral catheterisation during hospital admissions (Doesburg et al 2019). Bahramian et al (2019) describe a reduced sample universe experience in thyroid lesions. Advances of thermography in the field of Veterinary Medicine (Pérez Marquez et al 2019-Wats et al 2019-Redaelli et al 2019) and in Motion Sciences are reviewed.

We describe the limitations of the technology (Pérez Guarnier et al 2019-Omranipour et al 2016- Neal et al 2018- Ferreira et al 2019 -Kalaierasi et al 2018).

The thermogram allows, among other things, to assess:

Approach and trigger point treatments Biomechanical and posturology study Visualisation of certain organ-visceral dysfunctions

Images obtained in consultation with clinical implications are reviewed Conclusions

Clinical thermography can contribute to the diagnosis and management of the patient, helping to determine the location and degree of irritation, the type of functional disorder and the prognosis of the treatment. Thermography is a discipline with important advantages and low cost without involving the use of ionizing radiation, venous access or other invasive procedures

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## Title: Bioenergy Healing within the Comprehensive Patient Care

Tomas Pfeiffer<sup>1</sup>

<sup>1</sup>Professional Chamber Sanator - the Union of Biotronicists of Josef Zezulka

Although this contribution seemingly does not speak the language of modern science, it does not mean it is unscientific. Numerous opinions previously presented by Josef Zezulka Biotronics were later confirmed by science and the method brings visible benefit.

Healing is performed by vital immaterial energy transmitted by a biotronicist. It influences illnesses originating from bioenergy insufficiency, without any invasion and side effects. Monitoring of the patient's state enables its research. Exceptional results are achieved in oncological and neuro- degenerative diseases, especially sclerosis multiplex, infant cerebral palsy etc.

A great potential lies in the area of prevention and cooperation with medicine. The method is guaranteed by a professional chamber. Similarities to some Indian systems of medicine can be identified.

Selected cases:

A patient (aged 53) – melanoblastoma on a shank. After unsuccessful four-year surgery and chemotherapy treatment the tumour spread into the abdominal area. Then biotronics healed the patient fully.

A dying patient (54) – an inoperable stomach tumour, a palliative surgery conducted – tumour abridgement, small intestine resection, the tumour left in its location. The patient was released to home care with 2-3-month life expectancy. After biotronic healing she recovered completely and lived a full life for 23 years.

A dying patient (70) – malignant tumour of the right upper pulmonary lobe. The patient was released home after unsuccessful chemotherapy and left without any medical treatment. After a biotronic intervention she recovered completely and lived for 13 years.

131 patients' reactions to biotronic healing, e.g. breast carcinoma, skin melanoma, pulmonary cancer with multiple metastasis, uterus myoma, sclerosis multiplex, thyroid gland autoimmunity hyperfunction, arthritis, pulmonary mycobacterial avium, etc.

The Czech Republic neglects non-medical branches, conducting a trial is impossible despite considerable interest of the public in biotronic healing performed free of charge in the Biotronic Centre for Social Support in Prague.

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## Title: An exploration into the impact of cultural health perceptions and traditional medicine approaches on dietary intake of BME populations in the UK

Anne Majumdar<sup>1</sup>, Pearl Braithwaite<sup>1</sup> <sup>1</sup>St Mary's University Twickenham

Background

Black and minority ethnic (BME) communities are at increased risk of chronic disease and dietary intake can influence this risk. Cultural health beliefs and practices, including traditional medicine approaches, are commonly held by BME communities and may impact on their dietary intake. The focus of this study is to explore the cultural perceptions of barriers to healthy eating from BME populations living in the UK.

Methods

A mixed methods design, using a short online survey tool to analyse perceived cultural barriers and general nutritional knowledge in the quantitative study phase. Survey respondents were invited to attend an interview or focus group where perceptions of the phenomenon were further explored in the qualitative approach of this study. Transcripts from interviews and focus groups were analysed using IPA. Ethical approval was received from St Mary's University ethics committee.

Results

The survey was completed by n=134 participants from BME backgrounds (African, Caribbean, South Asia, East Asia and South East Asia). 79% of survey respondents "agreed" that cultural factors influenced uptake of healthy eating messages within their BME group. N=28 participants joined focus groups (n=13) or interviews (n=15). Three super-ordinate themes emerged, "acculturation", "drivers of change" and "education". Traditional medicine beliefs impacted on food choice and a prevalent emergent theme was the need for an ambassador from the same cultural community to drive change, teach and influence others to adopt healthier eating practices.

Conclusion

Results highlighted the need for evaluated, well designed and culturally tailored nutritional interventions for BME populations living in the UK. Findings from the study indicate that further research on a health model where health professional's work with BME community ambassadors to educate, implement and drive behavioural change is warranted.

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## Title: Biophisic and Epigenetic: new paradigms for preventive and predictive medicine

**Antonio Scalabrino<sup>1</sup>**

<sup>1</sup>Prof. Dott. doctor surgeon,,odontologist, posturologist, clinical nutritionist, master in mesotherapist, university professor

In the twenty-first century new methodologies and new technologies allow to analyze and predicted in advance form of systemic and invalidating pathologies to which we are predisposed, while the knowledge of medical biophysics allows through quantum biophysical semeiotics with the only phonendoscope, after a normal learning cure, to understand the form and function of various organs and to understand the predisposition to possible oncological terrain. If we associate this methodology to Epigenetics we can truly prevent and predict the diseases and health status of each individual. The classic medicine of ANTI (antibiotics, antihistamine, anti-inflammatory, anti-hypertensive, etc) is no longer enough to understand if an organism is healthy, the concept of healthy should not be interred as the absence of signs and synths, but the perfect functioning of all cell, organs and system of our body. We live, we move due to differences in electric potential, there was no difference in potential, we would be flat or we would not exist. Our Body is a billions matter and the rest is energy (Spaggiari-Stagnaro) and the analysis of this energy through the resonance frequency allows us to understand if our internal organs are healthy or sick, long before an exam biochemist tell us that we have an anomaly. In the same way epigenetic examinations of hair, saliva and faeces can analyze the genetic variant the each of use, can really talk about primary and interceptive prevention with a biological cost at zero.

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## Title: How the Idea of Boundaries Helps Us to Understand Our Patients as Embodied Human Beings: A Literature Analysis of Psychosomatic Foundations and the Concept of Embodiment

**Juliane Walther<sup>1</sup>**

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**Aim**

During the last years the concept of embodiment became a key paradigm of interdisciplinary theoretical approaches of philosophy, psychology and neuroscience (FUCHS 2009). But despite its incredible potential, it isn't completely integrated in medical theories or practices. Working with patients means working with bodies: Theirs and ours. This can be very exhausting, sometimes leading into burnouts. Why is that? For answering that it is necessary to take a step back: Since the condition of the practice is so decisively affected by the theory, this leads to a theoretic question: Is there a difference between the bio-psycho-social medicine understanding of the body in comparison to conventional medicine – and with which implications?

**Methods**

This question is addressed to the basic theory of Thure von Uexküll and pursued by means of a comparative and summarizing content analysis of his publications. Based on the results from a reconstruction, the analysis has been deepened by adding the phenomenological concept of embodiment.

**Results**

The analysis shows that the initial question has to be answered in several stages: 1) Uexküll does not overcome the conventional understanding of the body, but expands it to include conceptual levels of functionality.

The body lives in unity with the environment and extends into it. 2) The phenomenological body is also extended into the environment via its exterior. 3) This raises the question of boundaries.

According to Plessner, these can not only be understood as conclusive but, understood with Uexküll, also as enabling coexistence. Understanding the body as a lived one, it comes up with phenomenological boundaries.

**Conclusion**

Boundaries, especially phenomenological ones, turn out to be a quite practical mental concept to understood patients as embodied humans – and yourself, too. It can be used to explore methods of self-care and empathy.

Seven types of possible handling are presented.

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## Title: Incorporation of Holistic Medicine into academic healthcare setting

Chiti Parikh<sup>1</sup>

<sup>1</sup>Weill Cornell Medical College

An integrated care model combines evidence based conventional medical approach with holistic modalities to address not just the physical symptoms but also the psychological, social, spiritual and environmental influences on health. Three years ago we created the Integrative Health and Wellbeing program to bring evidence based holistic modalities into academic healthcare setting.

When we began this venture, we took a great deal of time to learn how others had developed and sustained similar programs. We visited established Integrative Health programs around the country, and met with leaders in the field and who are actively expanding the footprint of the integrative approach in the U.S. and globally.

We thought it equally important to understand our own institution and the patients we would soon serve. Through our process of discovery, we applied what we had learned into a new model, and launched The Integrative Health and Wellbeing Program at New York Presbyterian Hospital in 2015. This program offers services such as physician consultation, nutrition, psychotherapy, Ayurveda, functional medicine, acupuncture, meditation, yoga, reiki and pilates. These services are offered alongside conventional medical plan in a team based approach.

In our first year of operation we saw 4000 individual patient visits and this year we are on track to see over 10000 patients. By embracing an insurance based model, along with creative program offering we have made integrative modalities accessible, affordable and sustainable. There are several elements that have been integral to our early success: stakeholder engagement,

strategic planning, organizational structure and operations, marketing and communications, building performance metrics, and building our team. We would like to share some of these lessons we have learned along the way. We hope this knowledge can help other clinicians and healthcare institutions create successful and sustainable programs by embracing a more holistic care approach to care.

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## Title: Health Beyond Healing: A course to activate Salutogenesis by building Somatic Sense of Coherence

Daniela Jurisic<sup>1</sup>

<sup>1</sup>Medical College of Wisconsin and Aim for Health Clinics in Pavia and Milano

A person who is no longer ill, but not yet robustly healthy, is in an important transitional zone which is common ground for treatment by a great diversity of integrative health professionals, from allopathic doctors to yoga teachers. The common goal needs to be to provide salutogenesis, the ability to maintain and reinforce one's own health. In order to activate salutogenesis, a person needs to maintain a sense of somatic coherence: to be aware of the changes that a treatment or a physical practice induces, in order to choose and activate themselves appropriately to absorb the salutogenic practice that is being offered.

Accordingly, I have designed BASIC (Body as a Source of Identification and Coherence), a course that helps patients anchor future health practices in accurate somatic perception. "Coherence" is acquired through the linking of exteroception, information received through the 5 senses, with interoception, information perceptible by each person, from their internal organ systems (for example lungs, gastrointestinal tract, cardiovascular system, autonomic nervous system)

5 lessons : each one targets accurate perception of a specific interoceptive sensation, through an exteroceptive "access point". Exteroception and interoception are thus linked: first, through explanation of the functional anatomy and physiology of the access point and then through exercises which train somatic perception of this linkage. This "body mindfulness" which is acquired, allows the development of sense of agency necessary for personal salutogenesis.

This course is designed for all integrative professionals and their patients. I will present an outline of the exercises and results obtained in teaching it to 15 professionals and more than 100 patients.

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## Title: Together in Integrative Medicine - A New Multi-Professional Diploma Training in Integrative Medicine

Dr Elizabeth Thompson<sup>1</sup>, Dr Duncan Still<sup>1</sup>, Alastair Gray<sup>1</sup>, Pat Turton<sup>1</sup> <sup>1</sup>National Centre for Integrative Medicine (NCIM) - Bristol, UK

### Background:

With enthusiasm to adopt an Integrative Medicine (IM) Model by healthcare professionals and to reflect and support the public's growing interest in Health and Wellbeing, the National Centre for Integrative Medicine (NCIM) has developed a two year, Masters Level 7 Diploma in IM.

### Methods:

We describe the development and implementation of this new, two year Masters Level 7 Diploma in IM to give registered healthcare professionals the knowledge and experience they need to become Integrative Clinicians who can support individualised and comprehensive whole-person healthcare plans for their patients and create a necessary sea-change in healthcare provision.

### Results:

In the face of numerous challenges, we have developed a 1200-hour, 120-credit, regulated, two-year qualification in IM. The course is a blended model of learning that is delivered via an online learning platform with expert multimedia content, as well as face-to-face study blocks ('intensives') and other models of student engagement including tutorials, webinars and other resources within the Learning Management System.

### Conclusion:

Healthcare professionals from around the world have signed up for the course in increasing numbers suggesting a growing awareness of, and desire to train in, IM and to transform existing models of healthcare provision. Feedback from our learner group has been extremely positive although some have struggled to keep pace with the amount of educational content combined with their working schedules. The students are fast becoming pioneers in the field of IM and are themselves now supporting a transformation to comprehensive whole-person care. We want to share our learning on how to set up and run such a programme.

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## Title: Re-engineering the Health System for South African traditional healthcare

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<sup>2</sup>South African Medical Research Council (SAM-RC)

Background: The UN Sustainable Development Goals do not include the millions of complementary and traditional health care practitioners contributing to health care around the clock for millennia. To consequently omit health seeking behaviour and user confidence involving billions of people is effectively medical apartheid. The Nobel prize for the antimalaria drug artemisinin from traditional Chinese medicine, has saved millions of lives, attesting to its potentiality, albeit risks with traditional medicine are inherently obvious. The WHO global strategy for Traditional Medicine emphasize the need to develop a cohesive and integrative approach to health care that allows governments, health care practitioners and those who use health care services, to access traditional and complementary medicine in a safe, cost-efficient and effective manner. Objectives: In the international research project "Re-engineering the health system for South African traditional healthcare (REHSAT)" we aim to investigate based on the principles of integrative medicine, in what capacity the circa 200 000 THPs can better support the health system while simultaneously providing services for seekers of indigenous health to improve collaboration in primary health care. Problem description: South African is overwhelmed by HIV and AIDS and TB, maternal infant and child mortality. In 2009, the Lancet series on Health revealed that South Africa spends more on health than any other African country. Yet health indicators for South Africa are deteriorating and the health sector reform Re-engineering Primary Health Care has been initiated. Material and method: A multidisciplinary approach including Cochrane systematic review, policy and legislation research; qualitative interviews and stakeholder analysis. Results and Discussion: Interim results including barriers and opportunities will be presented and the basis for future pragmatic pilot trials of models of integration adapted to a South African context in line with Swedish experience, CAMbrella methodology and WHO guidelines will be discussed.

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## Title: The attention of Traditional and Complementary Medicine in Mexico

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Traditional and complementary medicine has a high percentage of demand in developing countries and contributes to the primary health care. The health model combines ancestral wisdom with personalised and comprehensive attention that helps with allopathic medicine.

The object of study was to observe and record the attention and stages of the health model of traditional and complementary medicine in two days of care in the first quarter of 2018 in Mexico. A descriptive and cross-sectional observational study was carried out, in two days of care, the sampling was for convenience, including 60 participants who met established criteria. The data collection and analysis was designed through a case report that integrates general data, reason for the demand for care and actions carried out during the process. Interviews were conducted before and after care, to integrate patient testimony.

Results 60 patients were treated; 62% women and 38% men between the ages of 19 and 66, from Oaxaca 30 and Sonora 30. During the care in 100% of the patients the practice was observed and recorded in a constant manner of five stages; observation, resonance, acupuncture, percussion fist and assessment, which were performed regardless of the reason for the care. At the end of the session during the testimony of the patients, there was a decrease of up to 80% of the initial symptoms manifested and patients reported "feeling calm, happy and relaxed."

Conclusions: The health model of traditional and complementary medicine is based on traditional knowledge and is complemented by various therapeutic practices to establish a relationship of trust patient/therapist, contributing to reduce or eliminate discomfort and ensuring their well-being.

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## Title: Prevention in Unconventional Medicine

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Objectives: This work illustrates some of the methods used since thirty years at our Institute in order to avoid the compensations put into place by the patient, thus arriving at a clinical picture that is as adherent as possible to his originality.

Material and method:

Study population: male and female adults

Selection criteria: patients with Ren Mai and Du Mai Traditional Chinese Medicine meridians in situation of energy deficit

Sample size: 480 subjects

Measurement methods: symptomatological and kinesiological subjectivity

Analysis: Traditional Chinese energetic symptomatology, Kinesiological symptomatology, haematochemical analyses, posturological symptomatology according to Bernard Bricot, serologicals, gnathological semiotics, non-conventional psycho-diagnostics, Hahnemannian constitutions

Results:

Age distribution and typology of the original traumatic input: 98% psycho-traumatic etiopathogenesis in pre-school children, 2% in adults

Allocation of current energy deficit: 79% Ren Mai energetic budget reduction, 21% Du Mai energetic budget reduction

Discussion: The concept of health and illness in use in the scientific community suffers from being of legal and academic characteristics. To evaluate the homeodynamics of the patient, in non-conventional medicine, making use in particular of a holistic methodology, the terms "equilibrium and disequilibrium" are preferred, being more evocative of the clinical status of the patient. Only in the presence of a subject brought temporarily to an equilibrium can we hypothesize on an effective preventive strategy that takes into account the real impact of the epigenetics on the specific PNEI-P psycho-neuro-endocrine-immune-postural equilibrium of the subject.

Conclusions: All of the Extraordinary Meridians, in particular Du Mai and Ren Mai, form a preferential route, through which the elements of compensation travel. Their energetic and functional rebalancing allow the examination of the homeodynamics of the subject in question.

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## Title: Nordenström & Pischinger, 2 parallel revolutions

Ana Maria Oliva Brañas<sup>1</sup>

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**Introduction:** In recent years we have gone from a physiological concept focused on the cell to a more extended vision through the extracellular matrix and its importance in the regulation, communication and even activation of epigenetic mechanisms. Two great scientists came to the same conclusion from two different routes: Pischinger through the "basic system" and Nordenström through biologically closed electrical circuits (BCEC).

**Method and results:** The in-depth review of the literature allows us to observe a significant parallelism in a concept that was called to be the great revolution in the understanding of pathological processes. In the 50s, Pischinger began to describe the regulatory role that the extracellular matrix has, developing the concept of a basic system for regulation and nonspecific defence functions. The focus of the basic unit in pathology then passes from the cell to a functional cell-extracellular-capillary-nerve matrix. It also emphasises the regulatory capacity of the system, and like many of the conventional therapeutic approaches, instead of improving that regulatory capacity, they inhibit it, with wholly unwanted effects. At the same time, Nordenström discovered the existence of BCEC, which includes the cell, extracellular matrix and blood vessels. The correct circulation of electricity in these circuits (which we can also correlate with the pH) allows the body to recover the regulatory capacity.

**Conclusion:** Health is based on optimal communication between systems and on optimising self-regulation mechanisms. These mechanisms are described through the basic system and the BCEC. We move from a pathological approach based on a static cause to a functional approach. The great importance of both postulates also lies in the therapeutic possibilities they offer, confirmed and often forgotten.

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## Title: Novel Modality in Supportive Adjunct to Pain Management

Srbislav Brasovan<sup>1</sup>, Sean Martinez<sup>2</sup> <sup>1</sup>Indiana University Medical School <sup>2</sup>Tioning Element LLC

**Objectives:** Develop supportive adjunct in pain management to decrease opioid use.

**Material and methods:** We utilized 2x2 cm Silicon Patches infused with Titanium Salt (SPTS) and imprinted with Extremely Low Electromagnetic Frequency (ELEMf). Being semiconductors, they are passive ELEMf products. SPTS are activated by a Human Biofield when in contact with the skin. Skin acts as a capacitor. SPTS were researched in phase I double blind study on 15 experimentally injured hairless rats. Mode of action was analyzed using the computerized Resonant Recognition Model (RRM). The phase II double blind clinical pilot study has been completed on 20 postoperative abdominal surgery patients utilizing Won-Baker Pain Rating Scale.

**Analysis:** RRM analysis found that SPTS remediates pain through resonances with calcium and sodium pain related ion channels. The characteristic frequency for pain related sodium ion channel opening and closing function is  $f_{n1}=0.1465$ . RRM frequency relates to electromagnetic wavelength  $\lambda=1372\text{nm}$ . Titanium particles in the patches that are in a diameter of about  $D\lambda=1400\text{nm}$ ,  $D\lambda/2=700\text{nm}$  and  $D\lambda/4=350\text{nm}$  can resonate with pain related sodium ion channels. Phase II study in ELEMf patch group showed significant reduction in postsurgical pain intensity.

**Results:** Phase I research on rats found that SPTS are not harmful and may enhance wound healing. RRM research has shown that SPTS could mimic the similar activity as toxin-based pain killers, but without side effects. Phase II study in ELEMf patch group supports findings that SPTS are an excellent adjunct in support of postsurgical pain management.

**Discussion:** New modality in pain management utilizing nuevo Nano-technology ELEMf passive SPTS has shown to significantly reduce need for opioid use.

**Conclusion:** Although results are promising, further studies on large scale are warranted.

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## Title: Prophylactic Acupuncture Treatment during Chemotherapy in Patients with Breast Cancer – Results of the Qualitative Study Part

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### Objectives:

In a randomized controlled trial acupuncture as prophylactic treatment did not show better quality of life or fewer side effects of chemotherapy compared to standard care alone in breast cancer (NCT01727362 (clinicaltrials.gov)). The aim of the qualitative part of this mixed-methods study was to understand better the subjective perspectives of the patients about quality of life during chemotherapy and perceived effects of acupuncture.

### Methods:

In a nested retrospective qualitative study semi-structured telephone interviews were conducted with five responders and five non-responders (defined by the primary outcome) who were randomly selected from both study arms.

### Analysis:

The interviews were digitally recorded, pseudonymized, transcribed and then deductively and inductively analyzed according to Qualitative Content Analysis using the software MAXQDA®. Results and discussion:

20 patients were included in the qualitative part of the study. In both groups, most women stated that their quality of life was surprisingly good to what they had expected before starting the chemotherapy. All patients of the acupuncture group experienced the acupuncture treatments as relaxing and beneficial, highlighting the empathic attitude of the therapist. Most of them stated that the acupuncture treatment reduced chemotherapy-induced side effects. For all patients, finding strategies to cope with the life-threatening cancer and the side effects of the chemotherapy was primarily essential, e.g. keeping a positive attitude towards life, selected social contacts and staying active as much as possible.

### Conclusions:

For all patients, coping strategies with the cancer disease seemed to be more important than reducing side effects. Patients in the acupuncture group reported positive effects on psychological and physical well-being after receiving study intervention.

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## Title: Integrative health immersion retreats: a mixed methods observational study with 12-month follow-up

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Objectives: Integrative health immersion retreats (IHIR) in natural settings are increasingly common yet remain little studied. We aim to share a model of an IHIR and outcomes from an observational study with 12-months follow-up.

Participants in the 5-day IHIR learn about sustainable self-care, stress reduction, creativity, and relationship-building. They are nourished by plant-based meals, guided movement and mind/body/spirit disciplines. Key principles include group support, experiential learning and engaging with the natural environment.

Material and method: We examined effects of this IHIR among 30 healthy self-selected participants and staff (ages 28-77, 63% women). Participants were coping with common life challenges: job change, burnout, academic stress, divorce, marriage, starting a family, contemplating retirement, grappling with prejudice, emancipating, aging well. Outcomes included validated scales measuring nature connection and holistic well-being, as well as short written answers.

Analysis: Convergent mixed methods including analysis of quantitative scales change over time (pre-post, pre-3-months) and thematic analysis of qualitative short answers at 12-months.

Results: Post-retreat, participants experienced less perceived stress and more positive emotions, social support, spiritual transcendence and connection with nature. Participants endorsed more vibrant senses, feeling empowered, and having the ability to let go and forgive. Feelings of connection, calmness, joy, wholeness and balance also improved. At 3-months, participants still experienced improvement in perceived stress, emotional support, feeling more whole and balanced. At 12-months, participants remembered the power of the natural setting, their experience of community, their self-growth and learning, the 'great food'. The retreat changed them personally: 'balanced', 'open', 'accepting', 'loving', 'compassionate', 'deeper sense of connection', 'hopeful', 'joyful'; one person said, I 'found my heart again'.

Discussion: Our results suggest that IHIRs have lasting effects on the well-being of generally healthy individuals.

Conclusions: A 5-day residential IHIR helps people clear the roots of chronic health challenges that stem from lifestyle choices, relationships, and environment.

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## Title: Integrating Cupping Therapy (Al-Hijama) in the Treatment of Tinnitus, Dizziness, Hearing Loss in Inner Ear Pathologies: A before-and-after Pilot Study

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Background: Al-Hijama is Arabic term for cupping therapy; it is one of integrative medicine used by several nations. It's mechanism of action is not well known but there is several theories explained how it can play a rule in the treatment of diseases.

In recent years, huge advances have taken place in understanding of inner ear pathophysiology causing sensorineural hearing loss, tinnitus, and vertigo. Research articles providing evidence of acupuncture treating dizziness and vertigo but no studies of Al-Hijama cupping therapy.

Methods: This is a prospective interventional pilot study in which pre and post intervention wet cupping therapy (WCT) outcomes were assessed and compared. We studied responses to 6 sessions of post-auricular cupping therapy in 27 patients diagnosed Ménière's disease (MD) and idiopathic tinnitus or tinnitus secondary to inner ear pathology which tolerated very well without any reported local or systemic side effect. The clinical effect of treating dizziness and tinnitus was evaluated by performing statistical analyses on data collected from questionnaires of Dizziness Handicap Inventory (DHI), Tinnitus Handicap Inventory (THI), Hearing Level (HL) pre and post WCT. Results: There was significant improvement after 6 sessions of cupping in DHI and THI ( $P < 0.05$ ) but not in HL. No adverse event was reported in this study.

Conclusion: WCT demonstrates a significant effect in reducing discomforts of both dizziness and tinnitus. This study provides clinical evidence on the efficacy and safety of WCT to be used in the treatment of dizziness and tinnitus. This pilot study may add new modality of treatment to inner ear pathology like MD, and tinnitus secondary to different pathology or idiopathic tinnitus, improve the understanding of possible mechanism of Al-Hijama WCT, despite the lack of other study in this field.

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## Title: The role of context effects in Acupuncture practice: a qualitative study based on semi-structured interviews with acupuncturists in three different locations

Sarah Theiss<sup>1</sup>, Felicity Moir<sup>1</sup> <sup>1</sup>University of Westminster

Introduction: Acupuncture can be considered a complex treatment intervention, which includes different components leading to an overall treatment effect. Among these, are various factors evoking specific effects and context effects. It has often been argued that context effects might be especially potent in acupuncture treatments. Since little is known about this aspect of acupuncture treatments, this study aims to explore practitioners' perceptions of the role of context effects, and contributing contextual factors, in clinical practice.

Methods: This qualitative study draws on data obtained in semi-structured interviews with acupuncturists in private practice. To capture the spectrum of acupuncturists' dealings with context effects, maximum variation sampling was utilised, and a total of 18 participants from 3 different places were sampled (Seoul, London and Munich). Thematic data analysis was implemented, combining a theory-driven and a data-driven approach.

Findings: The majority of participating acupuncturists considered various contextual factors, and resulting context effects, to be a fundamental aspect of their treatments. Participants reported they actively implement contextual factors in relation to patients, practitioners, therapeutic relationship, therapeutic ritual, clinical environment and touch. The overarching aim for implementation, however, was to induce patient relaxation. Further, acupuncturists highlighted a close link between contextual and specific treatment factors.

Discussion: Context effects appear to have significant potential in acupuncture practice. Moreover, when considering the aims and methods for their implementation, they seem to be deeply imbedded in the overarching framework of acupuncture. This becomes evident through context effects providing the particular supportive structure to treatments, and through their intimate link to East-Asian medical theory. In particular, being mainly implemented to enhance patient relaxation, a state that is considered to powerfully support treatments in acupuncture, context effects seem to be inseparable from the specific treatment effects in clinical practice. This proposal might have implications for acupuncture research, practice and education.

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## Title: Hirudotherapy in minor replantation or finger revascularization salvage: 5 Years Clinical Results and Experiences of a Level III City Trauma Hospital

Kaan Gürbüz<sup>1</sup> <sup>1</sup>Kayseri City Hospital

**Introduction:** Hirudoterapi is an important one of traditional and complementary medicine applications which have been used with different indications on a daily basis from ancient times. The most leading cause of failure or re-anastomosis in replantations is venous insufficiency.

**External bloodletting** with medicinal leeches is a common, effective and cost-effective treatment for venous insufficiency after plantations. The objective of this study was to evaluate the clinical results of minor multiple plantations and/or digit re-vascularizations and present the gained experiences that were treated with medicinal leeches for venous congestion.

**Methods:** Sixty-one patients who were treated with minor multiple plantations and/or digit re-vascularization at the Kayseri City Hospital Orthopaedics & Traumatology Clinic between December 2014 and December 2019. All patients with venous congestion in one or more digits replanted or re-vascularized who were treated with medicinal leeches were included. Treatment initiation and duration were based on clinical judgement. Demographic, therapy and surgical data were collected.

**Results:** Of 61 patients with 94 digits that were replanted and/or re-vascularized, 78 digits were treated with medicinal leeches for venous congestion. Venous congestion was diagnosed later than 12 hours after operation in 65 of the 78 digits. Of the 78 digits, 52 survived (66,6%) (46 of 52 replanted digits and all 6 re-vascularized digits). No complications were recorded except for substantial blood loss requiring transfusion in one patient.

**Conclusion:** Medical leech therapy is an effective treatment modality in hand surgery for minor replantation or finger re-vascularization salvage, in the treatment of hematomas, post-phlebitis syndrome. Despite the fact that the reliability of the evidence-based results of controlled, double-blind, prospective patient-based studies is controversial, the advantages and benefits of hirudotherapy in finger replantations is apparent.

Type of study/level of evidence: Therapeutic IV.

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## Title: The “Taricco Method” for the quantitative study of the verbal reactivity to EMDR stimulation

Marcella Taricco<sup>1</sup>, Roberto Cesare Fagioli<sup>1</sup>, Martino Camillo Gianazza<sup>1</sup> <sup>1</sup>Istituto di Medicina Olistica “San Lorenzo in Lodi”

**Objectives**

Identify and test a new non-invasive methodology that provides quantitative data to reveal the verbal reactivity of a patient to EMDR. This methodology was created during research on corpus callosum functioning.

**Material and method**

Study population and selection criteria, sample size.

The research was applied to a sample of 20 subjects, patients at Institute X (name of Institute), with postural and/or occlusal disorders diagnosed at the Institute, with a control group without occlusal and postural disorders reset.

**Variables and measurement methods.**

Examined variables: diagnosis, sex, age, hand and leg dominance.

The method measures the associative stimulus following bilateral ocular stimulation and is based on the study of the latency time before reaction and the number of words spoken by the subject.

**Analysis**

We analysed both the data (latency time and number of words) of each subject, and each variable:

with longitudinal criteria: variation of reactivity of the same subject at two different moments.

with transversal criteria: comparison of reactivity in different subjects, to evaluate the role of variables such as sex, age etc.

**Results**

With regard to the evaluation of the method, results reveal the following:

ease of application

noninvasiveness

rapidity and versatility of the data. With regard to clinical application:

improvement in the verbal reaction to EMDR following postural reset, in both longitudinal and transversal analysis.

**Discussion and conclusions**

It is concluded that the new methodology provides instant quantitative data to identify the verbal reaction of a patient to EMDR, proves easy to apply, and is not invasive to the subject.

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## Title: Microwave treatment for bone metastases of cancer

Karo Maeda<sup>1</sup>, Hiroki Takahashi<sup>1</sup>, Nobuyuki Nagaya<sup>1</sup> <sup>1</sup>Japanese society of Cancer Energy Annihilation Therapy

Bone metastases of cancer are observed in breast cancer, prostate cancer, lung cancer, cancer of unknown primary and others.

Conventional medical treatments for them only consist of medicinal treatments, and their outcomes are not always satisfactory.

The microwave treatment method that we use has been developed and examined in Baylor Medical Collage and other institutions and has been proven to annihilate cancer activity without adverse effects or sequelae. Therefore, it has been used to treat 7,000 people in the last 18 years and has shown excellent outcomes. Here, we report 5 patients who achieved complete cure with this treatment, including 2 patients with severe bone metastases or bone metastasis from cancer of unknown primary.

We jointly acquired a patent for this microwave treatment method in major countries in the world.

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## Title: Tao Calligraphy Tracing Meditation With Chanting Mantra Improves Quality of Life SF 36 Scores in 6 months

Peter Hudoba<sup>1</sup>, Amy Yamashiro<sup>1</sup>, Cynthia Hamilton<sup>1</sup>, Jasmine Lau<sup>1</sup>, Jamie Chow<sup>1</sup> <sup>1</sup>Sha Research Foundation, San Francisco, California, USA

Objectives:

Although the positive effect of meditation and calligraphy painting on health is well documented individually, their combined influence has not been studied (1), (2), (3), (4). The authors have studied the effect of meditation that combines tracing Tao calligraphy with chanting mantras on the Quality of Live. It was hypothesized that this combination creates a powerful energy field that produces a healing effect on the mind and body.

Method - Design:

In a prospective follow-up, IRB-approved study, the authors investigated the effect of meditating by tracing calligraphy and chanting mantras on SF-36 scores. Initially, 96 spiritual practitioners were enrolled. After 6 months, 48 remained: 42 women, 6 men, with an average age of 53 (18-78) years. At the beginning, subjects received instruction and a transmission and then continued to practice daily meditation of tracing Tao calligraphy with their fingers while chanting mantras for 10 minutes a day at minimum. The Rand Standardized Quality of Life Questionnaire SF36 was completed at the start of the study and after 6months.

Analysis - Results:

ANOVA analysis of the survey data showed that all but two measurements exhibited statistically significant positive improvement.

Physical Functioning: change 12.72% P – 0.231;

Role Limitations due to Physical Health Problems: change 19.68%, P – 0.0134; Role Limitations due to Personal or Emotional Problems: change 28.39%, P – 0.0002;

Energy / Fatigue: change 17.68%, P – 0.0058; Emotional Well-being: change 18.40%, P – 0.0086; Social Functioning: change 17.27%, P – 0.0989; Bodily Pain: change 15.34%, P - 0.0501;

General Health: change 13.61%, P - 0.0307. Conclusions:

Results indicate that movement meditation combining Tao calligraphy tracing and mantra chanting improved the quality of life for participants as measured by the SF 36 scale. In addition, tracing Tao calligraphy and mantra chanting was easy to learn, well tolerated and no complications arose.

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## Title: The Power of Touch: External Applications in the Care of Cancer Patients (Literature Review)

Inga Mühlenpfordt<sup>1</sup>, Wiebke Stritter<sup>1</sup>, Mathias Bertram<sup>2</sup>, Eran Ben-Arye<sup>3</sup>, Georg Seifert<sup>1</sup>  
Charité Universitätsmedizin Berlin, corporate member of Freie Universität Berlin, Humboldt- Universität zu Berlin, and Berlin Institute of Health, Department of Pediatrics, Division of Oncology and Hematology  
<sup>2</sup>Doerthe-Krause-Institute for Nursing Science and Education, Gemeinschaftskrankenhaus Herdecke gGmbH  
<sup>3</sup>Integrative Oncology Program, Haifa and Western Galilee Oncology Service, Lin and Carmel Medical Centers, Clalit Health Services, Israel

### Abstract

**Objectives.** External applications are manual treatment modalities performed by practitioners, nurses and caregivers through the application of touch and warmth to the human skin. They act via biological, psychological and social processes, in whole medical systems from complementary medicine external applications are connected with a holistic healing intention. The applications can be used in integrative oncology to improve factors of patients' wellbeing during illness and impairments induced by treatments. The purpose of the review is to collect and compare research results concerning external applications from different whole medical systems.

**Material and Method.** We conducted a literature review to explore the effects of external applications on patients undergoing cancer treatment. Inclusion criteria were external applications applied manually to cancer patients, stemming from Anthroposophic Medicine, Traditional Chinese Medicine (TCM) and Ayurvedic Medicine and applied isolated from the treatment spectrum of the originating whole medical system.

**Analysis.** The research and evaluation process was oriented on the PRISMA reporting guidelines, integrating sources from databases, grey literature and expert inputs. Research results in the range of single case and group studies were identified using the specific application terms in combination with cancer/oncology.

**Results.** Searches identified 111 publications. Final inclusions were four Shiatsu studies (TCM), supplemented by two case reports exploring Anthroposophic applications. Evidence and reporting was of insufficient quantity and quality. Study results suggest that external applications may potentially improve patients' wellbeing during cancer treatment and are associated with physical and psychological effects.

**Discussion.** In order to depict the effects of external applications further study designs have to consider the patient-tailored approach and the systemic complexity of touch-based applications based on treatment modalities from whole medical systems.

**Conclusions.** The results warrant further high-methodology research. Empirical investigations should assess the effectiveness and underlying effects of external applications in cancer patients.

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# SYMPOSIUM TARRAGONA





## Introduction Symposium

We are pleased to welcome you to the 1st International Symposium on Integrative Health and Education. Integrative Health is a new model of health care that emerged at the beginning of the last decade in response to consumer demands for more holistic health care. It reflects society's needs and expectations in relation to a cultural evolution and a different sensitivity towards health care. This health model focuses on the person, and its main objective is the wellbeing of the person as a whole beyond the suppression of the symptoms. A health problem is treated from an integral perspective that encompasses the whole person and considers health as an emergent property of the person in a given environmental context.

This symposium aims to be a forum for exchanging knowledge and experiences among members of the education community from different countries to learn the state-of-the-art of the educational framework of integrative health. The main objective is to facilitate a dialogue about practice, research and education, to help us determine guidelines for regulating an integrative educational framework.

The symposium starts with a round table which presents the international education experiences of countries such as the United States, Europe and Iceland. Some Spanish teaching experiences are presented in a second-round table. Then attendees are invited to participate, reflect on the presentations and evaluate the contributions and proposals in this field.

We are excited to share this meeting with you and hope that it is the start of a dialogue that will help us determine a line for integrative health education.

**Roser Ricomà Muntane**

**Neus Esmel Esmel**

*Congress chairs*

Tarragona, 12 september 2019

## Health and Healing Academic Programs

### Earl E. Bakken Center for Spirituality & Healing Integrative

Since 1995, the Earl E. Bakken Center for Spirituality & Healing at the University of Minnesota has been conducting research, educating health professionals and advancing innovative care delivery models that focus on integrative health and medicine. Our faculty, nearly 80 in number, come from diverse academic backgrounds. Approximately 2,000 students take academic graduate or undergraduate level courses each academic year through the Center and many thousands participate annually in our community-based programs, workshops and on-line learning opportunities. Our website Taking Charge of Your Health and Wellbeing (<https://www.takingcharge.csh.umn.edu/>) attracts close to 250,000 unique visitors per month from around the world.

The Bakken Center offers many interdisciplinary learning opportunities including a [master's degree in integrative health and wellbeing coaching](#), a graduate [certificate](#) and a [graduate minor](#) in integrative therapies and healing practices. Many health professionals enroll in these degree programs or take [courses](#) as a non-degree student for personal growth and professional development. Recently, a specialization in integrative health and medicine was created that is offered through Coursera.

We also collaborate with other University of Minnesota colleges and departments to offer the following learning opportunities:

Doctor of Nursing Practice in Integrative Health and Healing

Bachelor of Individualized Studies: Concentration in Human Health and Wellness

Inter-College Bachelor's Degree Program: Concentrations in Whole Systems Healing or Holistic Health and Healing; thematic degree in Health and Wellness

Health Care Design and Innovation Post-Baccalaureate Certificate

During the roundtable conversation in Tarragona, Dr. Mary Jo Kreitzer will highlight three of these academic programs: the Doctorate of Nursing Practice in Integrative Health and Healing, the Masters degree in Integrative Health and Wellbeing Coaching and the opportunities that students have to self-design their own learning programs through the graduate certificate and minor in integrative therapies and healing practices.

## Training in complementary and integrative medicine in Italy and experience in training for health professionals in Tuscany.

Elio Rossi\*, Susanna Fambrini\*\*

\* Homeopathic Clinic of the Hospital Campo di Marte, Lucca (Italy) – Regional center of reference for homeopathy. Coordination center for Complementary Medicine of ASL Tuscany North West

\*\* Serristori General Hospital, Florence, Local Health Unit Tuscany Centre

**Introduction:** International literature in this field reported evidence

concerning safety and efficacy in reducing some side effects of anticancer therapy (nausea, vomiting, anxiety, pain, and slight depression and sleep disturbances). The Local Health Unit Tuscany Centre introduced since April 26, 2017 at Serristori General Hospital in Figline and Incisa Valdarno, traditional Chinese medicine first level treatments exclusively in the care of cancer patients.

**Aim:** The general objective of this project is to integrate traditional Chinese medicine treatments with the usual care treatments in cancer patients' clinical pathways.

**Materials:** This project accounts four nurses trained in auricular therapeutic treatments, acupressure and plum blossom needle according to specific agreed protocols. Patients who suffer from insomnia, pain and anti-emetic drug use receive these treatments after a complete information about this therapeutic approach. A psycho-oncologist first evaluates the degree of anxiety and depression. Symptoms trends are evaluated using specific questionnaires.

**Results:** 35 patients were treated until December 31, 2017. The major pathologies treated were lung cancer: 9 patients (25.71%) and lymphoma: 6 patients (17.14%). Total treatments were 361. Seven patients abandoned the study (3 due to death, 3 due to failed compliance, 1 due to excessive pain when treated). Fourteen patients completed the treatment; the questionnaires of six of them were evaluated (3 for anxiety and 3 for insomnia).

As far as anxiety is concerned, there was an improvement in discomfort in the absolute value of 5.50

<28.21% of the initial discomfort value (started after the second session). For insomnia there was an improvement in discomfort (started after the fourth session) of 14 points (<51.85% of initial discomfort value).

**Conclusions:** The model described in this project allows widening the therapeutic approaches in oncology, offering to the numerous cancer patients, who frequently require complementary treatments (Eurispes 2017), appropriate and safe care opportunities, within and in synergy to official healthcare services, with improvement of symptoms and quality of life.

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## Complementary Therapies: Nursing education in Iceland

Gunnardosttir, TJ, PhD, Faculty of Nursing, Reykjavik (IS)

The use of complementary therapies in Iceland among the public is rising. Within the health care system needs to be increased discussion about how integrative health care can be strengthened and further education on this matter is needed to inform all health care students about the use of complementary therapies and integrative health for the benefit of patients. The Faculty of Nursing at the University of Iceland has been taking part in research and educating about complementary therapies

and integrative health practices. This has been done by offering lectures and seminars at the National Hospital, collecting data on the use within the National Hospital, among the public and in nursing homes. The Faculty of Nursing has renewed its curriculum and as part of that is now offering six credit course for all nursing students about public health and self-mental care, complementary and integrative health. The course lectures and workshops about complementary therapies and patient's symptoms and safe use. This may also be beneficial for students to deal with stress and increase self-care which may be of special importance now since recent studies are showing that nursing students are reporting increased stress and burnout during their studies.

## Integrative Medicine in Australia

**Presenter: Professor Avni Sali (Australia)**

There are two main types of medicine in western countries: Prescription Medicine which dominates and Integrative Medicine (IM) which is growing to be the medicine of the future.

In general there has been lack of government support for Integrative Medicine, both for consultations and research. This has made it difficult to progress Integrative Medicine.

In the USA the momentum of Integrative Medicine has moved at a more progressive pace. In 2014 the American Board of Physician Specialties formally recognised 'Integrative Medicine' as a medical specialty, like any other speciality eg. Surgery or Psychiatry. Almost all medical schools in the USA provide some form of integrative medicine education.

In Australia none of the university medical schools provide integrative medical education.

The National Institute of Integrative Medicine (NIIM), located in Melbourne and in another state, is the leading clinical medical Education and Research Centre in Integrative Medicine in Australia.

The major representative bodies in integrative medicine in Australia are -The Australasian Integrative Medicine Association (AIMA) and The Australasian College of Nutritional and Environmental Medicine (ACNEM). AIMA was set-up to represent Doctors who practice Integrative Medicine and ACNEM is primarily focused on education and representation.

Naturopathy centres traditionally have been involved predominantly with education, but are now also beginning to do some research.

At NIIM, our vision is to create a medical model for all to experience optimal health and wellbeing through Integrative Medicine. We envisage that one day all medicine will be 'Integrative Medicine'.

## How to learn integrative health?

**Tinao, JF, Director of the CMI clinic and the observatory of integrative medicine (Madrid/SP)**

"Health training programs are directed under the philosophy of positivism that appears at the end of the 19th century. We have all been trained in this model. The entry of the model that represents Integrative medicine forces a profound transformation in universities and health schools.

We are in a phase of change and crisis. We are looking for a new teaching model that responds to a new professional who is able to offer solutions to the new approaches of current health and disease"

## Integrative Medicine in Spain: Regulation process

**Rigau, J, MD, Master in pharmacogenetics and pharmacogenomics and environmental medicine (Tarragona/ SP)**

In recent years from government institutions there has been an irrational and ruthless persecution against what they call "unconventional medicines"

Suppressing university courses of great tradition and success.

Preventing training courses and / or congresses alleging that they had no scientific basis. Criminalizing doctors and patients for their action or even opinion.

Therefore, in 2018 the State Board for the Regulation of Traditional, Complementary and Integrative Therapies (MTC) was established. To demand adequate regulation for such disciplines and therapies, WHO recommended the Strategic Plan 2014-2023 on Traditional and Complementary Medicines.

Therefore, the debate for regulation is an open one.

## "Máster de Acupuntura, Etiqueta de Excelencia de la Universidad de Barcelona, 16 años de docencia".

**PONENTE: Dra. Cristina Domingo Gómez, Médica Acupuntora, Directora del Máster de Valoración de la Energética y Acupuntura de la Universidad de Barcelona, y del Máster de Medicina Tradicional China y Acupuntura del Campus Docent Sant Joan de Déu.**

### RESUMEN:

La formación en Medicina Integrativa en el Campus Docent SJD, adscrito a la UB es muy amplia, con tres Masters en Medicinas Complementarias (Acupuntura, Terapia Neural y Ayurveda), de 60 créditos ECTS cada uno, y la integración en el Graduado de Enfermería y en el de Técnico Curas Auxiliares de Enfermería (TCAI) con asignaturas específicas optativas en Terapias Naturales y Nutrición complementaria, y de manera implícita en once asignaturas troncales.

El Máster en Valoración Energética y Acupuntura recibió en año 2018, el reconocimiento de la UB con la Etiqueta de Excelencia y de la Academia de Ciencias Médicas y de la Salud de Catalunya y Baleares

con el Aval de la Sociedad Científica de Acupuntura.

La investigación es un pilar fundamental en el Campus Docent SJD y en nuestro Máster, habiendo dirigido 336 Tesinas de fin de Máster y otorgando a las más destacadas cada año el premio Acupuntura en investigación Clínica, que este año cumplirá la 17ª edición.

Nuestros esfuerzos en investigación incluyen estudios aleatorizados que forman parte de cinco tesis Doctorales en curso, destacando la realizada en el HSJD "Eficacia de la Acupuntura y Moxibustión en el tratamiento de la presentación de algas".

La Formación Continuada de nuestros profesionales Acupuntores, es constante, con seminarios de supervisión de casos clínicos, de formación en acupuntura avanzada y ampliación de conocimientos en los Hospitales de China.

## Experiencias educativas en salud integrativa desde el ámbito nacional Recorrido de las t.C en el grado de enfermería de la fcsbde la uvic

**Anna Rovira Sadurní**  
**DUE, Profesora de la Facultad Ciencias de la Salud y el Bienestar. Universidad de Vic- Universidad Central de Catalunya**

La comunicación presenta una reflexión sobre el recorrido histórico de las Terapias complementarias (en adelante TC) en la Facultad de Ciencias de la Salud de la Universidad de Vic, con el objetivo de plantear nuevos retos en su incorporación permanente en el Grado de enfermería. El trayecto a lo largo de los años ha sido irregular e inmerso periódicamente a cambios.

Desde los años 90 las TC están presentes en los estudios de enfermería de la UVIC pero no con la misma intensidad, implementación y forma. Distintos elementos han influenciado en su aplicación. El propio proceso histórico de cambio institucional, de Estudios Universitarios a Universidad, las modificaciones de planes de estudio, opiniones o tendencias a mantener un paradigma biomédico y cierto rechazo hacia la falta de evidencia, han propiciado la variabilidad en su aplicación. A pesar de todo las TC han estado de una forma u otra siempre presentes en el Grado, pero no de manera explícita.

La metodología y la forma de implantación de las TC han sido diversas. En sus inicios se realizaron talleres en la asignatura de Fundamentos de enfermería, en la formación de pregrado. Posteriormente con el nuevo plan de estudios aparece la posibilidad de impartir, además, una asignatura optativa sobre T.C. En este período se inicia también la formación en Posgrado, se crea un Posgrado sobre

T.C. y distintos cursos de formación continuada para profundizar en terapias concretas (reflexoterapia podal, aromaterapia, entre otras).

Después de este periodo, y por distintos motivos coyunturales a la situación de la Facultad de Ciencias de la Salud y el Bienestar se deja de ofrecer la asignatura optativa, pero se mantiene y se desarrolla un eje sobre estrategias mentales, a lo largo de los 4 cursos de Grado. Así mismo, se introducen conceptos básicos sobre TC en distintas asignaturas, entre ellas los Prácticums y Estrategias de intervención en el dolor crónico. Actualmente desde el curso 2018-19 se vuelve a ofrecer la asignatura optativa de T.C y enfermería, desarrollando los módulos de Fitoterapia y Reflexología Podal. Los resultados muestran un alto grado de satisfacción de los alumnos en relación con este último curso y en el análisis aparece reiteradamente palabras como descubrir e

integrar.

A pesar de que, a lo largo de estos años, las TC se han mantenido en el currículum de enfermería, cabe plantearse si la forma, fragmentada y optativa en que se han venido implementando, contribuye al desarrollo de la enfermería y responde a las necesidades reales de los usuarios.

¿Puede la Universidad obviar la responsabilidad de no formar profesionales que integren las distintas TC y dejar de trabajar hacia un modelo integral? Fernández- Cervilla (2013) orienta una respuesta indicando que la ausencia de formación en las universidades españolas conlleva que el tratamiento y asesoramiento al paciente este mermando y no se disponga de profesionales competentes en esta materia. La universidad es el primer eslabón de formación de los futuros profesionales enfermeros, es imprescindible liderar estrategias para conseguir la integración de las TC en asignaturas troncales. En consecuencia, es necesario sumar esfuerzos frente a los distintos impedimentos sociales, institucionales, políticos y económicos que dificultan su implementación. Además, como indican Gonzalez y Quindós (2010) "las diferentes corrientes de pensamiento de la disciplina enfermera nos describen escuelas con modelos conceptuales en los cuales las terapias naturales pueden integrarse, ya que tiene en común una visión de los cuidados en valores humanistas".

A pesar de las reticencias fundamentadas en una supuesta falta de evidencia científica, hay razones suficientes para integrar las TC en el grado de enfermería. La aceptación y uso de las TC por gran parte de la sociedad actual y de profesionales de la salud, la eficacia demostrada en determinados problemas de salud, las recomendaciones de las instituciones europeas, la OMS, y el incipiente inicio de experiencias de integración son algunos de los argumentos que pueden sustentar la integración de las TC, de forma definitiva y no cuestionable en el currículum. Su presencia permanente en éste permitiría desarrollar y afianzar un modelo de atención integral, evitando que las TC se continuaran viendo inmersas en un contexto de vulnerabilidad permanente.

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## Educational experiences of integrative health in Zaragoza (Aragón), past, present and future.

**Fernández Fortún, Tomás.**  
**Nurse, postgraduate in natural medicine, Director of the natural nursing department of the official nursing college of Zaragoza.**

**Keywords:**

Natural Medicine, Natural Nursing, Integrative Health.

Zaragoza is a city of 650.000 people located in the northeast of Spain. It is the capital of the region of Aragón. It concentrates the core of the educational offer within the region.

Integrative health educational experiences in Zaragoza has developed through three paths: University of Zaragoza, official nurse school, and others.

**University:**

Since the incorporation of undergraduate nursing studies as a university degree in 1977, the basics of integrative Health are included in its program (such as nutrition, exercise, relaxation techniques, psychotherapy, breathing, circadian rhythms, environmental health, etc.). In a more specific way other nursing conceptual models are also included: Florence Nightingale, Martha Rogers, Virginia Henderson, Margaret Newman,...

In a special way in the public studies of the University of Zaragoza, the faculty of health sciences in three occasions has contemplated subjects of free departmental configuration denominated: Fitotherapy, Homeopathic. However, the class that remained offered more often was Natural Medicine (from 2000 to 2005). Its program offers a theoretical and practical basis of: legal framework, medical plants, nutrition, yoga, relaxation techniques, energetic techniques, and Hydrotherapy, geobiology and healthhouse.

Postgraduate studies in Natural Medicine at Medical School (Nursing School depends of the Medical School) have been one of the studies with most relevance in the last 20 years (since 1992). The Homeopathic Master and the Master in Health Sciences in particular.

From different degrees, it has also been offered postgraduate studies in Acupuncture and Moxibustion (Foundation Business-University), Musictherapy (Teaching Degree).

Currently a Master in Mindfulness by the University of Zaragoza is the key offer. Summer courses from the University of Zaragoza are the oldest in Spain (since 1927)

In Jaca (Huesca) the University of Zaragoza has organized during different years courses on topics such as Clinical, Educational and Social Music Therapy, Molecular Biology, Humor and Philosophy, Natural Birth and others; and in its Campus of Teruel has been offered consecutively in botany and medicinal plants of the Iberian system (30th edition), Natural Environment as an educational resource, Comprehensive Approach of the Oncological Sick, Music Therapy, Mindfulness ... Also that in the public offer there have been postgraduate studies, although more concrete, as in environmental health or on Aromatherapy and Essential Oils.

From the San Jorge Private University of Zaragoza, the elective course for 4th grade students, called Alternative and Complementary Therapies of 75 teaching hours, is held in undergraduate studies.

Also in the offer from the public university, there has been the possibility of taking postgraduate studies in environmental health or on Aromatherapy and Essential Oils,

From the Nursing Specialties through the RIN program (Resident Internal Nurse) in the training years, are specifically included, from the Multidisciplinary Teaching Unit, studies on Integrative Nursing in the Specialties of Community Nursing, Pediatric Nursing, Obstetrics-Gynecology Nursing and in Mental Health Nursing

**Professional Chamber:**

The Professional Chamber of Nursing of Zaragoza, in 1994, founded what would be the first Collegiate Section or Department of Naturist

Nursing in a Nursing Professional Chamber in Spain. Currently, there are more than one thousand Zaragoza nurses enrolled.

Since then it has made countless training offers in Integrative Nursing (conferences, workshops, courses, seminars, ...) without forgetting the research aspect (publications, advice and professional practice).

In 1995, the 1st course in Naturist and Integrative Nursing and the First Days on Integrative Nursing were held with great success of assistance. This could take place after an intense first year of workshops and shorter workshops.

It should also be noted that in 1997, allegations were made to the then novel Project for the Regulation of Therapies in Europe Paul Lannoye, which initially left out nursing, ending a reversed situation.

It has a large library with numerous volumes and professional and informative magazines on the subject.

The SEN (Section of Naturist Nursing) within the framework of its biannual Days of Naturist Nursing, in its 10th edition, has celebrated its 25th anniversary.

The Chamber, through this department, keeps Monday and Wednesday (mornings and afternoon) a space for Yoga and Relaxation Techniques. These sessions are open to nurses and to the general public.

Currently training courses are also being offered. At this point, thousands of activities and tens of thousands of teaching hours have taken place.

**Other:**

In 2013, the Professional Chamber of Nursing of Zaragoza signed a training alliance in Integrative Nursing with ASENZAR, (Association of Naturist Nursing of Zaragoza) and in 2019 with ACEIZ, (Scientific Association of Integrative Nursing of Zaragoza - [www.aceiz.es](http://www.aceiz.es))

For example, only ASENZAR, in 2017, offered or promoted as integrative educational activities for free: 44 Conferences, 20 Courses, 40 Workshops, 12 Teaching Classrooms in Holistic Kinesiology, 11 Workshops Collaborative Economy, Several book presentations, 8 days of environmental health with tastings and gifts from ecological oil makers, ... and has recommended 34 fairs, congresses and conferences.

And equally but with cost: 11 Courses, 5 Congresses, 4 Days of Open Doors, ... and has participated in several programs of the regional TV: "Medicinal Uses of the Onion" and "Natural Remedies for the Summer".

The "Alternative Holidays in August" are a success each year and include numerous workshops and educational formations varied: Chromotherapy, Neural Therapy, Nonviolent Communication, Meditation Techniques, Aromatherapy, Natural Food, ...

Regarding Labor Unions: The CNT Union has held several conferences on Natural Medicine, CCOO and UGT through the sector tables for 9 years got-through BOA- (Official Gazette of Aragon), Official Training and Baremable from Health (Public Health System de Aragón) for public health personnel in: Geobiology and Casa Sana, Introduction to Natural Medicine for Groups A and B health, Yoga and Relaxation Techniques, Phytotherapy, Medicine of Humor and Laughter ...

The last event was the National Congress of Nursing held in Zaragoza and organized by CSIF with Presentations on Meditation, or Integrative Health. Resulting winners of the scientific prize in poster format in 2nd and 3rd place the works: "Nursing Interventions at Risk of Exclusion in Spain by Royal Decree" and "Need for an Emotional Health Consultation in Primary Health Care". The SATSE Syndicate has also conducted courses to use on various integrativesubjects.

On the other hand, it should be mentioned, that there is also in our city a varied offer from private entities such as schools of Naturopathy,

Acupuncture, Osteopathy, Reflexology, and a long etcetera

#### Future:

We still have to solve the problem of Regional concessions of National CFC teaching accreditations, to have specific training in Undergraduate Public University Studies or to have a weight in the different subjects as it would be desirable, to achieve a greater offer in Official University Masters and Postgraduate Degrees and own studies, to promote integrative educational offers from the same public HEALTH system and continue to encourage Integrative Health as an Essential Good in public and private health for the patient, the person and the community in its broadest sense.

## Shinrin-yoku: Environments for Purposeful Integrative Healing

**Margaret Mary Hansen Ed.D., MSN, RN**  
Professor of Nursing

**Purpose:** The aim of this presentation is to illustrate an in-depth review of the literature regarding the Japanese practice of *Shinrin-yoku* (forest bathing) and its associated healing benefits for the human mind, body and spirit. Watson's Theory of Human Caring and Caritas Processes™ (2008): "Create a healing environment for the physical and spiritual self which respects human dignity" and "Use creative scientific problem solving methods for caring decision making" act as a framework for *Shinrin-yoku*.

**Background:** Current research indicates an increase in human stress levels may be attributed to living and working in urbanized environments worldwide. Over the past six to seven million years we have evolved into what we are today as a human species and 99.9% of that time has been spent living in natural environments (Song et al., 2015). A multitude of current empirical studies support the existing awareness of the important link between natural environments, trees, plants and forests have on well-being and purposeful healing (Song, Ikei, & Miyazaki, 2015; Lee, Lee, Park, & Miyazaki, 2015; James et al., 2015; Kuo, 2015; Song, Ikei, & Miyazaki, 2016; Hart, 2016).

**Design:** A comprehensive search of the literature related to forest bathing and nature therapy was completed to review findings published during the last seven years.

**Data Sources:** Electronic databases: PubMed, CINAHL, PsychINFO, and Scopus were used for the integrative approach.

**Review methods:** Keyword searches were conducted for studies published 1998-2016 that looked at the effects of *Shinrin-yoku*, and/or *forest bathing*, and/or *nature therapy* on human psychological and/or physiological well-being.

**Results:** From 93 published studies that were initially scanned for content applicability, 69 studies were included in the detailed review.

**Conclusion:** *Shinrin-yoku*, as a healing modality for the physical, cognitive and spiritual self is supported by the research conducted in trans-continental Japan and China. However, there is a dearth of empirical research regarding the benefits for individuals residing in North America. Watson's Theory of Human Caring and current literature supports further research endeavors.

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## Workshop

### The GIM-Method (Guided Imagery and Music): How to mobilize inner resources of health through music-listening.

**Mahilan, C Ayllón, L**

Musical therapy actually is a very important treatment in clinical work especially in psychiatry, psychosomatic medicine, neurology, oncology, pediatrics, neonatology, surgery, palliative care...

The proved benefits based on evidential studies are: improvement of anim status, reduction of anxiety, relaxation and decrease of secondary effects like pain and problems of breathing (in case of oncological diseases), improvement of self-perception, stimulation of self healing, activation of inner resources of health, improvement of life quality, etc...

This workshop (practical and theoretical) has as purpose the experience of the receptive music therapy method of Guided Imagery and Music (GIM). GIM is a work tool for personal growth and facilitates self-knowledge, inner resources and creativity for better quality of daily life.

We offer you a space for personal exploration in group through music listening in state of deep relaxation.

