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Research highlights (October-December 2021)

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Abstract
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**Efficacy of Homoeopathic Treatment for Diabetic Distal Symmetric Polyneuropathy: A Multicentric Randomised Double-Blind Placebo-Controlled Clinical Trial**

**Title:** Efficacy of homoeopathic treatment for diabetic distal symmetric polyneuropathy: A multicentric randomised double-blind placebo-controlled clinical trial  

**Authors:** Pritha Mehra, Bindu Sharma, Hafeezulla Baig, Ch. Raveendar, R. V. R. Prasad, M. Prakash Rao, Kolli Raju, J. S. Arya, Raj K. Manchanda, Daisy Katarmal, Arvind Kumar.  

**Journal:** Explore, Volume 17, Issue 5, (2021), Pages 417–423, doi.org/10.1016/j.explore.2020.05.007  

**Summary:** The purpose of this clinical trial was to investigate whether the pre-identified homoeopathic drugs may help in the management of patients suffering from diabetic distal symmetric polyneuropathy (DDSP). To evaluate the effect of treatment, Neuropathy Total Symptom Score-6 questionnaire was used which showed significant improvement in treatment group. Physical examination scoring system called diabetic neuropathy examination score also showed positive trend in treatment group. A total of 68 enrolled cases were taken for data analysis. As a result, nerve conduction study showed 25% improvement in the patient of treatment group as compared to 13.8% of patients in placebo group. However, no significant difference was noticed in both groups in terms of WHOQOL-Bref. Eleven homoeopathic medicines (Lycopodium clavatum, Arsenicum album, Sulphur, Calcarea carbonica, Natrum muriaticum, Phosphorus, Nitricum acidum, Acid phosphoricum, Carbo vegetabilis, Kalium carbonicum and Mercurius solubilis) were prescribed in ascending potencies from 6C to 1M out of 15 pre-identified homoeopathic medicines.  

**Comments:** The study reflects a positive role of homoeopathy in DDSP as an adjuvant to conventional therapy. To determine the efficiency of homoeopathic medicines in the treatment of diabetic polyneuropathy, more research with a larger sample size and defined conditions for nerve conduction investigations is needed.

**Physicochemical Properties of Zinc and Lactose in Solid Mixtures: Influence of Trituration Process**

**Title:** Physicochemical properties of zinc and lactose in solid mixtures: Influence of trituration process  

**Authors:** Clarissa Fontes, Adriana P. Oliveira, João V.C. Batista, Cleo Martins, André Rossi, Enrique R. Yapuchura, Priscila Furtado, Paloma Meireles, Marcia Alves Marques Capella, Paulo H.S. Picciani, Carla Holandino.  


**Summary:** The aim of this work was to investigate the physical-chemical properties of zinc and lactose. Analytical techniques were used to demonstrate all the chemical component’s interactions which are present in dynamised solid mixtures. Trituration of zinc and lactose (1:9 w/w)
mixture at same proportion as per Brazilian Homoeopathic Pharmacopoeia was done and techniques used were as follows: Scanning electron microscopy (SEM), atomic absorption spectrometry (AAS), differential scanning calorimetry, X-ray diffraction (XRD), thermogravimetry and Raman spectroscopy (RS). AAS showed raw material with 97% zinc and triturated zinc lactose system (ZnMet) produced mean values identical to those which expected for physical mixtures: 9.94%, 1.23% and 0.11% in the first three proportions (10⁻¹, 10⁻² and 10⁻³), respectively. Trituration resulted in reduction of particle size, by SEM images. The XRD of ZnMet most likely to be linked with modifications of interatomic crystalline spacing. The result of thermal analysis of dynamised samples indicates that physical force exerted, can cause changes in chemical interaction between zinc and lactose. The dynamisation method caused RS to show variations in vibration frequency.

**Comments:** This research work indicates the necessity of using appropriate characterisation methods for better understanding of the properties of homoeopathic solid mixtures, while the employment of sensitive tools demonstrates the impact of trituration on crystalline properties and enthalpy changes in dynamised samples.

**Preparation, Standardisation and Anti-plasmodial Efficacy of Novel Malaria Nosodes**

**Title:** Preparation, standardisation and anti-plasmodial efficacy of novel malaria nosodes

**Authors:** Mansi Suri, Neha Sylvia Walter, Sapna Katnoria, Varun Gorki, Raj Kumar Manchanda, Anil Khurana, Debadatta Nayak, Upma Bagai, Sukhbir Kaur.


**Summary:** Resistance to artemisinin and other related drugs has put the world’s effort in jeopardy to combat malaria. Hence, there is a need for new therapies that may control the disease without causing any side effects. In this study, novel homoeopathic nosodes (i.e., cell-free parasite nosode, infected RBCs nosode and mixture nosode) were prepared from *Plasmodium falciparum* as per HPI. *In vitro* and *in vivo* anti-plasmodial activity was also assessed. Assessment of *in vitro* antimalarial activity was done by schizont maturation inhibition assay and 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide, a tetrazole (MTT) assay used to assess cytotoxicity. *In vivo* suppressive activity was determined by Knight and Peter’s method where inoculation of mice with *Plasmodium berghei* infected erythrocytes on the 1st day was initiated with treatment. Biochemical, histopathological and cytokine analyses were done using standard methods. As a result, nosodes in *in vitro* study showed considerable activity against *P. falciparum* with maximum inhibition by mixture nosodes followed by cell-free parasite nosode and then infected RBCs nosode. *In vivo* assessment showed suppressive efficacy in mixture nosode-treated mice, with 0.005–0.001% parasitemia on day 35. Liver and kidney function biomarkers were within the normal range in the mixture nosode-treated groups. Cytokine analysis revealed increased levels of IL-4 and IL-10, while a decline in IL-17 and IFN-γ was evident in the mixture nosode-treated mice.

**Comments:** The antimalarial activity of the mixture nosodes against *Plasmodium falciparum* and *P. berghei* seemed promising. The nosodes were also found to be safe for the mice host in histopathological and biochemical studies. This study provides useful information on a novel antimalarial drug with the potential to be used in the homoeopathic treatment of malaria.

**Utilisation of Complementary and Traditional Medicine Practitioners among Middle-Aged and Older Adults in India**

**Title:** Utilisation of complementary and traditional medicine practitioners among middle-aged and older adults in India: Results of a national survey in 2017–2018

**Authors:** Supa Pengpid and Karl Peltzer.


**Summary:** There is a scarcity of data on the utilisation of Traditional and Complementary Medicine among Indians, especially middle-aged and older adults. The present study gathered estimates of utilisation of AYUSH practitioners (Ayurveda, Yoga, Naturopathy, Unani, Siddha and Homoeopathy) and traditional health practitioners over 12 months. The cross-sectional study survey from 2017 to 2018 included 72,262 participants of 45 years and above. Longitudinal Ageing Study in India Wave 1, a full scale of national survey, was used for the study which showed 6.5% use of AYUSH practitioners, 7% use of traditional health practitioners (THP) and AYUSH or THP use of 13%. Adjusted logistic regression analysis was done where the utilisation rate of AYUSH practitioners was determined by old age (≥60 years), male sex, any bone or joint diseases, having pain, current tobacco use, high subjective socioeconomic status, urban residence, chronic heart disease, diabetes and having a health insurance cover, whereas the utilisation rate of THP was determined by depressive symptoms, sleep problems, current tobacco use, having pain, health insurance cover, diabetes, hypertension, urban residence and high subjective socioeconomic status.

**Comments:** In India, there is a considerable prevalence of AYUSH practitioners and THP utilisation among middle-aged and older people. Efforts to find various characteristics linked with utilisation of both must be exerted. This is one such effort.

**A Review on Anxiety Disorders during COVID-19 Pandemic-homoeopathic Perspective**

**Title:** A review on anxiety disorders during COVID-19 pandemic-homoeopathic perspective
**Authors:** Deepthi Gilla, Jaseel Ahammed, Akhila AL, Sreelakshmy SR.

**Journal:** International Journal of High Dilution Research 2021;20(2-3):75-85

**Summary:** The unprecedented COVID-19 outbreak has wreaked devastation on human lives in almost every way. The most common psychiatric disorders are anxiety disorders, which have especially become more common in recent years. Homoeopathy is an alternative therapy that has been shown to be useful in the treatment of mental illnesses. This study aims to analyse the most prevalent anxiety disorders in COVID-19 cases and to assess the efficacy of homoeopathic drugs in their management. This narrative review has presented selective material from PubMed search engine as well as research papers on homoeopathy for anxiety-related disorders. The present article summarises the anxiety disorders detected during COVID-19 and the function of homoeopathy in their management. The homoeopathic perspective on anxiety, as well as related rubrics on anxiety disorders in various repertories, is also discussed.

**Comments:** One of the major issues during COVID-19 pandemic is mental health problems. Homoeopathy is one of the safe and effective alternative therapies for the management of anxiety-related disorders.

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**USE OF HOMOEOPATHIC ARNICA MONTANA 30 CH FOR POST-OPERATIVE ANALGESIA IN FEMALE DOGS UNDERGOING ELECTIVE OVARIOHYSTERECTOMY**

**Title:** Use of homoeopathic Arnica montana 30 CH for post-operative analgesia in female dogs undergoing elective ovariohysterectomy

**Authors:** David Ronald Parra Travagin, Melina Castilho de Souza Balbuemo, Cidéli de Paula Coelho.


**Summary:** Ovariohysterectomy (OH) is one of the most frequently performed elective surgeries in veterinary practice. Homoeopathic drug Arnica montana is a well-known remedy in cases that require healing. It also acts as analgesic, anti-septic, anti-inflammatory and antioxidant and has an immune-modulatory effect. However, studies on homoeopathic drugs in animals are lacking. The goal of the present study was to investigate whether that Arnica montana 30 CH worked as an analgesic in post-operative phase after elective OH. Thirty healthy dogs (females) were selected from Veterinary Hospital at Campo Mourão, Paraná, Brazil. Subjects of 1–3 years, weighing about 7–14 kg, were included in the study. Following anaesthetic protocol and analgesia, these dogs were made to surgery. After the completion of procedure, randomisation was done into three groups (10 dogs in each group). Arnica montana 30 CH was given to one group, 5% hydroalcoholic solution to another and solution of 0.9% NaCl saline to the third group. All were administered four drops of their respective solution. After withdrawal of anaesthesia, repetition of doses every 10 min continued for an hour. The effect of therapy was assessed using the Glasgow-Composite-Measure-Pain Scale. The analgesic maintenance time for Arnica montana group was for 17.8 ± 3.6 h, compared to hydroalcoholic group with 5.1 ± 1.2 h and 4.1 ± 0.9 h for the saline group (P ≤ 0.05).

**Comments:** The study demonstrates that homoeopathic medicine Arnica 30 CH has a significant effect as an analgesic when compared to other groups.

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**FERRUM PHOSPHORICUM D12 TREATMENT AFFECTS J774A.1 CELL PROLIFERATION, TRANSCRIPTION LEVELS OF IRON METABOLISM, ANTIOXIDANT DEFENCE AND INFLAMMATION-RELATED GENES**

**Title:** Ferrum phosphoricum D12 treatment affects J774A.1 cell proliferation, transcription levels of iron metabolism, antioxidant defence and inflammation-related genes

**Authors:** Oskan Tasinov, Yoana Kiselova-Kaneva, Desislava Ivanova, Milena Pasheva, Deyana Vankova, Diana Ivanova.

**Journal:** Homoeopathy. 11 October 2021. DOI: 10.1055/s-0041-1731312

**Summary:** Homoeopathic remedy ferrum phosphoricum is used to treat fever, initial stage of inflammation, muscle weariness and anaemia. The aim of this study was to investigate molecular mechanism of the action of ferrum phosphoricum D12 on cell proliferation and mRNA expression of iron metabolism, antioxidant defence and inflammation-related genes in mouse J774A.1 macrophages. The MTT test was used to examine cell proliferation. Changes in gene expression were estimated by RT-qPCR and 2^ΔΔCt method used to calculate relative gene expression level. Effect of ferrum phosphoricum D12 tablets was compared to placebo tablet (PT) treatment. Low doses of ferrum phosphoricum D12 increased the proliferation of J774A.1 cells by up to 11% against control untreated cells and up to 40% against PT-treated cells in the same concentration. In macrophages, ferrum phosphoricum D12 showed significant rise in mRNA expression of ferritin light chain, β-2 microglobulin and iron responsive element-binding protein 2, while causing a modest reduction in myosin IE mRNA expression. The transcription levels of Ireb2 and B2m were shown to be significantly correlated. The antioxidant enzyme (Gpx-1) was significantly stimulated in cells by 0.025 mg/mL ferrum phosphoricum D12; however, there was a minor decrease in cells treated with 0.0125 mg/mL. In macrophages, there was also a considerable rise in IL-1 gene expression.

**Comments:** Ferrum phosphoricum in D12 dilution has been shown to have iron retention, antioxidant and immune-modulatory properties, perhaps by altering transcription levels of associated genes in non-stimulated mouse macrophages.
Cost-effectiveness Analysis for SilAtro-5-90 Adjuvant Treatment in the Management of Recurrent Tonsillitis, Compared with Usual Care Only

Title: Cost-effectiveness analysis for SilAtro-5-90 adjuvant treatment in the management of recurrent tonsillitis, compared with usual care only

Authors: Thomas Ostermann, A-La Park, Sabine De Jaegere, Katharina Fetz, Petra Klement-Christa Raak and David McDaid.


Summary: Antibiotics are one of the options for treating recurrent acute infection of throat, although their efficacy is variable. In light of concerns about antibiotic resistance, therapeutic options that limit recurrence of acute throat infection (ATI) are essential from a public-health standpoint. One such option is integrative treatment strategies; however, evidence of their cost-effectiveness is still high in demand. Over a period of 2 years, a 4-state Markov model was used to assess the cost-effectiveness of SilAtro-5-90 as an adjuvant homoeopathic therapy compared to usual care in reducing ATIs recurrence in patients of Germany. This multicentric randomised clinical trial found this strategy to be effective in reducing ATI recurrence. The results are reported separately for children under the age of 12 and adults aged 12 and above. The incremental cost per ATI avoided in the adjuvant treatment group was €156.64 for adults. Adjuvant treatment had reduced costs and better results than standard care when people enter the model with an average of 3.33 previous ATIs. Adjuvant therapy also had lower costs and ATI for children under the age of 12 than in standard care. If adjuvant treatment is able to reduce surgical referrals, the economic case could be stronger. SilAtro-5-90 had a 65% (adults) and 71% (children) likelihood of being cost effective at a hypothetical cost avoided per ATI being at a threshold of €1000, according to the probabilistic sensitivity analysis.

Comments: From a socioeconomic standpoint, the findings highlight the relevance of adopting homoeopathy as an adjuvant therapy in the treatment of ATIs in people with recurrent tonsillitis. Furthermore, it can also prevent tonsillectomy, which is sometimes not devoid of complications for individuals, as well as adds to societal costs. More research should be done to see how disparities in uptake and long-term usage of homoeopathic adjuvant therapy, as well as shifting from antibiotics can affect costing of the treatment.

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Nil.

Conflicts of interest
None declared.

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