

RESEARCH HIGHLIGHTS

Latest homeopathic research synopsis during January - March, 2014

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Website:

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DOI:

10.4103/0974-7168.135650

Quick Response Code:

INTEGRATIVE NANOMEDICINE: TREATING CANCER WITH NANOSCALE NATURAL PRODUCTS

Journal reference: Global Advances in Health and Medicine: Improving Healthcare Outcomes, Volume 3, Issue 1, 2014, Pages 36-53.

Authors: Bell IR, Sarter B, Koithan M, Banerji P, Banerji P, Jain S, Ives J.

Summary: An approach in which homeopathic remedies could initiate anti-cancer effects, includes cell-to-cell signalling actions of both exogenous and endogenous nanoparticles that result in a cascade of modulatory biological events with anti-proliferative and pro-apoptotic effects. The nanoparticulate research data and Banerji Protocols for homeopathic remedies in cancer suggest a way forward for generating advances in cancer treatment with natural product-derived nanomedicines.

Source: <http://www.ncbi.nlm.nih.gov/pubmed/24753994>

HOMEOPATHY FOR INFERTILITY TREATMENT: A CASE SERIES

Journal reference: Clinical and Experimental Obstetrics and Gynecology, Volume 41, Issue 2, 2014, Pages 158-159.

Authors: Kalampokas T, Botis S, Kedikgianni-Antoniou A, Papamethodiou D, Kivellos S, Papadimitriou V, Salvanos G, Paparistidis N, Gavaris I, Sofoudis C, Kalampokas E, Farmakides G, Vithoulkas G.

Summary: Homeopathy has been used in the past for treating a broad spectrum of diseases. However, in Gynaecology, its use remains limited. Taking under consideration its clinical aspects, the authors attempted to use homeopathy for treating female sub-fertility problems. With this study, the authors present five cases of female infertility treated successfully

with the use of homeopathic treatment in a large Obstetrics-Gynaecology Hospital in Athens.

Source: <http://www.ncbi.nlm.nih.gov/pubmed/24779242>

CLINICAL EVALUATION OF VISCUM ALBUM MOTHER TINCTURE AS AN ANTIHYPERTENSIVE: A PILOT STUDY

Journal reference: Journal of Evidence Based Complementary and Alternative Medicine, Volume 19, Issue 1, 2014, Pages 31-35.

Authors: Poruthukaren KJ, Palatty PL, Baliga MS, Suresh S.

Summary: *Viscum album*, an infrequently used antihypertensive in homeopathy, was evaluated in an open observational study on primary hypertension. The drug was administered for 12 weeks at a dosage of 10 drops 3 times a day. Using paired *t*-test, a significant decrease in blood pressure and serum triglyceride was observed. This dual effect of *Viscum album* showed promising results in optimizing therapy for primary hypertension.

Source: <http://www.ncbi.nlm.nih.gov/pubmed/24647376>

CONTRIBUTION OF THE ROS-P53 FEEDBACK LOOP IN THUJA-INDUCED APOPTOSIS OF MAMMARY EPITHELIAL CARCINOMA CELLS

Journal reference: Oncology Reports, Volume 31, Issue 4, 2014, Pages 1589-1598.

Authors: Saha S, Bhattacharjee P, Mukherjee S, Mazumdar M, Chakraborty S, Khurana A, Nayak D, Manchanda R, Chakraborty R, Das T, Sa G.

Summary: In this study, the anti-tumourigenic activity of *Thuja occidentalis* was evaluated, and the molecular mechanisms underlying thuja-induced apoptosis of functional p53-expressing mammary epithelial carcinoma cells were elucidated. Results

Research Highlights

showed that *Thuja* successfully induced apoptosis in functional p53-expressing mammary epithelial carcinoma cells by abrogation of intracellular reactive oxygen species (ROS), prevention of p53-activation, knockdown of p53 or inhibition of its functional activity significantly abridged ROS generation, reduction of breast cancer cell apoptosis, and thereby validating the existence of an ROS-p53 feedback loop. These results open the horizon for developing a targeted therapy by modulating the redox status of functional p53-expressing mammary epithelial carcinoma cells by *Thuja*.

Source: <http://www.ncbi.nlm.nih.gov/pubmed/24482097>

HIGH-DILUTION EFFECTS REVISITED (1 AND 2)

Journal reference: Homeopathy, Volume 103, Issue 1, 2014, Pages 22-43, 4-21.

Authors: Bellavite P, Marzotto M, Oliosio D, Moratti E, Conforti A.

Summary (Physicochemical aspects): A number of approaches, including quantum physics, conductometric and spectroscopic measurements, thermoluminescence, and model simulations investigated the peculiar features of diluted/succussed solutions. The heterogeneous composition of water could be affected by interactive phenomena such as coherence, epitaxy and formation of colloidal nanobubbles containing gaseous inclusions of oxygen, nitrogen, carbon dioxide, silica and possibly, the original material of the remedy. Three major models are currently being investigated: The water clusters or clathrates, the coherent domains postulated by quantum electrodynamics and the formation of nanoparticles from the original solute plus solvent components. Other theoretical approaches based on quantum entanglement and on fractal-type self-organization of water clusters are more speculative and hypothetical. The problem of the physicochemical nature of high dilutions is still far from being clarified, but current evidence strongly supports the notion that the structuring of water and its solutes at the nanoscale can play a key role.

Summary (Pharmacodynamic mechanisms): The hypotheses regarding the action mechanisms of highly diluted and dynamised solutions (beyond Avogadro–Loschmidt limit) concern the

identification of biological targets, the means of drug–receptor interactions, the mechanisms of signal transmission and amplification, models of inversion of effects according to the traditional ‘simile’ rule, sensitivity to bioelectromagnetic information, participation of water chains in signalling and regulation of bifurcation points of systemic networks. Their effects are interpreted in the framework of hormesis theories and paradoxical pharmacology. High-dilution pharmacology is emerging as a pioneering subject in the domain of nanomedicine and is providing greater plausibility to the puzzling claims of homeopathy.

Source: <http://www.ncbi.nlm.nih.gov/pubmed/24439452>; <http://www.ncbi.nlm.nih.gov/pubmed/24439453>

CURRENT CONCEPTS ON INTEGRATIVE SAFETY ASSESSMENT OF ACTIVE SUBSTANCES OF BOTANICAL, MINERAL OR CHEMICAL ORIGIN IN HOMEOPATHIC MEDICINAL PRODUCTS WITHIN THE EUROPEAN REGULATORY FRAMEWORK

Journal reference: Regulatory Toxicology and Pharmacology, Volume 68, Issue 2, 2014, Pages 193-200.

Authors: Buchholzer ML, Werner C, Knoess W.

Summary: This paper aims to increase the visibility of the safety issues in homeopathy and to stimulate scientific discussion of worldwide existing regulatory concepts on homeopathic medicinal products. In homeopathy, non-clinical safety assessment is encountering a particular challenge because of a multitude of source materials used and their diversity and due to rarely available toxicological data. Thus, current concepts applied by the national regulatory authority in Germany (BfArM) on integrative safety assessment of raw materials used in homeopathic medicinal products involve several evaluation approaches such as the use of the Lowest Human Recommended Dose (LHRD), toxicological limit values, Threshold of Toxicological Concern (TTC), data from food regulation or the consideration of unavoidable environmental or dietary background exposure.

Source: <http://www.ncbi.nlm.nih.gov/pubmed/24384395>

IDENTIFICATION OF UNKNOWN HOMEOPATHIC REMEDIES BY DELAYED LUMINESCENCE

Journal reference: Cell Biochemistry and Biophysics, Volume 68, Issue 2, 2014, Pages 321-334.

Authors: Lenger K, Bajpai RP, Spielmann M.

Summary: A quality control of homeopathic remedies is possible by comparing the different B2-values of the unknown homeopathic remedies (e.g. *Argentum metallicum*, *Cantharis*, etc.) and their carrier substances by delayed luminescence.

Source: <http://www.ncbi.nlm.nih.gov/pubmed/23872840>

INTER-GROUP TRANSFER OF ANTI-ALCOHOLIC EFFECT OF NUX VOMICA 200 CH THROUGH THE BODY OF A LIVE TOAD

Journal reference: International Journal of High Dilution Research, Volume 13, Issue 46, 2014, Pages 3-12.

Authors: Chakraborty I, Sukul NC, Sukul A, Chakravarty R.

Summary: Using a toad model, the authors demonstrated that the anti-alcoholic effect of *Nux vomica* 200CH could be transferred without undergoing denaturation from one group of toads to another through capillary water carrying the information of the medicine. Homeopathic potencies showed UV spectra distinct from the hydroethanolic diluent medium. The fact that water carries the information of the original drug was further evidenced by the spectral properties of the water connected to the drug solution through capillary water.

Source: <http://www.feg.unesp.br/~ojs/index.php/ijhdr/article/view/684/689>

EXTREME SENSITIVITY OF GENE EXPRESSION IN HUMAN SH-SY5Y NEUROCYTES TO ULTRA-LOW DOSES OF GELSEMIUM SEMPERVIRENS

Journal reference: BMC Complementary and Alternative Medicine, Volume 14, 2014, Pages 104.

Authors: Marzotto M, Oliosio D, Brizzi M, Tononi P, Cristofolletti M, Bellavite P.

Summary: This study investigated the gene expression of a human SH-SY5Y neuroblastoma cell line treated for 24 hours with increasing dilutions of homeopathically prepared *Gelsemium sempervirens* extract and control vehicle solutions and their transcriptome were compared

by microarray. The study showed that *Gelsemium* modulated a series of genes involved in neuronal function. A small but statistically significant response was detected even to very low doses/high dilutions (up to 30C), indicating that the human neurocyte genome was extremely sensitive to this regulation.

Source: <http://www.ncbi.nlm.nih.gov/pubmed/24642002>

EFFECTS OF GELSEMIUM SEMPERVIRENS L. ON PATHWAY-FOCUSED GENE EXPRESSION PROFILING IN NEURONAL CELLS

Journal reference: Journal of Ethnopharmacology, Volume 153, Issue 2, 2014, Pages 535- 539.

Authors: Oliosio D, Marzotto M, Moratti E, Brizzi M, Bellavite P.

Summary: This study investigated by a real-time PCR technique (RT-PCR Array) the gene expression of a panel of human neurotransmitter receptors and regulators, involved in neuronal excitatory signalling, on Human SH-SY5Y neuroblastoma cell line exposed for 24 hours to *Gelsemium sempervirens* at 2C and 9C dilutions and the gene expression profile compared to that of cells treated with control vehicle solutions. Exposure to the *Gelsemium* 2C dilution induced a down-regulation of most genes of this array. In particular, the treated cells showed a statistically significant decrease of the prokineticin receptor 2, whose ligand is a neuropeptide involved in nociception, anxiety and depression-like behaviour. Results indicated a negative modulation trend in neuronal excitatory signalling, suggesting new working hypotheses on the anxiolytic and analgesic action of the plant.

Source: <http://www.ncbi.nlm.nih.gov/pubmed/24613275>

USE OF COMPLEMENTARY AND ALTERNATIVE MEDICINE IN PEDIATRIC OTOLARYNGOLOGY PATIENTS: A SURVEY

Journal reference: International Journal of Pediatric Otorhinolaryngology, Volume 78, Issue 2, 2014, Pages 248-252.

Authors: Gruber M, Ben-Arye E, Kerem N, Cohen-Kerem R.

Summary: The authors investigated the pattern of Complementary and Alternative Medicine (CAM) use among children and adolescents attending a paediatric otolaryngology clinic in a cross-sectional survey, using anonymous questionnaires filled-in by the parents accompanying young patients. Parents

Research Highlights

were asked about their general attitude toward CAM and whether they had ever consulted or considered a consultation with a CAM therapist. Homeopathy was reported to be used by 36% parents. CAM users assessed success rate as being: Successful (37%), unsuccessful (24%) or undetermined (39%). The otolaryngologist awareness of parents' preference and interest may contribute to decision making regarding paediatric patients' management.

Source: <http://www.ncbi.nlm.nih.gov/pubmed/24332665>

DIFFERENCES IN USE OF COMPLEMENTARY AND ALTERNATIVE MEDICINE BETWEEN CHILDREN AND ADOLESCENTS WITH CANCER IN GERMANY: A POPULATION BASED SURVEY

Journal reference: *Pediatric Blood Cancer*, Volume 61, Issue 3, 2014, Pages 488-492

Authors: Gottschling S, Meyer S, Längler A, Scharifi G, Ebinger F, Gronwald B.

Summary: A population-based survey over one year with 497 participants was conducted in Germany concerning differences between children and adolescents focusing on prevalence, reasons for use/non-use, costs, adverse effects and socio-demographic factors. About 31% reported CAM use from the time when being diagnosed. Homeopathy and Bach flower remedies were among the most frequently used CAM therapies. The main reasons for use were to reduce therapy-related side effects, to strengthen the immune system, to achieve physical stabilization and to increase healing chances. Socio-demographic factors associated with CAM use were higher parental education and higher family income. A majority of CAM users (97%) would recommend CAM use. Side effects were rarely reported (5%), minor and self-limiting. Clinical care and the physician-patient relation would profit from an enhanced understanding of CAM and a greater candidness towards the parental needs.

Source: <http://www.ncbi.nlm.nih.gov/pubmed/24038864>

USE AND PERCEIVED BENEFITS OF COMPLEMENTARY THERAPIES BY CANCER PATIENTS RECEIVING CONVENTIONAL TREATMENT IN ITALY

Journal reference: *Journal of Pain Symptoms Management*, Volume 47, Issue 1, 2014, Pages 26-34.

Authors: Bonacchi A, Fazzi L, Toccafondi A,

Cantore M, Mambrini A, Muraca MG, Banchelli G, Panella M, Focardi F, Calosi R, Di Costanzo F, Rosselli M, Miccinesi G.

Summary: This study aimed to investigate the demographic and psychological characteristics of 803 Italian cancer patients using Complementary Therapies (CTs) and visiting six Italian oncology departments. They were interviewed about CT use and completed two questionnaires to explore psychological distress and the resilience trait called Sense Of Coherence (SOC). About 37.9% of patients were using one or more types of CTs. Homeopathy was one of the most frequently (6.4%) used CTs. About 66.3% patients informed their physicians about CT use and 89.6% experienced benefits; 75.2% of the patients had used CTs in the past. Among psychological factors, SOC was positively associated with both past and present CT use.

Source: <http://www.ncbi.nlm.nih.gov/pubmed/23916679>

ADDITIVE HOMEOPATHY IN CANCER PATIENTS: RETROSPECTIVE SURVIVAL DATA FROM A HOMEOPATHIC OUTPATIENT UNIT AT THE MEDICAL UNIVERSITY OF VIENNA

Journal reference: *Complementary Therapies in Medicine*, Volume 22, Issue 2, 2014, Pages 320-332.

Authors: Gaertner K, Müllner M, Friehs H, Schuster E, Marosi C, Muchitsch I, Frass M, Kaye AD.

Summary: Data from cancer patients who had undergone homeopathic treatment complementary to conventional anti-cancer treatment at the Outpatient Unit for Homeopathy in Malignant Diseases, Medical University Vienna, Department of Medicine I, Vienna, Austria, were collected and described, and a retrospective subgroup-analysis with regard to survival time was performed. In four years, a total of 538 patients visited OPD, 62.8% were women and nearly 20% had breast cancer. About 53.7% had undergone at least three homeopathic consultations and 18.7% fulfilled inclusion criteria for survival analysis. The surveyed neoplasms were glioblastoma, lung, cholangiocellular and pancreatic carcinomas, metastasized sarcoma and renal cell carcinoma. Median overall survival was compared to expert expectations of survival outcomes by specific cancer type and was prolonged across observed cancer entities ($P < 0.001$).

Source: <http://www.ncbi.nlm.nih.gov/pubmed/24731904>

SURVEY OF GERMAN NON-MEDICAL PRACTITIONERS REGARDING COMPLEMENTARY AND ALTERNATIVE MEDICINE IN ONCOLOGY

Journal reference: *Oncol Res Treat.* Volume 37, Issue 1-2, 2014, Pages 49-53.

Authors: Koehl B, Muenstedt K, Micke O, Muecke R, Buentzel J, Stoll C, Prott FJ, Dennert G, Senf B, Huebner J.

Summary: A survey was conducted by using an online questionnaire on the 1,500 members of the non-medical practitioner (NMP) associations, of which 299 took part. The treatments were found to be heterogeneous. Homeopathy was used by 45% of the NMPs; 10% believed it to be a treatment directly against cancer. Many therapies provided by NMPs were biologically based and therefore might interfere with conventional cancer therapy. Thus, patients were at risk of interactions, especially as most NMPs did not adjust their therapies to those of the oncologist. Moreover, risks might arise from these Complementary and Alternative Medicine (CAM) methods as NMPs partly believed them to be useful anti-cancer treatments. This might lead to the delay or even omission of effective therapies.

Source: <http://www.ncbi.nlm.nih.gov/pubmed/24613909>

THE USE OF COMPLEMENTARY AND ALTERNATIVE MEDICINE BY WOMEN TRANSITIONING THROUGH MENOPAUSE IN GERMANY: RESULTS OF A SURVEY OF WOMEN AGED 45-60 YEARS

Journal reference: *Complementary Therapies in Medicine,* Volume 22, Issue 1, 2014, Pages 94-98.

Authors: Buhling KJ, Daniels BV, Studnitz FS, Eulenburg C, Mueck AO.

Summary: A self-administered questionnaire was sent to 9785 randomly selected women in Germany. Of these, 81% reported of suffering from menopausal complaints. Homeopathy was one of the popular interventions and perceived to be effective (73.7%), as stated by the respondents. Complementary and Alternative Medicine (CAM) interventions to alleviate menopausal complaints, either alone or in combination with Hormone Replacement Therapy (HRT), are popular among German women.

Source: <http://www.ncbi.nlm.nih.gov/pubmed/24559823>

DEVELOPING THE CRITERIA FOR EVALUATING QUALITY OF INDIVIDUALIZATION IN HOMEOPATHIC CLINICAL TRIAL REPORTING: A PRELIMINARY STUDY

Journal reference: *Journal of Integrative Medicine,* Volume 12, Issue 1, 2014, Pages 13-19.

Authors: Saha S, Koley M, Ganguly S, Rath P, Roy Chowdhury P, Hossain SI.

Summary: This study described the development of a preliminary version of an instrument that attempts to assess the quality of reports of individualized homeopathy in clinical trials and observational studies. A multidisciplinary panel of 15 judges produced an initial version of the instrument through iterative Delphi rounds and pilot-tested the instrument on five clinical trials. Later they assessed, under blind conditions, the individualization quality of 40 randomly selected research reports. The final version of the instrument included six criteria—single medicine, medicine individualization and its description, dose individualization and its description and subsequent prescriptions as per Kent's observations and/or Hering's law. These items were scored consistently by all the raters regardless of background. The instrument appeared to have adequate psychometric properties, and thus might be a promising systematic tool amendable for further development.

Source: <http://www.ncbi.nlm.nih.gov/pubmed/24461591>

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How to cite this article: Saha S, Koley M. Latest homoeopathic research synopsis during January - March, 2014. *Indian J Res Homoeopathy* 2014;8:116-20.

Source of Support: Nil, **Conflict of Interest:** None declared.