

Research in Homeopathy 3

Robert Medhurst BNat ND DHom

At the time of writing this, here in Australia the Federal Government's peak advisory body on healthcare, the National Health and Medical Research Council (NHMRC), has just completed a study into the research that's been done on homeopathy. Apparently, there's no convincing evidence to support it. The list of data sources that the NHMRC chose to come to this conclusion makes interesting reading and to someone who's a little sceptical of the process used by the NHMRC, it might seem as if the data was deliberately selected to reach a particular conclusion. The sceptic may have this view reinforced by the fact that the panel of experts who assessed the data was notable by its lack of a homeopath. A few years ago I wrote an article containing summaries of most of the research on homeopathy that had been published up to that time. This article, completed in June 2014, is an update to this, covering most of the research that's been done in this area to date. It contains abstracts from 360 human, animal, plant and in-vitro scientific studies that attest to the reality that there is an abundance of well constructed evidence that confirms a positive effect from interventions using homeopathy. Much of this research was apparently invisible or irrelevant to the committee conducting the most recent NHMRC review.

Human studies

1. Albertini H, et al. **Homeopathic treatment of dental neuralgia by Arnica and Hypericum.** *Journal of the American Institute of Homeopathy*, 1985, 3, 126-129. Carried out at the Faculty of Medicine of Marseilles, this placebo controlled study was designed to determine the effectiveness of Arnica 7C and Hypericum 15C for people suffering from dental neuralgia. 60 people received either 4 pilules of Arnica alternated with 4 pilules of Hypericum every 4 hours or placebo administered in the same way. Pain levels were assessed over 3 days from the beginning of the trial. From this assessment it was found that 12 of the 30 people who received the placebo had a positive response to this intervention, and 23 of the 30 people given the homeopathic medicines responded positively to these.
2. Alibeu JP, Jobert J. **Aconite in Post-Operative Pain and Agitation in Children,** *Pediatric*, 1990, 45, 7-8, 465-6. In this double blind placebo controlled trial, 50 children suffering from post-operative pain and agitation were given either *Aconite* or placebo. The effects of *Aconite* were significantly better than placebo
3. Ammerschlager H, et al. **Treatment of inflammatory diseases of the upper respiratory tract - comparison of a homeopathic complex remedy with xylometazoline.** *Forsch Komplementarmed Klass Naturheilkd.* 2005, 12, 1, 24-31. In a multi-centre, controlled, cohort study, 739 people suffering from rhinitis or sinusitis were given either xylometazoline (a drug commonly used for nasal congestion, sinusitis and hay fever) or a homeopathic combination. Both forms of therapy provided similarly effective results.
4. Baars EW, De Bruin A. **The effect of Gencydo injections on hayfever symptoms: a therapeutic causality report.** *J Altern Complement Med.* 2005 Oct, 11, 5, 863-9. In this study, 13 Dutch medical practitioners submitted patients (who between them had a mean history of hayfever of 9 years), for therapy involving injections of a combination homeopathic product. All but 1 patient were given the medication before the onset of the hayfever season and all were given it during the hayfever season. Of these 13, during the course of the trial 9 people found no increase in nasal and non-nasal hayfever symptoms when the hayfever season began or during it and only 1 of the 13 felt compelled to use conventional hayfever medication.

5. Baduluci S, et al. **Zinc: Immunoglobulin Relationship in Patients with Cirrhosis of the Liver Before and After treatment with Zincum metallicum 5C.** International Research Group on Very Low Dose and High Dilution Effects, 1993 Giri Meeting, *British Homoeopathic Journal*, April, 1994, 83, 84-100. 10 people suffering from Zinc deficiency as determined by atomic absorption spectrophotometry were treated with *Zincum metallicum 5C*. Analysis following this treatment showed a substantial improvement in zinc levels.

6. Banerjee A, et al. **Can Homeopathy bring additional benefits to Thalassaemic Patients on Hydroxyurea Therapy? Encouraging Results of a Preliminary Study.** *Evidence Based Complementary and Alternative Medicine*, 2010, 7, 1, 129–136. In this observational study, 38 people suffering from thalassaemia who were taking hydroxyurea, were allowed to continue their use of hydroxyurea but were given one of several homeopathic medicines. The effects of this additional treatment were compared to the outcomes of another 38 people suffering from thalassaemia who used hydroxyurea alone, assessed immediately before and at 3 months after starting the homeopathic treatment. Of a range of haematological and clinical parameters, those people using the combined treatment showed an increase in levels of foetal haemoglobin over those on hydroxyurea alone, along with a reduction in serum ferritin. Where splenomegaly was present, a significant reduction in this was noted in those on the combined therapy and this group also noted an improvement in general health with a longer period allowed between blood transfusions.

7. Barnes J., Resch K-L., Ernst E. **Homoeopathy for Post-Operative Ileus: A Meta-Analysis.** *Journal of Clinical Gastroenterology*, 1997, Dec, 25, 4, 628- 633. 7 separate trials examining the effects of homoeopathic treatment for post-operative ileus after abdominal or gynaecological surgery when compared with placebo, specifically, for the time to first flatus after surgery. Subsequent analysis showed that homoeopathy provided superior results to placebo.

8. Bell IR, et al. **Improved clinical status in fibromyalgia patients treated with individualized homeopathic remedies versus placebo.** *Rheumatology (Oxford)*. 2004, 43, 5, 577-82. 53 people suffering from fibromyalgia took part in this trial, comparing individualised homoeopathic treatment to placebo. The levels of tender points and tender point pain as well as quality of life, mood and general health were assessed by the practitioners and subjects involved in the trial. 3 months after commencing treatment, all parameters were found to be improved by the use of homoeopathy when compared to placebo.

9. Belon P, et al. **Can administration of potentized homeopathic remedy, Arsenicum album, alter antinuclear antibody (ANA) titre in people living in high-risk arsenic contaminated areas? I. A correlation with certain hematological parameters.** *Evid Based Complement Alternat Med*. 2006, 3, 1, 99-107. To investigate whether or not potentised Arsenicum album has an effect on arsenic-induced elevations of antinuclear antibody (ANA), selected inhabitants of arsenic affected villages in India's West Bengal were randomly assigned to receive either Arsenicum album or placebo. After 2 months of administration, it was found that not only did the remedy provide superior results in reducing the ANA titre, it also caused a correction of arsenic-induced haematological changes such as total count of red blood cells and white blood cells, packed cell volume, haemoglobin content, erythrocyte sedimentation rate and blood sugar level.

10. Belon P, et al. **Homeopathic remedy for arsenic toxicity? Evidence-based findings from a randomized placebo-controlled double blind human trial.** *Sci Total Environ*. 2007 Oct 1;384(1-3):141-50. Epub 2007 Jul 12. This was a pilot study carried out on 25 people from an Indian village where arsenic contamination was endemic and 18 people from another Indian village without arsenic contamination. These people were randomly assigned to receive either Arsenicum album 30C or a

succeded placebo control. After 2 months on either active medicine or placebo, these people had their blood and urine assessed for arsenic as well as several widely accepted toxicity biomarkers and pathological parameters related to arsenic toxicity. The use of Arsenicum album 30C had a beneficial effect on these biomarkers. It was also found to improve the appetite and general health of those people who previously exhibited signs and symptoms of arsenic toxicity.

11. Berrebi A, et al. **Treatment of Pain due to Unwanted Lactation with a Homeopathic Preparation given in the Immediate Post-Partum Period.** *Gynecology, Obstetrics and Biological Reproduction*, 2001, 30, 4, 353-7. 71 post-parturient women who were unwilling or unable to breast feed were divided into 2 groups, one being given a placebo and the other group being given a mixture of Apis 9C and Bryonia 9C, to determine the effects of either on lactation pain. A significant improvement was noted in the group using the mixture, when compared to those in the placebo group.

12. Bignamini M, Saruggia M, Sansonetti G. **Homeopathic Treatment of Anal Fissures using Nitricum acidum** *Berlin Journal on Research in Homoeopathy*, 1, 4/5, 286-287, December 1991. Patients using Nitricum acidum 9C once daily in a double blind placebo controlled trial found subjective relief with the medicine over the placebo.

13. Bornhoft G, et al. **Effectiveness, safety and cost-effectiveness of homeopathy in general practice - summarized health technology assessment.** *Forsch Komplementarmed.* 2006, 13 Suppl 2:19-29. This was an effectiveness and safety study on homeopathy carried out for the Swiss Federal Office for Public Health. Using Internet-based resources, manual search and contact with experts, and assessed according to internal and external validity criteria, investigators found that the trend was in favour of a therapeutic benefit from homeopathic intervention. In addition, it was stated by the authors of the study that, "...effectiveness of homeopathy can be supported by clinical evidence and professional and adequate application be regarded as safe."

14. Brigo B, Serpelloni G, **Homoeopathic Treatment of Migraine** *Berlin Journal on Research in Homoeopathy*, 1991, 1, 2, 98-106. In this randomised, placebo controlled double blind study, 60 people suffering from migraine were treated using constitutional homoeopathy over a period of 4 months. Those patients in the control group experienced a reduction in migraine frequency from 9.9 attacks per month to 7.9 per month, while those in the treatment group reduced their monthly attack rate from 10 to between 1.8 and 3 per month.

15. Cairo J, Elliot BE, Barnouin J, Fleites P, Araoz A, Morales M, Verdura T, Sanchez M, Serrano C, Alvarez JL, Veillard JJ. **Homeopathy in Cuban Epidemic Neuropathy: An Open Clinical Trial.** *British Homoeopathic Journal*, 2001, 90, 3, 154-157. In this uncontrolled trial, 15 people suffering from optic endemic neuropathy (group 1) and 16 people suffering from peripheral epidemic neuropathy (group 2) were given homeopathic Carbon sulph and homeopathic Tabacum for 30 days. The subjects were assessed for improvement in neurologic and ophthalmologic tests on commencement and again at 90 days after commencement of the trial. Those in group 1 experienced an averaged improvement of 73% and group 2 of 12.5%.

16. Campistrano- Lavout JL., et al. **Hypertension Trial.** *Boletin Mexicano*, 1999, 32, 42- 47. 68 people suffering from mild to moderate hypertension were enrolled in a double-blind randomised clinical trial comparing individualised homoeopathic therapy with placebo. Successful results were obtained with 82% of those using homoeopathy compared with 57% of those using placebo.

17. Castellsague API, Sturza CM. **Retrospective Study in Asthma**, *Revista Homeopatica AMBH*, 1998, 37, 5-21. In this multi-centre retrospective (uncontrolled) analysis, 196 people were treated for

asthma with homeopathy. Of the 196, 54 were claimed to have been cured and improvement was seen in a further 117.

18. Cavalcanti AM, et al. **Effects of homeopathic treatment on pruritus of haemodialysis patients: a randomised placebo-controlled double-blind trial.** *Homeopathy*. 2003, 92, 4, 177-81. Pruritis, commonly experienced by those undergoing haemodialysis, was treated in 20 subjects under double-blind placebo-controlled randomised trial conditions comparing individualised homeopathic treatment to placebo. Assessments were made at 15, 30, 45 and 60 days treatment, and after collating the results, researchers found that homeopathic management reduced pruritis by 49%. The majority of the reduction in pruritis had occurred by day 30.

19. Chapman EH, et al. **Homeopathic Treatment of Mild Traumatic Brain Injury.** *Journal of Head Trauma and Rehabilitation*, 1999, 14, 6, 521-42. In a randomised, double blind, placebo controlled trial involving 60 subjects and a 4 month follow-up period, homeopathy provided significant improvement in parameters using measures such as "Difficulty with Situations", "Symptoms Rating Scale" and a "Participation in Daily Activities" scale.

20. Chapman EH. **Homeopathic treatment of patients with persistent mild traumatic brain injury.** *British Homeopathic Journal*, 2000, 89, Suppl 1, S60. In a randomised, placebo-controlled trial, 50 people with persistent mild traumatic brain injury were treated either with their constitutional homeopathic remedy or placebo. The homeopathic treatment provided superior results to those from the placebo control.

21. Clark J, Percivall AA. **Preliminary Investigation into the Effectiveness of the Homeopathic Remedy, *Ruta graveolens*, in the Treatment of Pain in Plantar Fasciitis.** *British Journal of Podiatry*, 2000, 3, 3, 81- 85. In a randomised double-blind trial, 14 people suffering from plantar fasciitis were given *Ruta graveolens* 30C or placebo. Those using the *Ruta* reported a greater level of pain relief than those using placebo.

22. Clover A, Ratsey D. **Homeopathic Treatment of Hot Flashes.** *British Homeopathic Journal*, 2002, 91, 75-79. Researchers at the Tunbridge Wells Homeopathic Hospital in the UK enrolled 31 female outpatients who had complained of menopausal flushes in this trial. They were treated using individualised homeopathic management and after their initial consultation and at least one follow-up, patients completed their own self-assessment rating of the treatment. 79% of the women enrolled in the study reported a reduction in both the severity and frequency of hot flushes as a result of the treatment.

23. Colin P. **Homeopathy and respiratory allergies: a series of 147 cases.** *Homeopathy*. 2006, 95, 2, 68-72. In this case series, 147 consecutive patients suffering from respiratory allergy who attended a private homeopathic clinic were assessed for their response to constitutional homeopathic treatment. Of these patients, 105 were sufferers of ear, nose and throat allergies. Only 2 of these patients failed to respond to treatment and none experienced an exacerbation of symptoms. The other 42 patients were sufferers of pulmonary allergies, all except 5 of whom experienced relief, with 2 of these experiencing an exacerbation of symptoms.

24. Davidson JRT, et al. **Homeopathic Treatment of Depression and Anxiety.** *Alternative Therapies*, 1997, 3, 1, 46-49. In this trial, 12 subjects suffering from major depression, social phobia or panic disorder, were treated for 7 to 80 weeks with individually prescribed homeopathic remedies and assessed on a clinical global improvement scale (CGIS) or self-rated SCL-90 scale and the Social Phobia Scale (SPS). Subjects were given homeopathic treatment either because they asked for it

directly or because conventional treatment had been unsuccessful. The overall response rates for homeopathy were 58% on the CGIS and 50% on the SCL-90 and SPS.

25. Derasse M, Klein P, Weiser M. **The effects of a complex homeopathic medicine compared with acetaminophen in the symptomatic treatment of acute febrile infections in children: an observational study.** *Explore (NY)*. 2005, 1, 1, 33-9. In this non-randomised observational study carried out in 38 Belgian clinics, 198 children suffering from acute febrile infections were assessed for their response to either acetaminophen or a combination of homeopathic medicines. The children had their infection symptoms, which included fever, cramps, disturbed sleep, crying, and difficulties eating or drinking, assessed and graded for a response to their respective medicines. After taking the results from all variables into account, it was found that the homeopathic combination was as effective as acetaminophen. The tolerance to medicines was also assessed as part of this trial and in this respect it was found that the homeopathic combination was superior to the acetaminophen.

26. Dorfman P, Lassere NM, Tetau M, **Homoeopathic Medicines in Pregnancy and Labor**, *Cahiers de Biotherapie*, 1987, 94, April, 77-81. In this randomised double blind trial involving 93 women, a combination of homeopathic Caulophyllum, Actea racemosa, Arnica, Pulsatilla and Gelsemium, all in 5C potency, was used to determine its effect on the length of labor and complication rates. The medicine was used from the beginning of the ninth month of pregnancy, and reduced the average time of labor to 5.1 hours, in comparison to the placebo, the use of which was associated with an average labor time of 8.5 hours. The rate of complications for those using the homoeopathic combination was 11.3% while the complication rate under placebo was 40%.

27. Eid P, Felisi E, Sideri M; **Applicability of Homoeopathic Caulophyllum thalictroides during labour.** *British Homoeopathic Journal*, 1993, October, 82, 245-248. 22 women experiencing their first pregnancies were given homoeopathic Caulophyllum and their post-treatment deliveries compared to 34 labours retrospectively selected on the criteria used to select the test subjects. On analysis it was found that the women who were given the homoeopathic remedy had a reduction of the duration of labour by an average of 90 minutes.

28. Ernst E, Saradeth T, Resch KL, **Complementary Treatment of Varicose Veins.** *Phlebology*, 1990, 5, 157-163. Over a period of 24 days, the effects of a homoeopathic complex preparation and placebo on varicose veins were tested in a double-blind trial of 61 people suffering from this condition. The homoeopathic complex produced an averaged 44% improvement in the condition while those given the placebo experienced an averaged worsening of the disorder.

29. Ferley JP, et al. **A Controlled Evaluation of a Homoeopathic Preparation in the Treatment of Influenza-like Syndrome.** *Br J Clin Pharmacol*, 1989, 27, 3, 329-335. 487 people suffering from influenza were assigned to either Oscillococcinum (Anas barb.) 200CK or placebo, twice daily for 5 days. Significant results were achieved with the medicine over the placebo in all areas measured. This trial was repeated in 1998 (Papp R, Schuback G, Beck E, Burkard G, Bengel J, Lehl S, Belon P. Oscillococcinum in Patients with Influenza-like Syndromes. *British Homeopathic Journal*, April 1998, 87, pp69-76) with 372 people with the same results.

30. Fisher P, et al. **Effect of Homoeopathic Treatment on Fibrositis.** *British Medical Journal*, 1989, 5 August, 299, 365-366. Patients using *Rhus tox* 6C three times daily in a double blind placebo controlled crossover trial found significant relief with the medicine over the placebo.

31. Fisher P. **An Experimental Double-blind Clinical Trial method in Homoeopathy- Use of a Limited Range of Remedies to Treat Fibrositis.** *British Homoeopathic Journal*, 1986, July, 75, 3, 142-

7. 24 subjects suffering from fibrositis were treated for the condition for 3 months with Arnica, Bryonia or Rhus tox, depending upon the similarity between the individuals' symptoms and the clinical picture for the remedy. Using scores for pain, number of tender spots, and sleep quality to determine the response to the therapy, these remedies produced a statistically significant improvement, but only when the remedy was well indicated.

32. Frass M, et al. **Adjunctive homeopathic treatment in patients with severe sepsis: a randomized, double-blind, placebo-controlled trial in an intensive care unit.** *Homeopathy*. 2005, 94, 2, 75-80. In this study, 70 people admitted to an intensive care unit suffering from severe sepsis were treated either with individualised homeopathic treatment or placebo. On reviewing the signs of sepsis, organ failures, need for mechanical ventilation and other parameters at 180 days after beginning treatment, 76% of the patients using homeopathy met survival criteria versus 50% of those on placebo.

33. Frass M, et al. **Influence of potassium dichromate on tracheal secretions in critically ill patients.** *Chest*. 2005, 127, 3, 936-41. Stringy tracheal secretions often complicate or even prevent extubation of people breathing with continuous positive airway pressure. This issue provoked the development of a study involving 50 people breathing spontaneously with continuous positive airway pressure who were randomly assigned to receive either 5 globules twice daily of Kali bic 30C or the same dose and frequency of placebo globules. The study results were assessed using the amount of tracheal secretions from day 2 of the study, the amount of time spent by the subjects in the ICU in which they were staying and the time until successful extubation. After the results were assessed, it was found that those who'd been given the Kali bic produced less tracheal secretions than those on placebo, their stay in the ICU was shorter than those on placebo as was their time to successful extubation.

34. Frei H, Thurneysen A. **Treatment for Hyperactive Children: Homeopathy and Methylphenidate Compared in a Family Setting.** *British Homoeopathic Journal*, 2001, 90, 183-188. 114 children attending a paediatric practice where conventional and homeopathic medicines were used, and who were previously diagnosed with ADHD, were given individualised homoeopathic medicines (increasing potencies of the most similar LM remedy). On a parent assessed basis (confirmed by the clinician), if a minimum 50% improvement was not noted within a certain period of time they were placed on Methylphenidate. 75% of the children responded to homoeopathy and 22% required Methylphenidate. 3% of patients did not respond to either regime.

35. Frei H, Thurneysen A. **Homeopathy in Acute Otitis Media in Children: Treatment Effect or Spontaneous Resolution?** *British Homeopathic Journal*, 2001, 90, 4, 180-2. In a study involving 230 children with acute otitis media, homoeopathic treatment was compared with placebo to determine whether homoeopathic treatment provided a faster resolution of symptoms than placebo. After 12 hours, 72% of those using homoeopathy experienced significant relief of symptoms, which was 2.4 times faster than the response to placebo.

36. Frei H, Everts R, von Ammon K, et al. **Homeopathic treatment of children with attention deficit hyperactivity disorder: a randomised, double blind, placebo controlled crossover trial.** *Eur J Pediatr*. 2005c, 164, 12, 758-67. 83 children diagnosed as suffering from ADHD using DSMIV criteria were treated with individually prescribed homeopathic medicines. Using the Connor's Global Index scale it was determined that 63 of these children responded to treatment. These children were then randomised to receive either placebo or homeopathic medicines for 6 weeks and at this point were crossed over to receive placebo if they'd been using the homeopathics or vice versa. At the end of this period it was found that homeopathic therapy provided significantly better results than placebo.

37. Frenkel M, Hermoni D. **Effects of Homeopathic Intervention on Medication Consumption in Atopic and Allergic Disorders.** *Alternative Therapies in Health and Medicine*, 2002, 8, 1, 76-9. In a study carried out at the Technion-Israel Institute in Haifa, Israel, 48 patients were treated for allergic disorders with both homeopathic and conventional medicines, and monitored for their level of use of the conventional medicines. Over the 3 month monitoring period, 56% of patients reduced their conventional medication use by an average of 60%.
38. Friese KH, et al. **The Homeopathic Treatment of Otitis Media in Children.** *International Journal of Clinical Pharmacology and Therapeutics*, 1997, 35, 7, 96-301. In this trial, 131 children suffering from medically diagnosed otitis media were split into two groups. 28 were treated by a team of four ear, nose and throat practitioners using singly or in combination, nasal drops, antibiotics, secretolytics or antipyretics (Group B). 103 children were treated by one homeopath using single homeopathic remedies (Group A). The average duration of pain for Group A was 2 days, as opposed to 3 days for Group B. 70.7% of the Group A children were free of recurrences within the first year of treatment and 29% had a maximum of 3 recurrences while in Group B, 56.5% were free of recurrences within the first year of treatment and 43.5% had a maximum of 6 recurrences.
39. Friese KH, Zabalotnyi DI. **Homeopathy in acute rhinosinusitis : A double-blind, placebo controlled study shows the efficiency and tolerability of a homeopathic combination remedy.** *HNO (Organ of the Deutsche Gesellschaft der Hals-, Nasen- und Ohrenärzte)* 2007, 55, 271-7. Using a randomized, double-blind study method, 144 people with acute rhinosinusitis were treated with either a combination of homeopathic remedies (Group A) or placebo (Group B) and assessed at days 0, 7, 14 and 21 of treatment using a 5 point sinusitis symptom score (the worst score being 20). After analysing the results it was found that those in Group A experienced a drop in symptom scores from 12.1+/-1.6 to 5.9+/-2.0 points after 7 days. Those in Group B found a decrease from 11.7+/-1.6 to 11.0+/-2.9 points ($p < 0.0001$). The final results showed that the homeopathic combination resulted in freedom from complaints in 90.3% of the patients and improvement in a further 8.3%, whereas in the placebo group, the complaints remained unchanged or became worse in 88.9% of the patients.
40. Gassinger CA, Wunstel G, Netter PA **Controlled Clinical Trial for Testing the Efficacy of the Homeopathic Drug, Eupatorium perfoliatum, D2 in the Treatment of Common Cold.** *Arznei Forsch*, 1981, 31, 4, 732-736. Patients were randomly assigned to receive either Aspirin or Eupatorium perfoliatum 2X. The latter was found to be as effective as Aspirin in reducing the duration and severity of symptoms.
41. Gerhard I, Wallis E. **Individualised Homeopathic Therapy for Male Infertility**, *Homeopathy*, 2002, 91, 3, 133-144. An observational pilot study investigated the effect of individualised homeopathic therapy for 45 sub-fertile males, with specific reference to sperm count and quality, hormone levels and the general level of health. Sperm count and sperm motility were improved by homeopathy and the improvement was comparable with conventional treatment.
42. Gibson RG, et al. **Salicylates and Homeopathy in Rheumatoid Arthritis.** *British Journal of Clinical Pharmacology*, 1978, 6, 5, 391-395. In this study, carried out at the Glasgow Homeopathic Hospital, 41 people suffering from rheumatoid arthritis were treated with enteric coated aspirin and 54 people suffering from the same condition were treated with individualised homeopathic treatment. The results of the two forms of therapy were compared at the end of the trial and it was found that those on homeopathic treatment did considerably better than those on aspirin. In addition, 16 of the 41 people taking aspirin during the trial experienced side effects while those taking homeopathics experienced no side effects.

43. Gibson RG, Gibson SL. **Homeopathic Therapy in Rheumatoid Arthritis: Evaluation by Double Blind Clinical Therapeutic Trial.** *Br J. Clin. Pharmac.* 1980, 9, 453-459. 46 patients using a number of different homeopathic medicines, prescribed according to homeopathic principles, were given this medicine or a placebo with their normal anti-arthritic drug. The trial was carried out blind and significant results were achieved with the homeopathic medicine over the placebo in all areas measured.

44. Gimeno L.Q. **Homeopathic Treatment of Human Papilloma Virus infections previously treated by Other Methods.** *British Homeopathic Journal*, 1996, October, 85, 194-197. In this study, 14 people suffering from recurrent HPV, previously unresponsive to microsurgical procedures, were treated with individualised homeopathy and assessed via cytology prior to treatment, during, and 1 year after commencing treatment. At the final 1year assessment, 11 of the 14 subjects were declared to be cured.

45. Gmnunder R, Kissling R. **The Efficacy of homeopathy in the treatment of chronic low back pain compared to standardized physiotherapy.** *Zeitschrift für Orthopädie und ihre Grenzgebiete*, 2002, 140, 5, 503-8. In this controlled, randomised, prospective study, 43 people suffering from chronic low back pain were treated for two months either by homeopathy or by standardised physiotherapy. Assessment based on the initial and final clinical investigations, an Oswestry questionnaire, and visual analogue scale, found that the most successful method of treatment was homeopathy.

46. Goldstein MS, Glik D. **Use of and satisfaction with homeopathy in a patient population.** *Altern Ther Health Med.* 1998, 4, 2, 60-5. Carried out in 9 homeopathic clinics in the Los Angeles area, this study was done to determine the success or otherwise of constitutional homeopathic practice as assessed by the people who'd undergone this therapy. The study also looked at the characteristics of the people involved in the study. Information was provided by 77 clients. At 4 months after treatment, 71% of clients reported improvement in their health status. This is contrasted with the fact that 80% of all clients enrolled in this survey had had previous orthodox medical treatment for their condition which they had found unsuccessful. The most common presenting complaints involved the respiratory, gastrointestinal and female reproductive systems and most clients were highly educated but had little knowledge of homeopathy prior to their treatment with it.

47. Guthlin C., Lange O., Walach H. **Measuring the Effects of Acupuncture and Homeopathy in General Practice: An Uncontrolled Prospective Documentation Approach.** *Biomed Central Public Health*, 2004, 4, 1, 6. 5000 people were treated for various ailments using acupuncture, and 900 people were treated using individualised homeopathy, by medical practitioners in a number of clinics throughout Germany. Most of these people had previously been treated using conventional drugs. After treatment, of those being treated using acupuncture, 36% stated that they felt "very much better" and 49% felt, "somewhat better". Of those being treated using homeopathy, 39% stated that they felt "very much better" and 38% felt, "somewhat better".

48. Haidvogel M, Riley DS, Heger M. **Homeopathic and conventional treatment for acute respiratory and ear complaints: a comparative study on outcome in the primary care setting.** *BMC Complement Altern Med.* 2007, 7:7 doi:10.1186/1472-6882-7-7. The aim of the authors of this study was to compare the effectiveness of homeopathic treatment for acute respiratory and ear complaints with orthodox medical treatment for the same conditions. 1577 clients from 57 clinics from Austria, Germany, The Netherlands, Russia, Spain, Ukraine, the United Kingdom and the USA were enrolled in the study. They were asked to rate their response to either therapy at 14 days after beginning treatment. 86.9% of those given homeopathic medicines declared that they had had either a complete recovery or major improvement in their symptoms. 86% of those given orthodox medical treatment reported the same thing. Subgroup analysis found that 88.5% of children given homeopathics reported a complete recovery or major improvement in symptoms whereas 84.5% of those given orthodox medical treatment

reported similar success. In addition, the onset of improvement within the first 7 days after treatment was significantly faster in those with homeopathic treatment, both in children and adults.

49. Haila S, Koskinen A, Tenovu J. **Effects of homeopathic treatment on salivary flow rate and subjective symptoms in patients with oral dryness: a randomized trial.** *Homeopathy*. 2005, 94, 3, 175-81. In this blind, placebo-controlled study, 28 people diagnosed with xerostomia (dryness of the mouth) were randomly assigned to receive either placebo or individually prescribed homeopathic medicines. Assessed using un-stimulated and wax-stimulated salivary flow rates and visual analogue scales at the end of the trial, 26 of those people using homeopathic treatment and none using placebo were found to have had significant relief. Following the assessment of these results those on placebo were switched to homeopathic therapy, after which all experienced relief from their xerostomia.

50. Harrison RE, Burge TS, et al. **Homoeopathic Treatment of Burn Scars.** *British Homoeopathic Journal*, 1993, October, 82, 252-254. 4 people suffering from hypertrophic scarring subsequent to burns were treated with homeopathic Graphites for 3 months. All 4 subjects were relieved of these symptoms. No controls were used for comparison.

51. Hill N, et al. **A Placebo Controlled Clinical Trial investigating the efficacy of a Homoeopathic After-Bite Gel for Reducing Mosquito bite induced Erythema.** *Eur J Pharmacol*, 1995, 49, 103-108. 68 people were bitten at least 3 times by mosquitoes. One of the bites was treated with an after-bite gel containing homoeopathic ingredients, another of the bites was treated with a placebo gel, and the third bite remained untreated. Erythema associated with the bites was measured before and regularly after treatment at all of the bite sites and the subjects rated the degree of pruritis experienced at the sites. The active gel provided results that were significantly superior to the placebo or no treatment.

52. Hitzemberger G, et al. **Controlled randomised Double Blind study for the Comparison of the Treatment of Patients with Essential Hypertension with Homoeopathic and Pharmacologically Effective Drugs.** *Weiner Klinische Wochenschrift (Klinische Wochenschrift)*, 1982, 94, 24, 665-670. In this randomized double-blind cross-over trial, 10 people suffering from essential hypertension were treated either with standard pharmaceutical products or homeopathic medicines. Pharmaceuticals were found to provide superior blood pressure reducing effects but homeopathic were found to be the better choice for the management of the subjective symptoms of hypertension.

53. Issing W., Klein P., Weiser M. **The homeopathic preparation Vertigoheel versus *Ginkgo biloba* in the treatment of vertigo in an elderly population: a double-blinded, randomized, controlled clinical trial.** *Journal of Alternative and Complementary Medicine*. 2005, 11, 1, 155-60. Over a 6 week period, 170 people with an age range of 60- 80 years with atherosclerosis related vertigo were treated for this condition using either a homeopathic combination or herbal *gingko biloba*. Using a patient-assessed dizziness questionnaire and practitioner assessment via line walking and other tests as methods of measurement, participants found that the homeopathic combination provided outcomes as good as those with *gingko*.

54. Itamura R, Hosoya R. **Homeopathic Treatment of Japanese patients with intractable Atopic Dermatitis.** *Homeopathy*, 2003, 92, 2, 108-114. In this uncontrolled study, 17 people suffering from intractable atopic dermatitis undertook individualised homoeopathic treatment for the condition in conjunction with their existing pharmaceutical therapy, for a period of up to 2 years and 7 months. On an objective assessment and the patient's own assessment, all patients experienced in excess of 50% improvement by the end of the trial.

55. Itamura R. **Effect of homeopathic treatment of 60 Japanese patients with chronic skin disease.** *Complement Ther Med.* 2007, 15, 2, 115-20. 60 people were enrolled in this uncontrolled trial which was carried out in Obitsu Sankei Hospital in Kawagoe which was designed to determine the effect of individualised homeopathic medicines on several common skin disorders. These disorders included atopic dermatitis, eczema, acne, urticaria, psoriasis and alopecia universalis. Treatment occurred over a period of 3 months to 2 years and 7 months and subjects were permitted to use conventional dermatological treatments while taking part in the trial. Using the trial participants' own assessment, improvement or otherwise was assessed using a nine-point scale similar to the Glasgow Homeopathic Hospital Outcome Scale. On this basis, 6 people reported a complete recovery, 23 reported a 75% improvement, 24 found a 50% improvement and 7 had a 25% improvement). In all, 88.3% of patients reported over 50% improvement.

56. Jacobs J, et al. **Treatment of Acute Childhood Diarrhoea with Homoeopathic Medicine.** *Paediatrics*, 1994, 93, 5, 719-725. In a randomised, placebo controlled trial with 81 children suffering from acute diarrhoea, individually prescribed homoeopathic medicines were found to be superior to placebo.

57. Jacobs J, et al. **Acute Childhood Diarrhoea- A Replication.** *Journal of Alternative and Complementary Medicine*, 6, 2000, 131-139. In a replication of a previous trial carried out by Jacobs and others, 116 Nepalese children aged 6 months to 5 years suffering from diarrhoea were given an individualised homoeopathic medicine or placebo over a 5 day period. Results assessed at the end of this period showed homeopathy to be superior to placebo as a means of relieving diarrhoea.

58. Jacobs J, et al. **Homeopathic treatment of acute otitis media in children: a preliminary randomized placebo-controlled trial.** *Pediatr Infect Dis J*, 2001, 20, 2, 177-83. 75 children suffering from acute otitis media were given homeopathic treatment or were given treatment with placebo. On assessment it was found that homeopathy provided an improved outcome from this condition.

59. Jacobs J, et al, **Homeopathy for childhood diarrhoea: combined results and meta-analysis from three randomized, controlled clinical trials.** *Pediatr Infect Dis J.* 2003, 22, 3, 229-34. In this meta-analysis (an analysis carried out to determine overall trends in a group of similar studies) three double blind clinical trials of diarrhoea in 242 children aged 6 months to 5 years were analysed as one group. The children received either an individualised homeopathic medicine or a placebo, for 5 days after each unformed stool. Records were kept by parents and the duration of diarrhoea was defined as the time until there were less than 3 unformed stools per day for 2 consecutive days. Diarrhoea ceased in those taking homeopathic medicines after 3.3 days and after 4.1 days in those using placebo.

60. Jacobs J, et al. **Homeopathy for menopausal symptoms in breast cancer survivors: a preliminary randomized controlled trial.** *Journal of Alternative and Complementary Medicine.* 2005, 11, 1, 21-7. This study compared the effects of an individualised homeopathic prescription with a homeopathic combination and placebo in 55 women suffering from menopausal symptoms for a period of 1 year. Both the individualised and combination homeopathic therapy provided an improvement in symptoms over placebo, with the individualised homeopathy showing the best outcomes over the first 3 months of the assessment period.

61. Jeffrey SL, Belcher HJ. **Use of Arnica to Relieve Pain after Carpal Tunnel Release Surgery.** *Alternative Therapies in Health and Medicine*, 2002, 8, 2, 66-8. 37 patients who had undergone carpal tunnel release surgery were given a combination of Arnica tablets and Arnica ointment or placebo. After 2 weeks of therapy, the group using Arnica reported a significant reduction in pain.

62. Karow JH, et al. **Efficacy of Arnica montana D4 for Healing of Wounds after Hallux valgus Surgery compared to Diclofenac.** *J Altern Complement Med.* 2008, 14, 1, 17-25. In this randomised, double-blinded, parallel group study, 88 people who were recovering from foot surgery were randomly assigned to receive either Arnica 4X at a rate of 10 pilules 3 times daily or Diclofenac 50mg 3 times daily. Both therapies were used for 4 days following the surgery. At day 4, subjects were assessed for their postoperative irritation, mobility, pain level, and their use of analgesics. Analysis of the results at this point showed that Arnica and Diclofenac provided the same level of reduction in wound irritation (including swelling) and mobility. Subjective assessment by patients rated Arnica as superior to Diclofenac for mobility. Diclofenac was superior to Arnica for pain reduction and there was no significant difference in analgesic use during the 4 days following surgery. It was also noted in the study that Arnica was 60% cheaper than Diclofenac.

63. Kassab S, et al. **Homeopathic Medicines for Adverse effects of Cancer Treatments.** *Cochrane Database Systematic Review.* 2009 Apr 15;(2):CD004845. Cochrane Reviews investigate the effects of interventions for prevention, or treatment of illness, or rehabilitation from illness, in a healthcare setting. Most Cochrane Reviews are based on overviews of randomized controlled trials and other forms of evidence that are deemed to be appropriate. This review was conducted to determine what, if any, evidence (in the opinion of the Cochrane reviewers) exists for the treatment by homeopathy of the effects of conventional cancer therapies. A search through numerous databases revealed 8 controlled trials involved in this area of study, 7 of which were placebo controlled and 1 of which was against an active treatment. In total, the trials covered the outcomes of 664 people who'd been variously suffering from the adverse effects of radiotherapy, chemotherapy or breast cancer treatment. Of the 8, 2 trials exhibited beneficial effects from homeopathy. One of these involved a comparison between the effects of a topical corticosteroid and a homeopathic mother tincture of calendula for the prevention of dermatitis from radiotherapy where the calendula proved to be superior to the drug. The other involved the successful use of a homeopathic complex for stomatitis caused by chemotherapy.

64. Kayne S. **A Pilot Trial to Study the Perceived Effectiveness of Homeopathic remedies bought Over The Counter (OTC) in British Pharmacies.** *Journal of the Royal London Homoeopathic Hospital NHS Trust,* 1997, January 23-24, 90-94. 1000 questionnaires were sent to 8 UK pharmacies, requesting them to pass the questionnaires to customers. These, questionnaires asked the customers whether or not they found OTC homeopathic medicines effective for the conditions for which they were purchased. A total of 257 users responded, and the accumulated results showed that 83% of respondents felt better after taking the product.

65. Keil T, et al. **Homeopathic versus Conventional Treatment of Children with Eczema: A comparative Cohort Study.** *Complementary Therapies in Medicine.* 2008 16, 1, 15—21. This was a prospective, multi-centre, parallel-group, comparative cohort study was conducted in urban and mixed urban—rural regions of Germany. 118 children suffering from clinically defined eczema seen at 54 homeopathic practices and 64 conventional medical practices were treated for the condition with the respective therapeutic protocols normally used in these clinics, i.e. individualised homeopathic or conventional medical therapy. Treatment occurred over a period of 12 months and the outcomes of the 2 different methods of therapy were assessed at 6 months and 12 months by the children or their parents on the basis of eczema signs and symptoms and the quality of life. Overall, on the basis of clinical symptoms and quality of life, there was little difference in the response rates of both groups to their respective therapies although at 12 months after starting treatment, those children who were treated homeopathically had a greater level of recovery from symptoms than those treated with conventional medicine. No adverse reactions were reported for either group

66. Kim LS, et al. **Treatment of seasonal allergic rhinitis using homeopathic preparation of common allergens in the Southwest Region of the US: A randomized, controlled clinical trial.** *Annals of Pharmacotherapy*. 2005, 39, 4, 617-24. In this double-blind trial, 34 people diagnosed with moderate to severe seasonal allergic rhinitis were randomly assigned to receive either placebo or a combination of potentised allergens (made from the pollens of trees, grasses or weeds identified as allergens). After the 4 week treatment period using 2 sprays 3 times a day of either the potentised allergen mix or placebo, the trial subjects were assessed on the basis of their allergy specific symptoms using 3 separate questionnaire formats (RQLQ, MOS SF-36 and the WPAI). The potentised allergen mix showed significant positive changes compared to placebo.

67. Klopp R, Niemer W, Weiser M. **Microcirculatory effects of a homeopathic preparation in patients with mild vertigo: an intravital microscopic study.** *Microvasc Res*. 2005, 69, 1-2, 10-6. The aim of this non-randomized, open study was to test the effectiveness of a homeopathic combination product on variables related to microcirculation in 16 people suffering from vestibular vertigo, compared to a control group of 16 untreated people also suffering from vestibular vertigo. Measurements were carried out in two areas (defined by selecting 60 blood-cell perfused nodal points of arterioles, venules, and capillaries with a mean diameter \geq 40 microns): the cuticulum/subcuticulum of the inside left lower arm and an area 5 mm behind the left earlobe. After 12 weeks of treatment, those people receiving the homeopathic preparation exhibited an increased number of nodal points, increased flow rates of erythrocytes in both arterioles and venules, increased vasomotion, and a slight reduction in hematocrit vs. baseline. None of these changes were observed in the control group. Measurements were also made of partial oxygen pressure and the numbers of cell-wall adhering leucocytes, both of which were significantly increased in the test group compared to the control group. All of these parameters were associated with a reduction in the severity of the vertigo symptoms, both on patient as well as practitioner assessment.

68. Kneusel O, Weber M, Suter A. **Arnica montana Gel in Osteoarthritis of the Knee: an open, multicenter clinical trial.** *Advanced Therapies*, 2002, 19, 5, 209-18. In this uncontrolled study, 79 people suffering from mild to moderate osteoarthritis of the knee were given a gel containing Arnica and asked to apply it twice daily. They were assessed at 3 and 6 weeks for pain, stiffness and functional ability of the knee. Both assessments showed a significant reduction in pain and stiffness, and a significant improvement in the functional ability of the knee.

69. Kulkarni A, Nagarkar BM, Burde GS. **Radiation protection by use of homeopathic medicines.** *Proceedings from the 8th Conference of Radiation Oncologists of India*, Bombay, December 1986, reported in *Hahnemann Homoeopath Sand*, 1988, 12, 1, 20-3. 82 patients receiving radiotherapy were randomly assigned to receive placebo, Cobaltum 30C or Causticum 30C as a means of assessing the effects of these against dermatological reactions to the radiotherapy. The homeopathic medicines provided a significant reduction in the degree of radiation reactions when compared to placebo.

70. Lamont J., **Homeopathic Treatment of Attention Deficit Hyperactivity Disorder (ADHD).** *British Homoeopathic Journal*, 1997, 86, 4, 196-200. 43 children with ADHD were given either a placebo or an individualised homeopathic medicine, in accordance with a double blind partial crossover dose regime. When the results were compared at the end of the trial, it was found that the homeopathic treatment for ADHD was superior to that using placebo.

71. Launso L, et al. **An exploratory retrospective study of people suffering from hypersensitivity illnesses who attend medical or classical homeopathic treatment.** *Homeopathy*. 2006, 95, 2, 73-80. This study reports the results of orthodox medical treatment compared to the homeopathic treatment of various hypersensitivity illnesses in 88 people. 34 of these people were treated using orthodox medical

means and 54 using constitutional homeopathy. 24% of those treated medically experienced an improvement in their condition while 57% of those treated with homeopathy experienced similar relief.

72. Ludke R, Weisenauer M. **A Meta-analysis of Homeopathic Treatment of Pollinosis with Galphimia glauca.** *Wiener Medizinische Wochenschrift*, 1997, 147, 14, 323-7. In this analysis, 7 randomised double-blind placebo controlled trials and 4 trials without placebo controls were examined to determine the therapeutic benefits of Galphimia glauca in pollinosis. In all studies except for one, Galphimia showed significant benefit over placebo where placebo controls were used, or showed significant clinical benefit where the remedy was not compared to placebo. The recovery rates for Galphimia were comparable with those seen with conventional anti-histamines, but without the same side effects.

73. Maas HPJA. **Ulcerative Colitis treated with Homoeopathy.** *British Homoeopathic Journal*, 1993, July, 82, 179-185. In this retrospective case analysis, 24 people suffering from ulcerative colitis were treated in an Argentinean clinic using constitutional homoeopathy over periods of up to 19 years. Of these 24, 16 patients were assessed as having good outcomes.

74. Manchanda RK, et al. **Double Blind Placebo Controlled Clinical Trials of Homoeopathic Medicines in Warts and Molluscum contagiosum.** *CCRH Quarterly Bulletin*, 1997, 19, 25-29. This trial was reported in two parts, one to evaluate the efficacy of homoeopathy for warts (remedies included Ruta graveolens, Nitricum acidum, Dulcamara, Causticum and Thuja) the other to evaluate the homoeopathic remedy, Calcarea carbonica, for Molluscum contagiosum. Placebo controlled studies involving a total of 147 subjects using single remedies in 30C potencies three times daily, 200C twice daily and 1M daily, for 15 days, showed that homoeopathy was superior to placebo. Thuja was the most successful of the remedies used for warts.

75. Marian F, et al. **Patient Satisfaction and Side Effects in Primary Care: An observational study comparing Homeopathy and Conventional Medicine.** *BMC Complement Altern Med.* 2008, 18, 8, 1, 52. This was a study carried out by the Swiss Federal Office of Public Health designed to determine levels of patient satisfaction and the perception of side effects following the use of homeopathic medicine. It was part of a national program designed to evaluate complementary and alternative medicine use in Switzerland. The bulk of the data used in the study came from questionnaires filled in over a specific 4 day period supplied by physicians using conventional medicine, physicians using homeopathic medicine, and from patients who'd filled in questionnaires mailed to them 1 month after treatment. 170 practitioners were involved in the study. A total of 3126 questionnaires were received by the researchers and analysis of these revealed the following. 21% of those treated with homeopathy reported "complete resolution" of the presenting complaint versus 28% of those on conventional therapy and 53% reported "complete satisfaction" with homeopathic treatment versus 40% of those given conventional therapy. The rate of side effects reported by those using homeopathy was less than those given conventional medicine.

76. Maronna U, Weiser M, Klein P. **Comparison of the Efficacy and Tolerance of Zeel comp. and Diclofenac for the Oral Treatment of Gonarthrosis.** *Biological Medicine*, 2000, 29, 3, 157-158. Diclofenac, a non-steroidal inflammatory drug, is a commonly prescribed medicine for rheumatic diseases. The effects of this drug were compared to those of Zeel, a homoeopathic complex preparation, with 121 people suffering from gonarthrosis. The trial was designed as a randomised, double-blind, actively controlled parallel study. Assessments for pain, stiffness and functional ability were carried out at 2, 4, 6 and 10 weeks after commencing treatments and by the end of the 10 week period, there were no statistical differences observed in the outcomes of both treatment regimes. The homoeopathic complex product and the drug were equally effective in the management of gonarthrosis.

77. Mathie RT, Farrer S. **Outcomes from homeopathic prescribing in dental practice: a prospective, research-targeted, pilot study.** *Homeopathy*. 2007, 96, 2, 74-81. This paper presented the results of a study into the effectiveness of individualised homeopathic medicines for the management of common dental complaints and the effectiveness of a specific protocol used to collect such data. 14 dentists who routinely practice homeopathy contributed data to the study and data from the observations of and by 726 individual patients were collected. Of the 496 patients who were able to be followed up, 90.1% reported a positive outcome, 1.8% experienced a deterioration of the condition and 7.9% of patients reported no change.

78. Matusiewicz R. **The effect of a homoeopathic preparation on the clinical condition of patients with corticosteroid dependant bronchial asthma.** *Biomedical Therapy*, 1997, 15, 3, 70-74. In this double-blind, randomised, placebo-controlled study, 40 people suffering from corticosteroid- dependant bronchial asthma were given either placebo or a combination homeopathic formula, every 5 to 7 days by subcutaneous injection. Using standard spirometry and granulocyte function to measure the response, researchers found that the combination product provided superior results to placebo.

79. McCutcheon LE. **Treatment of anxiety with a homoeopathic remedy** *Journal of Applied Nutrition*, 1996, 48, 1& 2, 2-6. 72 people with above-average levels of anxiety were enrolled in this double-blind, placebo-controlled trial and assigned to either a test or control (placebo) group to assess the relative benefits of a combination homeopathic product designed to relieve anxiety. Using sleep loss as a measure of anxiety, the combination product produced results that were better than those from placebo.

80. Milewska G, Trzebiatowska-Trzeciak O. **Homoeopathic Treatment of Alcohol Withdrawal** *British Homoeopathic Journal*, 1993. October, 82, 249-251. Alcohol withdrawal and delirium tremens experienced by 30 alcoholics was the focus of this uncontrolled study carried out in a Polish medical clinic. Patients were treated with individualised homeopathy and their progress followed for 2 months. The treatment resulted in a reduced duration of alcohol withdrawal time and delirium tremens in all patients.

81. Mohan GR, et al, **Cervical Spondylosis- a Clinical Study**, *British Homoeopathic Journal*, July 1996, 85, 3, 131-133. In this uncontrolled study, 154 people suffering from cervical spondylosis were prescribed either homoeopathic Calcium fluoride, or a remedy selected via repertorisation of their mental and physical general symptoms, and their progress monitored for 1 year. Of those given Calc fluor, clinical improvement was seen in 60% of cases. 48% of those given the remedy arrived at by repertorisation reported clinical improvement.

82. Mohan GR, Anandhi KS. **Efficacy of homeopathic drugs in dermatitis of atopic diathesis.** *Homoeopathic Links*, 2003, Winter, 16, 4, 257-260. The authors treated 31 people suffering from either atopic skin and respiratory symptoms, or atopic skin symptoms alone. Both groups were treated with individualised homeopathic therapy over a period of 5 years. During a 6 month assessment period following this treatment, the authors determined that 41% of the group with skin and respiratory symptoms achieved not less than a 76% improvement in symptoms and 58% of the group with skin symptoms alone achieved this outcome.

83. Mohan GR. **Efficacy of Homeopathy in Childhood Asthmas.** *Homeopathic Links*, Summer 2007, Vol 20, 104-107. This paper reports of work done in India by homeopath, GR Mohan, looking at the results of the homeopathic treatment of 81 children suffering from clinically defined asthma who had previously been treated unsuccessfully with conventional medicine. This open study involved the use of individually prescribed homeopathic medicines for a period of 2 years as a means of reducing the

recurrence of asthma attacks. Results were assessed according to the 12 point Modified Borg Scale, a subjective scale used to assess the severity of dyspnoea. At the end of the allotted 2 year period, the results were analysed and it was found that asthma had become controlled in 60.5% of children who'd been treated with homeopathy, and some control was achieved in a further 21%. 12.3% of the group failed to respond to the treatment. The medicines used most frequently in this study were *Arsenicum album*, *Merc solubilis*, *Hepar sulph*, *Arsenicum iod*, *Antimony tart*, *Pulsatilla* and *Calc carb*.

84. Mojaver YN, et al. **Individualized homeopathic treatment of trigeminal neuralgia: an observational study.** *Homeopathy*. 2007, 96, 2, 82-6. This uncontrolled study, carried out in the Department of Oral Medicine at Iran's Rafsanjan University of Medical Sciences, was designed to discover if individually prescribed homeopathic medicines could provide relief from medically diagnosed trigeminal neuralgia. 15 people suffering from the condition were enrolled in the study and after receiving their individual prescriptions they were assessed monthly using a Visual Analogue Scale to gauge the severity of their symptoms. After the results were assessed at 4 months it was found that individualised homeopathic treatment was associated with an average reduction in pain intensity of more than 60%.

85. Müller-Krampe B, et al. **Effects of Spascupreel versus hyoscine butylbromide for gastrointestinal cramps in children.** *Pediatr Int*. 2007, 49, 3, 328-34. In this observational cohort study, 204 children under 12 years of age suffering from gastrointestinal spasms and cramps were given either hyoscine butylbromide, a drug commonly prescribed for these conditions, or Spascupreel, a homeopathic complex. After a 1 week period of treatment, the results from these interventions were assessed by a practitioner reviewing reports from the child's parent or carer using severity of spasms, pain or cramps, sleep disturbances, eating or drinking difficulties, and the frequency of crying, to measure outcomes according to a 4 point scale. Analysis of the results showed that both medicines provided similar levels of benefit.

86. Muscari-Tomaioli G, et al. **Observational Study of Quality of Life in patients with Headache, receiving Homeopathic Treatment.** *British Homoeopathic Journal*, 2001, 90, 4, 189-197. In this study, 53 people suffering from headaches were treated by the individual study authors using constitutionally prescribed homeopathic medicines, completing SF-36 health-related quality of life questionnaires before and 4-6 months after beginning the treatment. More than 60% of the subjects experienced an improvement in the condition.

87. Oberbaum M, et al. **Homeopathic Treatment in Emergency Medicine, a case series.** *Homeopathy*, 2003, 92, 1, 44-47. In this study, 15 people suffering from orthopaedic trauma were treated in a medical centre with homeopathy, in addition to standard medical treatment. Treatment was commenced 24 hours after admission. All patients initially received homeopathic Arnica 200C and anxiety was treated with Aconite, Opium, Ignatia or Arsenicum album, all in 200C potency. 24 hours following this treatment, the majority of patients reported a reduction in pain and anxiety. 48 hours after admission, patients were treated with individualised homeopathic remedies. At discharge, 67% of patients rated the homeopathic treatment as successful.

88. Oberbaum M, et al. **The effect of the homeopathic remedies Arnica montana and Bellis perennis on mild postpartum bleeding--a randomized, double-blind, placebo-controlled study: preliminary results.** *Complement Ther Med*. 2005, 13, 2, 87-90. Forty women experiencing post-partum bleeding were randomly assigned to receive a mixture of Arnica 30C and Bellis 30C, Arnica 6C and Bellis 6C, or placebo. Mean haemoglobin values were measured at 72 hours post-partum, at which point it was found that those women given homeopathic therapy experienced significantly less change in haemoglobin values than those given placebo.

89. Pai PN. **Thiosinaminum in the Treatment of Plantar Fasciitis with Calcaneal Spurs.** *British Homoeopathic Journal*, 1992, October, 81, 173-175. In this uncontrolled study, 43 people suffering from plantar fasciitis and calcaneal spurs were treated with homeopathic Thiosinimum, Thiosinimum and Merc cor, or Thiosinimum and Merc biniod. Thiosinimum alone proved to be the therapy most likely to be helpful in resolving recently developed cases.

90. Pai PN. **Nephrotic Syndrome.** *British Homoeopathic Journal*, 1969, 58, 2, 94-101. In a case series, 23 children suffering from clinically diagnosed nephrotic syndrome were treated using individualised homeopathic medicines for periods varying from 1 month to 7 years. Subjects received acute and/or chronic treatment for the condition and in several acute episodes, corticosteroid therapy was used, in addition to homeopathic management. For the majority of the children treated either with homeopathic or a combination of homeopathic and corticosteroid therapy, the severity of the symptoms they had previously experienced was reduced. The main homeopathic remedies used in the cases mentioned in this study included homeopathic Apis mellifica, Arsenicum album, Natrum muriaticum and Silica.

91. Pomposelli R, et al. **Observational study of Homeopathic and Conventional therapies in patients with Diabetic Polyneuropathy.** *Homeopathy*. 2009, 98, 1, 17-25. Researchers at the University of Verona in Italy designed this observational study to compare the effects of homeopathic therapy with conventional drug therapy for diabetic neuropathy. Over a 12 month period, 32 patients treated with homeopathy and 29 patients given conventional drug therapy were assessed for clinical symptoms and quality of life at baseline, 6 months and 12 months after beginning treatment. Improvement from baseline polyneuropathy symptoms was noted in both groups but only those treated homeopathically reached outcomes that were statistically significant. Both groups experienced improvements in blood pressure and body weight as well as levels of fasting blood glucose and glycated haemoglobin. In addition, only those in the homeopathy group noted an improvement in quality of life scores over the period of the study. It was also noted that homeopathic treatment was more economical than the conventional drug alternative.

92. Popov A.V. **Homoeopathy in the Treatment of Patients with Fibromyoma of the Uterus.** *British Homoeopathic Journal*, 1992, October, 81, 164-167. In this study, 84 women suffering from various forms of uterine fibromyoma were prescribed individualised homeopathic medicines over a period of 1 to 3 years. Assessments at the end of the treatment period found that pain was improved in 79% of the subjects, abnormal bleeding was improved in 75% of subjects and in the majority of subjects the treatment resulted in a reduction of fibromyoma volume.

93. Rabe A., Weiser M., Klein P. **Effectiveness and tolerability of a homoeopathic remedy compared with conventional therapy for mild viral infections.** *International Journal of Clinical Practice*, 2004, 58, 9, 827-32. In this observational cohort study, 485 people with symptoms of mild viral infection (fever, headache, myalgia, cough or sore throat), were treated either via conventional medical means or with a homeopathic combination product. On a practitioner evaluation basis, at the end of the treatment period, the homeopathic combination provided a successful outcome in 78% of cases and conventional treatment in 52% of cases.

94. Rai Y. **Treatment of Drug Dependents with Homoeopathy.** *CCRH Quarterly Bulletin*, 1994, 16, 3&4, 25-28. 261 people suffering from symptoms related to the withdrawal from drugs of dependence were treated with individualised homoeopathy. Remedies were given at 8 to 12 hours after ceasing use of the drug. 209 (80%) of the subjects found the treatment to be effective.

95. Rastogi DP, et al. **Homeopathy in HIV infection.** *British Homoeopathic Journal*, 1999, 88, 2, 49-57. In a randomised, double-blind placebo controlled trial, 50 people with asymptomatic HIV infection and 50 people with symptomatic (persistent generalised lymphadenopathy) HIV infection and were given either placebo or an individualised homoeopathic medicine. Using numbers of pre and post treatment CD4⁺ T-lymphocytes as a measure, it was found that homoeopathic treatment was successful for symptomatic HIV sufferers, but not for asymptomatic sufferers.

96. Reilly R, et al. **Is Homoeopathy a Placebo Response?** *Lancet*, Oct 18, 1986, 881- 885. 144 people suffering from hayfever were enrolled in a randomised, placebo controlled trial. The use of 30C mixed grass pollens provided better clinical outcomes than placebo.

97. Riley D, et al. **Homeopathy and Conventional Medicine: An Outcomes Study Comparing Effectiveness in a Primary Care Setting.** *Journal of Alternative and Complementary Medicine*, 2001, 7, 2, 149-59. In this study, carried out by 30 investigators, at 6 clinics in 4 countries, 456 patients suffering from upper respiratory allergies, lower respiratory allergies or ear disorders were assigned to one of two groups- those prescribed homeopathic medicines (group A) or those prescribed standard medical treatment (Group B). The outcome measure was the response to treatment after 14 days, as well as the speed of recovery, rate of side effects, level of general satisfaction and length of consultation. The response to treatment within 14 days was 82.6% in Group A and 68% in Group B. For recovery speed, 67% of Group A recovered within 3 days and 57% of Group A recovered at this speed. The side effect rate for Group A was 8% compared to 22% for Group B. Those claiming to be very satisfied with their respective treatments were 79% of Group A and 65% of Group B. The majority (60%) of both groups received consultations that lasted for between 5 and 15 minutes.

98. Riveron-Garrote M, et al. **Clinical Trial of Asthma.** *Boletin Mexicano*, 1998, 31, 2, 54-61. In this double-blind, randomised, placebo-controlled trial, 63 asthma sufferers were treated for 4 months with either specific homoeopathic remedies or placebo. Assessed using peak flow rates, 97% of those taking homoeopathic medicines and 12% of those taking placebo experienced an improvement.

99. Robertson A, Suryanarayanan R, Banerjee A **Homeopathic Arnica montana for post-tonsillectomy analgesia: a randomised placebo control trial.** *Homeopathy*. 2007, 96, 1, 17-21. In this trial, 190 people undergoing tonsillectomy were randomly assigned to receive Arnica 30C or a placebo at a dose rate of 2 tablets 6 times in the first post-operative day and then 2 tablets twice a day for the next 7 days. On a patient-assessed 14 days post-operative visual analogue scale for pain, those given the Arnica 30C were found to have a statistically significant decrease in pain scores compared to placebo.

100. Robinson T. **Responses to homeopathic treatment in National Health Service general practice.** *Homeopathy*. 2006, 95, 1, 9-14. This study was designed to determine the level of effectiveness of homeopathy as used in a general practice clinic where the standard 10 minute consultation time applies. To do this, 5,331 patient files, taken from one 12 month period in one general practice clinic, were examined and those files that described a consultation where a homeopathic medicine was given were separated out for analysis. This produced a total of 489 consultations that resulted in a homeopathic medicine prescription. Of these, 78% of patients had a positive response to their treatment with homeopathy, 19% had no response, and 3% had a negative response.

101. Sanchez-Resendiz J, Guzman-Gomez F. **Polycystic Ovary Syndrome.** *Boletin Mexicano de Homeopatia*, 1997, 30, 11-15. 36 women suffering from Polycystic Ovary Syndrome (PCOS), and fitting the mental picture of the homoeopathic remedy Pulsatilla, were given Pulsatilla 6C, 4 hourly throughout the day for 2 weeks after the end of menstruation, and this was repeated for 4 consecutive

cycles. At the end of the trial 30 of the 36 women had complete disappearance of the symptoms of PCOS and the production of normal ovulating follicles and a further 4 of the 36 became asymptomatic

102. Saruggia M, Corghi E. **Effects of homeopathic dilutions of China rubra on intradialytic symptomatology in patients treated with haemodialysis.** *British Homoeopathic Journal*, 1992, 81, 2, 86-88. Using a double-blind, randomised, crossover, placebo-controlled trial design, 35 people with end-stage renal failure on regular haemodialysis were assessed to determine their response to either placebo or China rubra 9C. Those people using the China experienced statistically significant relief from asthenia, headache and lethargy.

103. Schlappack O. **Homeopathic treatment of radiation induced itching in breast cancer patients. A prospective observational study.** *Homeopathy*, 2004, 93, 4, 210-215. 25 women suffering from post-radiotherapy induced itching were treated at the University of Vienna's Department of Radiotherapy and Radiobiology using individualised homeopathic medicines. After assessment (1-27 days after beginning the treatment) it was found that homeopathic treatment had been successful in 21 of the women enrolled in the study.

104. Schmidt CA. **Double Blind, Placebo-Controlled Trial: Arnica montana Applied Topically to Subcutaneous Mechanical Injuries.** *Journal of the American Institute of Homeopathy*, 1996, 89, 4, 186-193. In this trial 141 runners were asked to use topical preparations containing placebo, Arnica 1X or Arnica 6C, and to rate the effectiveness of the preparations at relieving post-exercise muscle soreness. The preparation containing Arnica provided superior results to placebo and preparation containing Arnica 1X was reported to be superior to that containing Arnica 6C.

105. Schmiedel V, Klein P. **A complex homeopathic preparation for the symptomatic treatment of upper respiratory infections associated with the common cold: An observational study.** *Explore (NY)*. 2006, 2, 2, 109-14. 379 people suffering from upper respiratory infections were given either conventional medical treatment (antihistamines, anti-tussives, or no steroidal anti-inflammatory drugs) or a combination homeopathic product. Using variables such as fatigue, sensation of illness, chill/tremor, aching joints, overall severity of illness, sum of all clinical variables, and temperature to assess the effects of either form of therapy, the researchers found that both approaches were effective, although the homeopathic combination provided faster relief from symptoms (77% were improved within 3 days compared to 62%).

106. Schneider C, et al. **A homeopathic ointment preparation compared with 1% diclofenac gel for acute symptomatic treatment of tendinopathy.** *Explore (NY)*. 2005, 1, 6, 446-52. In this non-randomised, observational study carried out in 95 German homeopathic and conventional medical clinics, 357 people with various forms of tendinopathy were given either an ointment containing a mixture of homeopathic remedies, or Diclofenac (a popular non-steroidal anti-inflammatory agent), for up to 28 days. Using a four-degree scale on pain-related variables related to motility, and on overall treatment outcome, the ointment containing the mixture of homeopathic remedies provided a therapeutic outcome that was superior to Diclofenac.

107. Schneider C, et al. **The role of a homeopathic preparation compared with conventional therapy in the treatment of injuries: an observational cohort study.** *Complement Ther Med*. 2008, 16, 1, 22-7. The researchers in this study set out to compare the effectiveness of a homeopathic combination product (Traumeel) with conventional medical treatment, for injuries. 125 people suffering from various musculoskeletal injuries were treated either with the homeopathic combination or conventional medicine and were assessed for resolution of the complaint at the end of the trial period. At this point, the 59.4% of the group receiving the homeopathic combination had complete resolution

compared with 57.8% of the group treated with conventional medicine. 6.3% of the latter group experienced adverse reactions to the treatment and none of those on the homeopathic combination experienced side effects.

108. Schroder D, Weiser M, Klein P. **Efficacy of a Homeopathic Crataegus preparation compared with usual therapy for Mild Cardiac Insufficiency: Results of an Observational Cohort Study.** *European Journal of Heart Failure*, 2003, 5, 3, 319-26. In a non-randomised cohort study, 212 people suffering from mild cardiac insufficiency were given Cralonin, a homeopathic combination product, or a combination of an ACE inhibitor and diuretic (a combination medical therapy normally prescribed for this condition). Both products were similarly effective in controlling the condition.

109. Seeley BM, et al. **Effect of homeopathic Arnica montana on bruising in face-lifts: results of a randomized, double-blind, placebo-controlled clinical trial.** *Arch Facial Plast Surg*. 2006, 8, 1, 54-9. In this trial, 29 people who were undergoing facelifts were randomised to receive either perioperative homeopathic arnica, or placebo. They were examined post-operatively for bruising at days 1, 5, 7 and 10. Assessment done at days 1 and 7 showed a significant reduction in bruising when compared to placebo.

110. Sevar R. **Audit of outcome in 829 consecutive patients treated with homeopathic medicines.** *British Homeopathic Journal*, 2000, 89, 4, 178- 187. In this study, consecutive patient files in a single homeopathic clinic were examined to determine the success or otherwise of this form of treatment. Of the 829 patients surveyed, 61% had a sustained improvement from their constitutional homeopathic treatment.

111. Sevar R. **Audit of outcome in 455 consecutive patients treated with homeopathic medicines.** *Homeopathy*. 2005, 94, 4, 215-21. This study examined the effect of individualised homeopathic treatment of 455 consecutive patients in a homeopathic medical clinic who'd previously had unsuccessful orthodox medical treatment or were considered to be unsuitable for orthodox medical treatment. Of these, 67% derived benefit from homeopathic therapy, and 33% were able to stop or maintain a substantial reduction in their pharmaceutical drug therapy.

112. Shackleton MF, et al. **The Effect of Homeopathic Coca on High Altitude Mountain Sickness.** *Complementary Health Practice Review*, 2000, 6, 1, 45- 55. 11 members of the 1998 Everest Challenge Expedition were given either placebo or Coca 200C daily. Assessed on the primary symptoms of altitude sickness as well as oxygen saturation, those using the homeopathic medicine showed significantly less signs and symptoms of altitude sickness.

113. Shealy CN, et al. **Osteoarthritis Pain: A Comparison of Homeopathy and Acetaminophen.** *American Journal of Pain Management*, 1998, 8, 3, 89-91. In this trial, 65 sufferers of osteoarthritis (OA) were split into 2 groups, and through a double blinding process were given either a homeopathic medicine or Acetaminophen, a commonly prescribed drug for pain relief in OA. Researchers found that homeopathy provided a level of pain relief that was superior to Acetaminophen, and produced no adverse reactions.

114. Smith SA, Baker AE, Williams JH. **Effective Treatment of Seborrhaic Dermatitis using a Low Dose Oral Homeopathic Medication.** *Alternative Medicine Reviews*, 2002, 7, 1, 59-67. 41 patients with seborrhaic dermatitis received either placebo or a homeopathic combination product for 10 weeks. Significant improvement was seen in the test group when compared to those using placebo.

115. Spence DS, Thompson EA, Barron SJ. **Homeopathic treatment for chronic disease: a 6-year, university-hospital outpatient observational study.** *J Altern Complement Med.* 2005, 11, 5, 793-8. This study looked at the effectiveness of individualised homeopathic therapy over a 6 year period in a UK homeopathic hospital outpatient department. The results from 6544 consecutive patients were examined, and when compared to baseline observations it was found that of these patients, 70% reported an improvement in their conditions.
116. Stanton HE. **Test and Anxiety- A Five Drop Solution.** *Education News,* 1981, 17, 6, 12-15. In this trial, 40 students suffering from test-induced anxiety were given either homeopathic *Argentum nitricum* 12X or placebo. The level of test-induced anxiety was significantly reduced from the homeopathic medicine when compared to the placebo and this effect appeared to persist over time.
117. Steinsbekk A, Ludtke R. **Patients' assessments of the effectiveness of homeopathic care in Norway: a prospective observational multicentre outcome study.** *Homeopathy,* 2005, 94, 1, 10-6. In this prospective uncontrolled observational multi-centre outcome study, 654 people who'd visited 80 Norwegian homeopaths were asked to assess, via a Visual Analogue Scale (VAS) the effectiveness of this form of treatment comparing the VAS score at their first consultation with the VAS score 6 months later. After the results were collated it was found that 70% of those people visiting a Norwegian homeopath reported a meaningful improvement in their main complaint 6 months after the initial consultation.
118. Strauss LC. **The Efficacy of a Homeopathic Preparation in the Management of Attention Deficit Hyperactivity Disorder.** *Biomedical Therapy,* 2000, 18, 2, 197- 201. 20 children suffering from ADHD, were given either placebo or a homeopathic combination (*Heel Selenium-Homaccord*) and were assessed in accordance with pre and post test conduct and psychosomatic problems, impulsivity and anxiety. The homeopathic combination provided superior results to those of placebo.
119. Taylor MA, Reilly D, et al. **Randomised Controlled Trial of Homoeopathy versus Placebo in Perennial Allergic Rhinitis with Overview of Four Trial Series.** *British Medical Journal,* 2000, 19 August, 321, 471-476. 51 people suffering from allergic rhinitis were randomly assigned either homeopathically potentised allergens or placebo. Those given the medicine experienced significant relief over those assigned the placebo.
120. Trichard M, Chaufferin G, Nicoloyannis N. **Pharmaco-economic comparison between homeopathic and antibiotic treatment strategies in recurrent acute rhinopharyngitis in children.** *Homeopathy.* 2005, 94, 1, 3-9. In this 6 month prospective study involving 499 children suffering from acute rhinopharyngitis, the effectiveness, quality of life and cost of treatment with homeopathic (Group A) versus antibiotic (Group B) medicines, as prescribed by French medical practitioners, were assessed. Effectiveness, as measured by the numbers of episodes occurring subsequent to treatment, was 2.71 for Group A and 3.97 for Group B and quality of life as measured by the ParEnt-Qol scale was 21 for Group A versus 30 for Group B, which indicates a higher quality of life for those in Group A. In regard to costs, average direct medical costs were 88 Euros for Group A and 99 for Group B. Parental sick-leave affected 9.5% of the parents from Group A and 30% for Group B.
121. Tuten C, McLung J. **Reducing Muscle Soreness with Arnica Montana.** *Alternative and Complementary Therapies,* December 1999, 5, 6, 369- 372. 23 people were given either placebo or *Arnica* 6X for the management of delayed onset muscle soreness after exercise. Outcomes were assessed subjectively by the participants themselves, and by creatinine kinase (CK) assays. CK levels are indicative of muscle or connective tissue damage. While there was only a small subjective difference

between the 2 groups, the people using *Arnica* 6X produced less CK than those using placebo, which tends to indicate that those using *Arnica* experienced less tissue damage on exertion.

122. Tveiten D, et al. **Arnica and Muscle Soreness.** *Focus on Alternative and Complementary Medicine (FACT)*, 1998, 3, 4, 155-156. 46 competitors in the 3 day 1995 Oslo marathon were randomly assigned either homeopathic *Arnica* or placebo twice daily and assessed for muscle soreness after the event. Those using *Arnica* found significant relief with the medicine over the placebo.

123. Tveiten D, Brusset S. **Effect of Arnica D30 in marathon runners. Pooled results from two double-blind placebo controlled studies.** *Homeopathy*. 2003, 92, 4, 187-9. In this study combining the effects of two clinical trials on homeopathic *Arnica* D30 (30X), the homeopathic remedy was compared to placebo in 82 Oslo marathon runners for muscle enzymes, electrolytes and creatinine (indicating cell damage) and the subjective control of muscular soreness. Those runners taking *Arnica* experienced less muscle soreness when compared to placebo, but there was no difference between both groups for muscle enzymes, electrolytes and creatinine.

124. Van Erp VM, Brands M. **Homeopathic Treatment of Malaria in Ghana.** *British Homoeopathic Journal*, 1996, 85, 2, 66-70. In a randomised double blind trial with limited numbers of subjects, homeopathic treatment was compared to treatment by Chloroquine. The group using homeopathic medicines experienced an 83.3% improvement, while the group using Chloroquine experienced a 72% improvement within the same time period.

125. Van Haselen RA, Fisher PA. **A randomized controlled trial comparing topical piroxicam gel with a homeopathic gel in osteoarthritis of the knee.** *Rheumatology*, 2000, 39, 7, 714-9. In this controlled double-blind trial, 172 people with radiographically confirmed symptomatic osteoarthritis of the knee were randomly assigned to receive treatment with either piroxicam gel (a commonly prescribed non-steroidal anti-inflammatory gel) or a gel containing 3 homeopathic ingredients (*Symphytum*, *Rhus tox* and *Ledum*). At the conclusion of the trial it was found that the gel containing the homeopathic ingredients was at least as effective as the piroxicam gel.

126. Van Wasserhoven M., Ives G. **An Observational Study of Patients receiving Homeopathic Treatment.** *Homeopathy*, 2004, 93, 1, 3-11. 782 people suffering from a wide range of diseases who had visited 80 general medical practices in Belgium were treated with individualised homeopathic medicines over an average period of 9 years and 2 months. Most of these people had previously been treated using conventional drugs. The outcomes from this treatment were assessed both by the patients and the practitioners via questionnaires. 13% of the patients assessed in the study expressed satisfaction with previous conventional treatment and 89% of patients expressed satisfaction with their homeopathic treatment.

127. Von Gasssinger C. A., Wunstel G., Netter P. **A Controlled Clinical Trial for Testing the Efficacy of the Homeopathic Drug Eupatorium perfoliatum D2 in the Treatment of Common Cold.** *Arzneimittel Forschung*, 1981, 31, 4, 732-736. In this trial, 53 people suffering from the common cold were given either acetylsalicylic acid or *Eupatorium perfoliatum* 2X. *Eupatorium* was shown to be as effective as the acetylsalicylic acid in its ability to provide benefit to those suffering from the common cold.

128. Walach H, et al. **Homeopathic Pathogenetic Trials produce More Specific than Non-Specific Symptoms: Results from Two Double-Blind Placebo Controlled Trials.** *J Psychopharmacol*. 2008, 22, 5, 543-52. Professor Harold Walach of the University of Northampton and his colleagues have made something of a habit of carrying out provings of homeopathic medicines (particularly *Belladonna*) within

fairly rigidly controlled settings. In this instance the researchers set up 2 studies, both of which were carried out in blinded conditions. The first of these compared the symptoms seen in a controlled proving of homeopathically prepared Ozone with the effects of a placebo used in the same way. The second test compared the symptoms seen in a controlled proving of homeopathically prepared Ozone and Iridium, used individually, with the symptoms seen from the use of placebo. On analysis, the results showed that both Ozone and Iridium, when used under proving conditions, produced a statistically significant level of symptoms specific to the original provings for the homeopathic preparation.

129. Waldschütz R, Klein P. **The homeopathic preparation Neurexan Vs. Valerian for the Treatment of Insomnia: An observational study.** *Scientific World Journal*. 2008, 20, 8, 411-20. This German study, conducted across 89 clinics, compared the effects of a homeopathic combination preparation to valerian on sleep latency (the time take to fall asleep), sleep duration, the quality of sleep, and daytime fatigue, over a period of 28 days. 409 people were enrolled in the study and analysis of the results found an improvement from both medicines with a reduction in latency time (37.3 minutes for the combination versus 38.2 minutes for valerian) and increase in sleep duration (2.2 hours for the combination versus 2 hours for valerian). The primary difference between the 2 interventions appeared to be that the homeopathic combination resulted in less daytime fatigue than valerian- 49% versus 32%.

130. Weatherley-Jones E, et al. **A randomised, controlled, triple-blind trial of the efficacy of homeopathic treatment for chronic fatigue syndrome.** *Journal of Psychosomatic Research*. 2004, 56, 2, 189-97. In this well-controlled trial, where the practitioners, trial subjects and data analysts were all blinded to the group assignments until the end of the data collection period, individualised homeopathic prescriptions were compared to placebo in 79 people suffering from chronic fatigue syndrome (as determined by the Oxford criteria for CFS). The trial was carried out over a 6 month period with monthly observations used to determine clinical progress according to the Multidimensional Fatigue Inventory (MFI) as a primary measure and the Fatigue Impact Scale and Functional Limitations Profile as secondary measures. On the primary MFI measure, those using the individualised homeopathy had significant improvement over placebo.

131. Weiser M, Clasen BPE. **Controlled Double Blind study of a Homoeopathic Sinusitis Medication.** *Biological Therapy*, 1995, 13, 1, 4- 11. In a randomised double-blind placebo controlled trial, 155 people suffering from sinusitis were given either a placebo or a homoeopathic combination (Heel Euphorbium compositum). Subjective responses showed a greater improvement in those using the homoeopathic combination than those given placebo.

132. Weisser M, Strosser W, Klein P. **Homeopathic vs Conventional Treatment of Vertigo.** *Arch Otolaryngol Head Neck Surg*, 1998, 124, 8, 879-885. A study group of 119 people suffering from vertigo were treated either with betahistine hydrochloride (acting as an active control, commonly prescribed by medical authorities for this condition) or a homoeopathic complex. Both of the interventions were equally successful in relieving vertigo.

133. Weiser M, Gegenheimer LH, Klein P. **A Randomised Equivalence Trial Comparing the Efficacy and Safety of Luffa comp.-Heel Nasal Spray with Cromolyn Sodium Spray in the Treatment of Seasonal Allergic Rhinitis.** *Forschende Komplementarmedizin*, 1999, 6, 3, 142-148. In this trial, 146 people suffering from hay fever were treated with either Luffa comp.-Heel Nasal Spray (a homoeopathic combination product) or with Cromolyn Sodium Spray (a pharmaceutical drug commonly prescribed for hay fever). The treatment outcomes were measured according to a quality of life scale and both medicines provided the same level of remission of the condition, which was rapid and persistent.

134. Widrig R, et al. **Choosing between NSAID and arnica for topical treatment of hand osteoarthritis in a randomised, double-blind study.** *Rheumatol Int.* 2007, 27, 6, 585-91. Using a double-blind protocol, 204 people suffering from radiologically confirmed and symptomatically active osteoarthritis were randomly assigned to receive either topical arnica or topical ibuprofen to be applied to the area where the condition was active. The success or failure of the treatments was assessed according to functional ability of the affected part and pain intensity in this area after 21 days of continuous treatment. Assessment of the results at the end of this period found that topical arnica was as successful as topical ibuprofen for the management of osteoarthritis.
135. Wiesenauer M, Haussler S, Gaus W. **Pollinosis therapy with Galphimia glauca.** *Fortschritte der Medezin*, 1983, 101, 17, 811-814. Using a randomised, placebo-controlled, double-blind, multi-centre design in this trial, 86 people suffering from hay fever were treated for 5 and a half weeks with either homeopathic Galphimia glauca 4X or placebo. Therapeutic success was seen in 83% of those using the Galphimia and 47% of those using placebo.
136. Wiesenauer M, Gaus W, Haussler S. **Treatment of Pollinosis with Galphimia glauca.** *Allergologie*, 1990, 13, 359-363. 54 practitioners treated 201 people suffering from hay fever either with placebo or homeopathic Galphimia glauca. Assessment at the end of the 5 week treatment period found that nasal symptoms were cured or significantly improved in 77% of subjects using Galphimia versus 46% of those using placebo and eye symptoms were cured or significantly improved in 77% of subjects using Galphimia versus 51% of those using placebo.
137. Wiesenauer M, Gaus W. **Proof of the Effectiveness of a Homeopathic Preparation in Chronic Polyarthrits.** *Erzten Akt Rheumatol*, 1991, 16, 1-9. In this randomised, double-blind clinical trial, 111 people being treated by 6 general practitioners for rheumatoid arthritis were given either placebo or a combination of homeopathic Berberis, Bryonia, Ledum, Nux vomica and Ledum. Using pain, stiffness, inflammatory signs, fatigue and a functional index to determine clinical outcomes, at the end of the 12 week treatment period it was found that the homeopathic combination provided superior results to those of placebo.
138. Witt CM, et al. **Homeopathic medical practice: long-term results of a cohort study with 3981 patients.** *BMC Public Health.* 2005, 3, 5, 115. In this study, 3981 patients being treated in private homeopathic medical clinics in Germany and Switzerland were assessed for the effectiveness of their homeopathic treatment over a 2 year period. When compared to baseline assessments taken immediately before treatment had begun, the adults in the study experienced a reduction in disease severity of 52% and children by 64%.
139. Witt C, et al. **Outcome and costs of homeopathic and conventional treatment strategies: a comparative cohort study in patients with chronic disorders.** *Complement Ther Med.* 2005, 13, 2, 79-86. This cohort study, carried out in Germany, examined the outcomes of homeopathic treatment compared to the orthodox medical treatment of 493 people suffering from a range of chronic illnesses including headache, lower back pain, insomnia, depression, bronchial asthma, atopic dermatitis and allergic rhinitis. The patients' assessments, taken at 6 months and 12 months from the beginning of the treatment, found that homeopathy provided a greater level of improvement in their illnesses than orthodox medical intervention. This difference appeared to be more pronounced in children than in adults. In regard to the cost of each type of therapy, this study showed these costs to be similar to each other.
140. Witt CM, et al. **How healthy are Chronically Ill Patients after Eight years of Homeopathic Treatment? - Results from a long term observational study.** *BMC Public Health* 2008 Dec 17;8:413.

doi: 10.1186/1471-2458-8-413. German academic and researcher Professor Claudia Witt has been responsible for a number of excellent papers on homeopathy and in this, she and co-workers drew data from 103 Swiss and German homeopathic medicine clinics in an effort to determine the level of change to the health status of patients over periods of 2 and 8 years, as a result of homeopathic intervention, over these times. Data was collected from 3709 patients who were asked to assess the level of change to the severity of their medical complaints and quality of life, at the time of first consultation, at 2 years, and at 8 years from that point. The data from adults and children were assessed separately and the former experienced an average reduction in disease severity from 6.2 at baseline to 2.9 at 2 years to 2.2 at 8 years. For children, a reduction from a baseline disease severity of 6.1 to 2.1 at 2 years was noted and then to 1.7 at 8 years. Physical and mental quality of life scores for both groups increased significantly over the study period and interestingly, researchers found that, within the confines of this study, the younger the patient and the more severe the medical condition, the better the potential for the therapeutic success of homeopathy.

141. Wolf M, et al. **Efficacy of Arnica in varicose vein surgery: results of a randomized, double-blind, placebo-controlled pilot study.** *Forsch Komplementarmed Klass Naturheilkd.* 2003, 10, 5, 242-7. In this trial homeopathic Arnica D12 (12X) was compared to placebo, to determine its effect on the size and pain of bruising after surgery. Arnica was used once prior to surgery and then 3 times a day for 2 weeks after surgery. 60 people participated in the trial and on completion it was found that Arnica reduced the size of the bruising by 76% compared to 72% for placebo and pain was reduced by 43% from Arnica and by 28% from the placebo.

142. Yakir M, Kreitler S, et al. **Homoeopathic Treatment of Premenstrual Syndrome.** *British Homoeopathic Journal*, 1995, July, 84, 182-183. In a double blind randomised placebo controlled trial carried out in an Israeli hospital, 19 women suffering from clinically diagnosed PMS were treated with individualised homoeopathy or placebo. The homoeopathic treatment provided significant improvement over placebo.

143. Yakir M, et al. **Effects of Homeopathic Treatment in Women with Premenstrual Syndrome: a Pilot Study.** *British Homoeopathic Journal*, 2001, 90, 3, 148-153. 20 women suffering from PMS were enrolled into this randomised, controlled, double-blind trial to receive one of 5 symptomatically selected homeopathic remedies, or placebo. Using daily menstrual distress scores before and at the end of the trial, improvement greater than 30% was experienced by 90% of those using the homeopathic medicine and 37.5% of those using the placebo.

144. Zambrano OC. **The Effects of a Complex Homoeopathic Preparation on Aerobic Resistance, Aerobic Capacity, Strength and Flexibility.** *Biomedical Therapy*, 2000, 18, 1, 172- 175. 25 people were assessed before and after exercise for the effects of a homoeopathic combination (Rendimax) on their cellular oxygenation rate, lactate accumulation, and recovery time after exercise. These were compared with the same parameters for 25 people who had undergone the same exercise regime without the use of this medication. Those using the homoeopathic combination exhibited improvement in all parameters measured.

145. Zell J, et al. **Treatment of Acute Sprains of the Ankle.** *Biological Therapy*, 7, 1, 1989, 106. Under double blind placebo controlled trial conditions, patients using an ointment containing homoeopathic ingredients for soft tissue injury found significant relief with the medicine when compared to the effects of placebo.

146. Naudé DF, Stephanie Couchman IM, Maharaj A. **Chronic primary insomnia: efficacy of homeopathic simillimum.** *Homeopathy*. 2010, 99, 1, 63-8. This study was done by a team from the

Department of Homoeopathy at South Africa's Durban University of Technology, and was focused on determining the effects of constitutional homeopathic treatment for insomnia, when compared to a placebo control. 30 people diagnosed with primary insomnia were randomly selected to receive either prescribed homeopathic therapy for 6 weeks or a placebo "prescribed" using the same process. The subjects were assessed at each of the 3 consultations conducted through the treatment process with reference to a sleep diary and sleep impairment index. An analysis of the outcomes showed that sleep duration, sleep quality and all of the associated parameters measured improved significantly under homeopathic treatment, when compared to that using the placebo control.

147. Bracho G, et al. **Large-scale application of highly-diluted bacteria for Leptospirosis epidemic control.** *Homeopathy*. 2010, 99, 3, 156-66. The use of homeopathically prepared materials as an alternative to conventional vaccination has attracted intense criticism and this Cuban study went some way towards addressing these criticisms. It was conducted in three provinces in Cuba where leptospirosis is endemic and active. As a means of attempting to control outbreaks, 2.3 million people were inoculated with a homeopathically prepared version of 4 of the strains of causative organisms endemic to the areas at that time, potentised to 200C. The data from post-inoculation surveillance were used to measure the impact of the intervention by comparing these outcomes with historical trend, forecast models for the regions and data from non-intervention areas. An analysis of these data showed that the use of the homeopathically prepared organisms was associated with a large reduction of disease incidence and relative control of the epidemic.

148. Bell IR, et al. **Effects of homeopathic medicines on polysomnographic sleep of young adults with histories of coffee-related insomnia.** *Sleep Med*. 2011, 12, 5, 505-11. Iris Bell and colleagues from the University of Arizona College of Medicine performed this trial to determine the effects of homeopathically prepared *Coffea cruda* 30C or *Nux vomica* 30C on insomnia. 54 subjects with a history of either cynical hostility or anxiety sensitivity (but not both) and a history of coffee-induced insomnia were given either of these two medicines (administered double blind) or a placebo (administered single blind) and monitored via polysomnography, self-assessed sleep diaries, sleep quality index scales and mood state scales, for a period of 1 month. An analysis of the results showed an association between the test substances and a significant improvement in several key areas of measurement, when compared to the control.

149. Goossens M, et al. **Evaluation of the quality of life after individualized homeopathic treatment for seasonal allergic rhinitis. A prospective, open, non-comparative study.** *Homeopathy*. 2009, 98, 1, 11-6. This uncontrolled study from the Katholieke Universiteit Leuven in Belgium builds on previous in vitro and in vivo work to determine the effects of homeopathically potentised substances on seasonal allergic rhinitis (SAR), and more specifically in this case, quality of life. 46 people suffering with medically diagnosed SAR were treated by homeopathic physicians with constitutional homeopathy. The subjects completed a rhinoconjunctivitis quality of life (RQLQ) form at baseline and at three and four weeks from this point. An assessment of all of the outcomes showed a reduction in the RQLQ of 3.4 at baseline to 1.97 at 3 weeks and 1.6 at 4 weeks, indicating an improvement in quality of life as it relates to their SAR symptoms.

150. Glatthaar-Saalmüller B. **In vitro evaluation of the antiviral effects of the homeopathic preparation Gripp-Heel on selected respiratory viruses.** *Can J Physiol Pharmacol*. 2007, 85, 11, 1084-90. This Austrian study was carried out at the University of Veterinary Medicine in Vienna and sought to determine the in vitro effects of a combination of homeopathically prepared substances on a panel of viruses commonly associated with human illness. The effects of the combination were compared to several positive controls (acyclovir, ribavirin and amantadine hydrochloride) and assessment of the effects was done by standard viral viability tests (plaque reduction assay,

cytopathogenic assays, virus titrations, analysis of the viral proteins in virus-specific enzyme immunoassays, and haemagglutination tests). On analysis of the results a significant association was shown between the homeopathic combination and a reduction in the activity or viability of Human herpesvirus 1, Human adenovirus C serotype 5, Influenza A virus, Human respiratory syncytial virus, Human parainfluenza virus 3, Human rhinovirus B serotype 14, and Human coxsackievirus serotype A9.

151. Beringhs-Bueno A, et al. **Mercury Intoxication: High Dilution as Mercury's Chelating Agent.** *Int J High Dilution Research*, 2006, 5, 16, 3-6. In this study, carried out at Brazil's Instituto de Saude, researchers set out to evaluate the effect of homeopathically prepared mercury on mercury elimination in humans. 52 people suffering from mercury intoxication were randomly assigned to receive the homeopathically prepared mercury (Merc sol) or a placebo. Quality of life, assessments of mercury in blood, urine and hair were made at 30 and 60 days. These compared to assessments from the same sources made at the beginning of the study. When compared to controls, after analysing the results it was found that those people received the Merc sol had significant decreases in mercury in hair.

152. Teut M, et al. **Homeopathic treatment of elderly patients - a prospective observational study with follow-up over a two year period.** *BMC Geriatrics*, 2010, 22, 10, 10. This was a cohort study performed to determine the benefit or otherwise of homeopathic interventions for a range of medical complaints experienced by people over the age of 70 years consulting homeopathic medicine physicians in clinics in Germany and Switzerland. A total of 3981 people were enrolled in the study and of these, 83 people took part in a subgroup analysis and nearly all of them were being treated for a chronic illness with an average duration of 11.5 years. Assessments were done using the severity of the complaint, the amount of medication used for the condition, the quality of life (QPOL) as noted by the patient and severity as noted by the physician, at baseline and over 3, 12 and 24 months. A significant reduction in severity of the complaint was noted by both patients and physicians as a result of homeopathic therapy interventions.

153. Möllinger H, et al. **A double-blind, randomized, homeopathic pathogenetic trial with healthy persons: comparing two high potencies.** *Forsch Komplementarmed Klass Naturheilkd.* 2004, 11, 5, 274-80. Scientists at the Sokrates Health Centre in Switzerland performed this blinded trial to determine the pathogenetic effects of 2 homeopathically prepared remedies and a placebo in an effort to determine the similarity between the pathogenetic effects seen for the remedies in this trial and the generally accepted proving symptoms for these remedies. A group of 21 healthy homeopathic medicine practitioners were randomly assigned to one of 3 groups to receive homeopathically potentised *Calendula officinalis*, *Ferrum muriaticum* or a placebo and their symptoms recorded daily. Both remedy groups exhibited more symptoms than the placebo group and the majority of the symptoms exhibited were consistent with the traditionally accepted proving symptoms for *Calendula*.

154. Möllinger H, Schneider R, Walach H. **Homeopathic pathogenetic trials produce specific symptoms different from placebo.** *Forsch Komplementmed.* 2009, 16, 2, 105-10. This study, carried out at the University of Osnabrück in Germany, builds on previous work done in the area of pathogenetic trials conducted on homeopathically prepared substances. In this work, researchers compared the pathogenetic effects with *Natrum muriaticum* 30C and *Arsenicum album* 30C with placebo. Several other groups doing similar work have then gone on to contrast the pathogenetic symptoms produced by the test substances with those generally accepted as the traditional proving symptoms for these homeopathic remedies, but this was not the objective in this case. On analysis of the results in this instance, it was found that the active substances were associated with remedy-specific symptoms that differed significantly overall and differed from those associated with the placebo.

155. Witt CM, et al. **Homeopathic treatment of patients with chronic low back pain: A prospective observational study with 2 years' follow-up.** *Clin J Pain.* 2009, 25, 4, 334-9. Claudia Witt has done some excellent work in the area of homeopathic research and this adds to an already impressive tally. In this study, Witt and colleagues from the Charité University Medical Center in Berlin, Germany, evaluated what effects, if any, constitutionally prescribed homeopathy had on the health outcomes for people suffering from chronic low back pain. 129 adults suffering from medically diagnosed chronic low back pain for an average duration of 9.6 years were treated by homeopathic physicians who prescribed medicines according to their individual symptoms. Their progress was followed for 2 years and over this time an average of 6.8 different medicines were prescribed. On analysis of the symptom severity and quality of life changes over the period of observation, it was shown that the treatment was associated with marked and sustained improvement in both parameters. In addition, the use of homeopathic therapy was associated with a significant decline in the use of conventional treatment and health services.

156. Witt CM, Lüdtke R, Willich SN. **Homeopathic treatment of patients with dysmenorrhea: a prospective observational study with 2 years follow-up.** *Arch Gynecol Obstet.* 2009, 280, 4, 603-11. In more good work from the Charité University Medical Center in Berlin, Germany, Claudia Witt and colleagues conducted a multi-centre observational study to determine what effects, if any, constitutional homeopathic prescribing had on women suffering from dysmenorrhoea. 128 women who'd been medically diagnosed with dysmenorrhoea and had had this condition for an average of 11.6 years, were treated by 57 separate physicians with an average of 7.5 different prescriptions. Using complaint severity and quality of life as outcome measures, this treatment was associated with significant improvements in both areas. In addition, the use of other health services was reduced, but there was little impact on the use of conventional medications.

157. Relton C, Weatherley-Jones E. **Homeopathy service in a National Health Service community menopause clinic: audit of clinical outcomes.** *J Br Menopause Soc.* 2005, 11, 2, 72-3. In this study, an audit was performed to determine the outcomes of individualised homeopathic treatment for menopause in a National Health Service community menopause clinic in Sheffield in the UK. Patient-assessed outcomes from 2001 to 2003 were evaluated and were found to be consistent with the notion that this service was associated with an overall improvement in the condition. In particular, an improvement in headaches, flushing, fatigue and emotional and psychological symptoms were noted.

158. Pinto S, Rao AV, Rao A. **Lipid peroxidation, erythrocyte antioxidants and plasma antioxidants in osteoarthritis before and after homeopathic treatment.** *Homeopathy.* 2008, 97, 4, 185-9. In this study, carried out at the Muller Medical College, in South Karnataka, India, scientists attempted to evaluate the effects of constitutional homeopathic treatment on oxidative stress responses in 47 people suffering from osteoarthritis. Measurements before and after treatment were made of erythrocyte lipid peroxidation, erythrocyte antioxidants glutathione, glutathione reductase, superoxide dismutase, catalase and plasma antioxidants ceruloplasmin, glutathione-S-transferase, vitamin C and total antioxidant activity. After comparing the levels of these parameters from baseline with those taken after homeopathic treatment, and contrasting these values taken from normal controls, an association between the homeopathic therapy and a reduction but not complete normalisation of the oxidative stress associated with osteoarthritis was found.

159. Relton C, et al. **Healthcare provided by a homeopath as an adjunct to usual care for Fibromyalgia (FMS): results of a pilot randomised controlled trial.** *Homeopathy.* 2009, 98, 2, 77-82. This University of Leeds study was designed to answer two questions; whether homeopathic plus conventional care versus conventional care alone for Fibromyalgia syndrome could be assessed using a Randomised Controlled Trial (RCT) design, and whether homeopathic care as an adjunct to

conventional care provided any extra benefit. Using a pragmatic parallel group RCT design and the total score from the Fibromyalgia Impact Questionnaire (FIQ) at 22 weeks from baseline as the primary measure, the outcomes of 20 people receiving constitutional homeopathic plus conventional care for their Fibromyalgia were compared with 16 people receiving conventional care alone. When assessed against conventional care, homeopathic plus conventional care was associated with significantly greater mean reduction in the FIQ score.

160. Malicka M, Zakrzewska A, Gryczyńska D. **Homeopathic therapy in recurrent respiratory diseases in childhood.** 2006, 9, 3, 74-78. This Polish study was carried out to determine what effect, if any, a combination of homeopathically potentised ingredients had on children suffering from recurrent respiratory infections, in comparison with the outcomes in children given conventional treatment for these conditions (controls). Using a parent-assessed monitoring protocol to measure the incidence of recurrent respiratory disease over a 3 month period, it was shown that the use of the homeopathic combination product was associated with an overall reduction in the recurrence of respiratory infection compared to both baseline and controls.

161. Mousavi F, et al. **Homeopathic treatment of minor aphthous ulcer: a randomized, placebo-controlled clinical trial.** *Homeopathy.* 2009, 98, 3, 137-41. Scientists at Iran's Tehran University of Medical Sciences investigated the notion that constitutional homeopathy provided a positive outcome in sufferers of minor aphthous ulceration. 100 people suffering from this condition were randomly assigned to receive either placebo, or two doses of a 6C homeopathic medicine as determined by traditional homeopathic repertorisation, separated by a 12 hour period. Their progress was then monitored for 6 days, with data taken at days 4 and 6. Using an assessment based on pain intensity and ulcer size, measurements taken at both data points confirmed the notion that constitutionally prescribed homeopathic therapy was associated with a statistically significant reduction in both of the parameters measured

162. Waisse-Priven S, et al. **Individualized homeopathic treatment of dermatological complaints in a public outpatient clinic.** *Homeopathy.* 2009, 98, 3, 149-53. Brazilian researchers carried out this work to investigate the outcomes associated with the use of constitutional homeopathy in people suffering from dermatological diseases such as atopic dermatitis, psoriasis and chronic urticaria. The homeopathic medicines were prescribed by a team of trained homeopathic physicians who followed the progress of the participants for at least 3 months. 33 people completed the study and on conclusion it was found that 59% of the study participants had a positive outcome (this consisting of a cure or a significant level of relief), 37% of the original cohort dropped out and 4% experienced no relief.

163. Witt CM, Ludtke R. **Homeopathic treatment of patients with chronic sinusitis: A prospective observational study with 8 years follow-up.** *BMC Ear, Nose and Throat Disorders* 2009 Jul 27;9:7. In yet more work carried out by Claudia Witt and colleagues from the Charité University Medical Center in Berlin, Germany, this multi-centre observational study was done to evaluate the outcomes provided by homeopathic treatment for 134 people suffering from sinusitis. The average duration for sinusitis suffered by this cohort was 10 years and most of these people had had prior treatment for the condition with conventional medicine. The trial participants were monitored for complaint severity and quality of life every 3 months for 2 years from baseline, and again at 8 years. On analysis of these observations it was apparent that the homeopathic treatment was associated with improvements in quality of life and a reduction in the complaint severity of sinusitis, and these improvements persisted for at least 8 years.

164. Heilmann A. **A Combination Injection Preparation as a Prophylactic for Flu and Common Colds.** *Biological Therapy,* 1994, 7, 4, 249-253. In this German study, 120 healthy individuals were

injected with saline or a proprietary combination of homeopathically prepared ingredients, and their propensity to develop a cold or flu monitored twice weekly for a period of 8 weeks. They were also monitored for symptom severity and various hematological parameters relevant to viral infections. After the results had been compiled and assessed, it was found that, when compared to the saline control, the use of the homeopathic combination product was associated with a reduced duration of illness and a reduction in 11 of the 16 disease characteristics nominated for assessment.

165. Harkin C. **Effect of Homeopathic calcium on Bone Density.** *Homeopathic Links*, Spring, 2008, 21, 44-49. This was an uncontrolled pilot study carried out to determine the effects of 3 different homeopathically prepared calcium remedies in people suffering from osteoporosis. 15 people with medically diagnosed osteoporosis were prescribed Calc carb 30C, or Calc fluor 30C or Calc phos 30C, based on the similarity of the patients' symptoms with the symptoms seen in the homeopathic proving of the remedies. Bone density was assessed by ultrasonometry at baseline and after 12 months treatment. An analysis of the results showed that 11 of the 15 participants experienced an increase in bone density.

166. Gundimeda RM. **Herniated Lumbar Disc.** *Homoeopathic Links*, Winter, 2008, 21, 217-220. In this study, 20 people diagnosed via MRI with disc herniation were advised to undergo surgery by a neurosurgeon. Instead, these people chose to pursue constitutional homeopathic management. The process and outcomes are described and show that after 4 years of treatment and patient assessment according to a symptom-based visual analogue scale, the use of prescribed homeopathic medicine was associated with 76-99% relief for 7 people, 51-75% relief for 2 people, 26-50% relief for 10 people and 0-25% relief for 1 person.

167. Goossens M, et al. **Evaluation of the quality of life after individualized homeopathic treatment for seasonal allergic rhinitis. A prospective, open, non-comparative study.** *Homeopathy*. 2009, 98, 1, 11-6. This Belgian study was conducted to determine the effectiveness or otherwise of constitutional homeopathic intervention for seasonal allergic rhinitis. 46 people suffering from this condition were prescribed homeopathic treatment by one of seven homeopathic physicians based on their individual symptoms and assessed using the Rhino-conjunctivitis Quality of Life Questionnaire at baseline and again 3 and 4 weeks later. A physicians' assessment was also carried out at 4 weeks. On analysis of the results it was found that the average patient-assessed level of symptom severity had fallen significantly and the physician's assessment showed that 4% of patients were cured, 44% were much better, 25% were better, 4% a little better, 9% unchanged and 4% were worse.

168. Cardigno P. **Homeopathy for the treatment of menstrual irregularities: a case series.** *Homeopathy*. 2009, 98, 2, 97-106. In this Italian study, results from women treated with individualised homeopathy for amenorrhoea and oligo-amenorrhoea were compiled to determine whether or not this form of intervention could be shown to provide any benefits. Data from 18 consecutive patients with these conditions over an average treatment period of 21 months were collected. From this it was found that constitutional homeopathic treatment was associated with an increase in the average frequency of spontaneous menstrual cycles per year from 4.32 before treatment to 9.6 cycles per year by the end of treatment period.

169. Witt CM, Lüdtkke R, Willich SN. **Homeopathic treatment of patients with psoriasis--a prospective observational study with 2 years follow-up.** *J Eur Acad Dermatol Venereol*. 2009, 23, 5, 538-43. From Claudia Witt and colleagues of the Charité University Medical Center in Germany comes another observational study of the use of constitutionally prescribed homeopathic therapy, this time aimed at the sufferers of psoriasis. 82 people diagnosed with psoriasis, of an average duration of 14.7 years, were treated by 45 individual homeopathic physicians, using an average of 6 different

homeopathic prescriptions. Using symptom severity and quality of life to assess their progress, patients were monitored over 2 years and on analysis of the results recorded a statistically significant association was found between the use of individualised homeopathy and a marked improvement in the parameters measured.

170. Bordet MF, et al. **Treating hot flushes in menopausal women with homeopathic treatment--results of an observational study.** *Homeopathy*. 2008, 97, 1, 10-5. In this large multi-national observational study funded by homeopathic medicine manufacturer Boiron, researchers set out to document and analyse the effect of constitutionally prescribed homeopathy on menopausal hot flushes. Data was assembled from 438 women suffering from this complaint who were treated by 99 different homeopathic physicians across 8 countries. On analysis, 90% of the women who were treated in this manner reported a complete amelioration or significant reduction in their symptoms, and of these, the majority experienced this change within 15 days of beginning the treatment

171. Schneider C, et al. **The role of a homoeopathic preparation compared with conventional therapy in the treatment of injuries: an observational cohort study.** *Complement Ther Med*. 2008, 16, 1, 22-7. This work was carried out to compare the effects of a proprietary mixture of homeopathically potentised materials with conventional therapy for a range of injuries, predominantly acute injuries such as muscular sprains, strains and bruising. 69 people suffering from these types of complaints were treated with the homeopathic mixture and 64 people with similar injuries were treated using conventional therapy. Data from both groups were assessed according to the numbers of people who experienced complete resolution of the principal complaint by the end of the trial period. This was achieved by 41 people (59.4%) who'd been given the homeopathic mixture and 37 people (57.8) from the group receiving conventional treatment.

172. Rostock M, et al. **Classical homeopathy in the treatment of cancer patients--a prospective observational study of two independent cohorts.** *BMC Cancer*. 2011 Jan 17; 11:19. This observational study carried out at the Albert Ludwig's University in Freiburg, Germany, was designed to assess the potential inherent in constitutional homeopathy for the treatment of cancer, with particular reference to quality of life. People receiving conventional care for cancer were matched for demography, tumor type and previous therapies, to people receiving homeopathic care, and monitored for 12 months. Measurements were made at 3 and 12 months for quality of life, fatigue, anxiety and depression. 639 people were originally enrolled in the study and while the numbers of fully matched pairs that made it to the end of the study were probably insufficient to be statistically reliable, there was a significant trend towards an improvement in the quality of life at both 3 and 12 months in the group receiving homeopathic compared to conventional treatment but little difference between the two groups in perceived fatigue, anxiety or depression.

173. Nayak C, et al. **A multi-centric open clinical trial to evaluate the usefulness of 13 predefined homeopathic medicines in the management of acute rhinitis in children.** *Int J High Dilution Res* 2010, 9, 30. 30-42. This uncontrolled trial was carried out under the auspices of India's Central Council for Research in Homoeopathy and was done to confirm the utility of homeopathic management for acute rhinitis. 638 six month to fifteen year old children suffering from clinically confirmed acute rhinitis were given one of thirteen homeopathic medicines that had been nosologically selected on the basis of the particular symptoms for the condition. The medicines were prescribed in 6C potency, repeated as required, the medicine changed when warranted, and the response monitored for 7 days. The medicines most frequently prescribed were Nux vomica, Mercurius sol. and Belladonna. On analysis of the results a significant change in the score from the baseline ($p < 0.05$) was observed.

174. Bell IR, et al. **Short-term effects of repeated olfactory administration of homeopathic Sulphur or Pulsatilla on electroencephalographic alpha power in healthy young adults.** *Homeopathy*. 2011, 100, 4, 203-11. Iris Bell and colleagues from the University of Arizona explored encephalograms as a means of registering a remedy and potency specific response to homeopathic medicines. To do this they enrolled college psychology course student volunteers who'd been screened for their homeopathic constitutional type (via the Homeopathic Constitutional Type Questionnaire or CTQ) and gave them 4 different succussion levels of 6c, 12c, and 30c potencies of the indicated remedy (in this case either Sulphur or Pulsatilla), one potency per week, or one of two controls, in a randomly assigned order. Remedies were given by inhalation via a double blinded protocol for three weeks and the subjects were assessed using relative EEG power (alpha 1 8-10 Hz; alpha 2 10-12 Hz) averaged over 19 electrode sites. An analysis of the results revealed significant main effects for remedy type (Sulphur > Pulsatilla) in both alpha bands, controlling for gender, baseline resting EEG alpha, and control responses. Additional analyses showed significant nonlinear interactions between dilution and time (weekly session) in alpha 2 for both remedies and alpha 1 for Sulphur.

175. Gründling C, Schimetta W, Frass M. **Real-life effect of classical homeopathy in the treatment of allergies: A multicenter prospective observational study.** *Wien Klin Wochenschr*. 2012, 124, 1-2, 11-7. This Austrian study builds on previous work seeking to determine the outcomes of individualised homeopathic therapy, and in this case, therapy for people suffering from allergic conjunctivitis, allergic rhinitis, bronchial asthma or neurodermatitis. 40 people suffering from this illness were treated using individualised homeopathy in one of nine separate Austrian clinics by general practitioners trained in homeopathy. An assessment of the condition was done at baseline and after treatment by a visual analogue scale. On analysis a statistically significant association was shown between the homeopathic intervention and a discontinuance of conventional medicine in 62% of participants and a dose reduction in at least one conventional medicine in 38% of participants. No side effects were reported during treatment.

176. Nayak C, et al.. **Homeopathy in chronic sinusitis: a prospective multi-centric observational study.** *Homeopathy*. 2012, 101, 2, 84-91. This study was conducted under the auspices of India's Central Council for Research in Homoeopathy and sought to assess the benefit or otherwise in chronic sinusitis of 13 predefined homeopathically prepared materials. 550 people with radiologically confirmed chronic sinusitis were given one of thirteen homeopathically prepared materials based on their individual symptoms and monitored at baseline, 3 months and 6 months. Assessment was by radiology and the chronic sinusitis assessment score. On analysis a statistically significant association was found between the homeopathic therapy and a reduction in both the radiological evidence of the condition and the chronic sinusitis assessment score. The most frequently prescribed homeopathically prepared materials were Silica, Calc carb, Lycopodium, Phosphorous and Kali iod.

177. Kundu T, et al. **Homeopathic medicines substantially reduce the need for clotting factor concentrates in haemophilia patients: results of a blinded placebo controlled cross over trial.** *Homeopathy*, 2012, 101, 1, 38-43. This Indian study looked at the effects of individualised homeopathic management for people suffering from haemophilia. 28 people suffering from this condition were treated with either conventional protocols and placebo control, or conventional protocols and individualised homeopathy, for 12 months, after which the interventions were switched between the two groups. An analysis of the results was done by independent experts who were blinded to the interventions. The analysis was based on the frequency of bleeding, extent of bleeding, blood products consumed, pain scores and general wellbeing. When compared to controls a strong association was seen between the homeopathic intervention and improvements in all of these parameters. Interestingly, plasma levels of clotting factors did not change. Arnica, Ledum palustre, Magnesium phosphorica and Hypericum were found most useful for pain while Arnica, Hamamelis, Millefolium, were useful in acute bleeding. Calcarea

fluorica was found to be of greatest help with haemophilic synovitis. Millefolium was effective for epistaxis. Most patients had haemophilic arthritis of one or more joints. Constitutional remedies like Causticum, Calcarea carbonica and Hepar sulphuris and Lachesis were found useful.

178. Eizayaga JE, Eizayaga JI. **Prospective observational study of 42 patients with atopic dermatitis treated with homeopathic medicines.** *Homeopathy*. 2012, 101, 1, 21-7. Researchers at the Universidad Maimónides in Argentina set about evaluating the effectiveness of individualised homeopathic treatment for atopic dermatitis in the University outpatient clinic and the clinic of the treating physician. Patients with medically diagnosed atopic dermatitis were assessed for Rajka and Langeland's score and a set of four Visual Analogue Scales, these evaluating disease severity, itch, general and psychological wellbeing as well as quality of sleep. 26 people with the condition completed the study and after the results were compared with the baseline measurements, it was shown that individualised homeopathic therapy was associated with a statistically significant reduction in these parameters. Sulphur accounted for 60% of cases with good treatment response but aggravations were recorded after nearly 30% of prescriptions.

179. Sinha MN, et al. **Randomized controlled pilot study to compare Homeopathy and Conventional therapy in Acute Otitis Media.** *Homeopathy*. 2012, 101, 1, 5-12. This study, carried out by workers from the Regional Research Institute of Homeopathy in Jaipur, India, sought to contrast the comparative benefits of homeopathy and conventional therapy for acute otitis media. 80 children suffering from this condition were randomly assigned to receive either homeopathic therapy using one of a number of clinically indicated remedies in fifty millesimal potency, or conventional therapy consisting of analgesics, antipyretics and anti-inflammatory drugs. The clinical progress outcomes were monitored over 21 days using the Acute Otitis Media-Severity of Symptoms (AOM-SOS) Scale and Tympanic Membrane Examination. On analysis, there were no significant differences between groups for the main outcome. Symptomatic improvement was quicker in the group given homeopathic therapy, and there was a large difference in antibiotic requirements, favouring homeopathy. The most commonly prescribed homeopathic medicines were Pulsatilla nigricans, Mercurius solubilis, Silicea, Chamomilla, Lycopodium clavatum & Sulphur. These medicines were useful in treatment of (n = 36) 85% of patients.

180. Nayak C, et al. **Management of distress during climacteric years by homeopathic therapy.** *J Altern Complement Med*. 2011, 17, 11, 1037-42. Researchers from India's Central Council for Research in Homoeopathy (CCRH) carried out this study to investigate the effects of individualised homeopathic therapy on the FSH levels, blood lipid profile, signs and symptoms experienced by women suffering from menopause. Patients were enrolled from 6 CCRH outpatient clinics and received one dose of an individualised homeopathic medicine from homeopathic medical specialists in accordance with their experience of 15 predetermined menopause symptoms. These as well as their FSH and blood lipid profiles were assessed at baseline and again at 12 months from this point. An assessment of the results was made through statistical analysis using the Wilcoxon signed rank test on Statistical Package for Social Sciences (SPSS), the result of which was a significant association between the therapeutic invention and relief from the menopausal symptoms that were assessed. A significant association was also found between the homeopathic therapy and improvements in the blood cholesterol, triglycerides and VLDL profiles of the study subjects. The medicines found to be most frequently indicated and useful were Sepia, Lachesis, Calcarea carb, Lycopodium, and Sulphur.

181. Alecu A, Gafitanu D, Alecu M. **Homeopathic dilutions of TNF-alfa in psoriasis and rheumatoid arthritis.** *Int J High Dilution Res*, 2012, 11, 40, 204-205. Proceedings of the XXVI GIRI Symposium; 2012, Sep 20-22; Florence (Italy). A Romanian team tested the hypothesis that Tumor Necrosis Factor (TNF) alpha, a proinflammatory cytokine, would, when homeopathically potentised, exert an anti-inflammatory effect. To do this, 10 people diagnosed with either active psoriasis or rheumatoid arthritis,

were given daily doses of TNF alpha 9C for 3 months and assessed at the beginning and end of the treatment period. After analyzing the results it was shown that all patients experienced an amelioration of symptoms, with 2 of the 6 people suffering from psoriasis experiencing complete remission of their symptoms.

182. Harrison CC, Solomon EM, Pellow J. **The effect of a homeopathic complex on psychophysiological onset insomnia in males: a randomized pilot study.** *Altern Ther Health Med*, 2013, 19, 5, 38-43. In a randomized, double-blind, placebo-controlled, 4-wk pilot study, using matched pairs, researchers from the Homeopathy Health Clinic at the University of Johannesburg in South Africa enrolled 28 males aged between 18 and 40 years diagnosed with chronic psychophysiological onset insomnia (POI). 14 were given a homeopathic combination and 14 were given a placebo. The results were assessed using the Pre-sleep Arousal Scale (PSAS) and the Sleep Diary (SD), which assessed sleep-onset latency. On analysis of the results it was found that the group receiving the homeopathic combination showed a statistically significant improvement in presleep arousal as well as sleep onset latency over the 4 wks of the study. Intergroup analysis showed through both the PSAS and the SD that the homeopathic combination group had outperformed the placebo group by day 28 of the study.

183. Ganguly S, et al. **Homeopathic treatment of vitiligo: an open observational pilot study.** *Int J High Dilution Res*, 2013, 12, 45, 168-177. This Indian research was carried out to evaluate the effects of homeopathic treatment for people suffering from vitiligo. 27 participants were recruited for a prospective open-label pilot study and treated with individualized homeopathic medicines for 6 months. Efficacy was assessed after 3 months and 6 months using Vitiligo Area Scoring Index (VASI) score, Vitiligo European Task Force (VETF) score, and Dermatological Life Quality Index (DLQI) score, which are validated outcome measures evaluating the area, intensity, spread of depigmentation of vitiligo lesions, and quality of life (QoL). After 6 months of treatment, the median VASI total score improved significantly. Similarly, the VETF median score improved and the total DLQI median score exhibited significant improvement.

184. von Ammon K, et al. **Long-term effects of homeopathic treatment in children suffering from attention deficit disorder with and without hyperactivity.** *Int J High Dilution Res*, 2013, 12, 44, 119-120. Proceedings of the XXVII GIRI Symposium; 2013 Sep 03-04; Bern (Switzerland), 119. 56 children diagnosed with ADHD in accordance with the criteria set out in the DSM-IV were treated with individualised homeopathy using a randomized, double blind, placebo controlled trial (RCT), embedded in a prospective observational study design. After diagnostic screening and a primary run-in phase of homeopathic treatment, crossover RCT was followed by open-label long term follow-up and cost-effectiveness evaluation. At diagnosis, beginning of, and after each crossover period, and at yearly intervals over 10 years, parents reported Conners' Global Index (CGI, 10 items, rated 0-3 points each; primary variable) by questionnaire or telephone interview. By the end of the study, 62% of the children were without any homeopathic (HOM) or medical treatment. In the remaining children, successful results were achieved in 6 with HOM, 9 with methylphenidate (MPH) and 3 with both HOM and MPH. During cross-over RCT, CGI values detected clinically and statistically significant differences between verum and placebo phase, respectively. Cost-effectiveness evaluation demonstrated non-inferiority of homeopathic treatment compared to MPH treatment.

185. Coppola L, Montanaro F. **Effect of a homeopathic-complex medicine on state and trait anxiety and sleep disorders: a retrospective observational study.** *Homeopathy*, 2013, 102, 4, 254-61. This open-label observational study was designed to examine the effects of a homeopathic combination product on anxiety and the quantitative changes in the sleep pattern of the subjects included in the study. 71 people suffering from mild to moderate anxiety were assessed for anxiety and sleep habits at baseline and again after 30 days of use of the combination. At both visits, subjects were administered

the State-Trait Anxiety Inventory (STAI)-Y questionnaire (consisting of trait and state subscales) to assess their level of anxiety. Sleep quality was assessed based on the subjects' self-reported number of hours slept and number of night-time awakenings, before and after treatment. When compared to baseline, the average (STAI)-state score at visit 2 decreased by more than 6 points, while the STAI-trait score decreased by more than 3 points. The average number of hours slept per night increased significantly at visit 2 compared to baseline, and a 42% decrease in the average number of night-time awakenings was also observed.

186. Adler UC, et al. **Homeopathic potencies of *Opium* in alcohol dependence: exploratory open-label study.** *Int J High Dilution Res*, 2012, 11, 38, 19-24. A Brazilian research team investigated the possibility of using homeopathically prepared *Opium* to treat people suffering from alcoholism. To do this, 12 people diagnosed with this complaint were given *Opium* 50M and assessed via the Short Alcohol Dependence Data questionnaire and voluntary alcohol consumption. The test intervention was associated with a significant reduction in the average daily alcohol consumption (-29.37 units of alcohol/day; 95% CI=10.63; 48.11) and in the severity of alcohol dependence, measured by the mean score of the Short Alcohol Dependence Data questionnaire (-10.17; 95% CI= 4.12; 16.22).

187. Oberai P, et al. **Homoeopathic management of attention deficit hyperactivity disorder: A randomised placebo-controlled pilot trial.** *Indian Journal of Research in Homoeopathy*, 2013, 7, 4, 158-167. This work was designed to compare the effects of individualised homeopathy with placebo, in 6-15 year old children diagnosed with Attention Deficit Hyperactivity Disorder (ADHD). 54 children were randomly assigned to receive either placebo or homeopathic treatment using LM potency medicines for 12 months, and monitored using Conner's Parent Rating Scale-Revised: Short, the Clinical Global Impression-Severity Scale (CGI-SS), Clinical Global Impression-Improvement Scale (CGI-IS) and academic performance. When compared to the assessment at baseline, after 12 months of treatment, the homeopathic intervention was associated with a statistically significant improvement in all areas.

188. Oberai P, et al. **Homoeopathic management in depressive episodes: A prospective, uniconcentric, non-comparative, open-label observational study.** *Indian Journal of Research in Homoeopathy*, 2013, 7, 3, 116-125. This Indian research looked at the effects of individualised homeopathic prescriptions for depression. 67 people suffering from clinically confirmed depression were treated for a period of 12 months, with assessment made at baseline, during and at the end of the treatment period using the Hamilton Depression Rating Scale, Beck Depression Inventory and the Clinical Global Impression scale for the purpose of assessment. Data analysis was done as per the intention-to-treat (ITT) principle using SPSS statistics package version 20. All measures showed statistically significant improvements in depression from the baseline assessment to the end of treatment.

189. Saha S, et al. **Individualized homoeopathy versus placebo in essential hypertension: A double-blind randomized controlled trial.** *Indian Journal of Research in Homoeopathy*, 2013, 7, 2, 62-71. The Indian government's Central Council for Research in Homeopathy coordinated this study on hypertension and whether or not homeopathic treatment could produce any improvement in it. To do this, the research team devised a double-blind, randomised, placebo-controlled, parallel-arm trial design enrolling 132 people with clinically confirmed hypertension. These people were assigned to receive either placebo or individually prescribed homeopathy for 6 months and assessed at baseline, 3 and 6 months. On analysis at 6 months it was shown that the mean systolic blood pressure reduction was 26.6 mm Hg (95% CI 21.5, 31.7) in the homoeopathy group and this increased by 3.6 mm Hg (95% CI -8.7, 1.5) in the placebo group. It was also shown that the mean diastolic blood pressure in the homeopathy group reduced by 11.8 mm Hg (95% CI 9.2, 14.4) and increased by 1.6 mm Hg (95% CI -3.6, 0.4) in the placebo group.

190. Chakraborty PS, et al. **Effect of homeopathic LM potencies in acute attacks of haemorrhoidal disease: A multicentric randomized single-blind placebo-controlled trial.** *Indian Journal of Research in Homoeopathy*, 2013, 7, 2, 72-80. This Indian report records the results of individualised homeopathic intervention for people suffering from haemorrhoids. Six different clinics overseen by the Indian Central Council for Homeopathic Research enrolled 278 people suffering from the symptoms of haemorrhoids to receive either homeopathic therapy or placebo, for a period of 90 days. During this period they were monitored for bleeding, pain, heaviness, itching and quality of life. On analysis of the results it was shown that, compared to placebo, the use of homeopathy was associated in a statistically significant reduction in all of the parameters measured and a significant improvement in quality of life.

191. Chakraborty PS, et al. **Effect of individualized homeopathic treatment in influenza like illness: A multicenter, single blind, randomized, placebo controlled study.** *Indian Journal of Research in Homoeopathy*, 2013, 7, 1, 22-30. In more Indian research, a team coordinated by the Indian Central Council for Homeopathic Research looked into the possible benefits for influenza sufferers of individualised homeopathy. They looked at the rate of development to post-influenza complications and compared the effects of LM to centesimal (C) homeopathic potencies in the relief of influenza. Nine clinical centres were involved in the trial and 447 people clinically diagnosed with influenza were randomly assigned to receive placebo, or individualised homeopathic prescriptions in C or LM potencies for 10 days. In response, there was a significant difference in temperature from 2nd day onwards in the LM and C groups. The significant improvement was observed in headache and myalgia on the 1st day in both the treatment groups. Likewise, significant improvement was noted in malaise on 2nd day in both the groups; sore throat on 1st day in LM and 2nd day in C group; fatigue on 2nd day in LM and on 3rd day in C group; nasal complaints on 2nd day in LM and 1st day in C group; chill on 3rd day in LM group and 1st day in C group and in sweat on 1st day in both treatment groups. Cough improved significantly from 3rd day in both the groups. No statistical improvement was seen in the placebo group.

192. Roll S, et al. **Comparative effectiveness of homeopathic vs. conventional therapy in usual care of atopic eczema in children: long-term medical and economic outcomes.** *PLoS One*, 2013, 8, 1, e54973. doi: 10.1371/journal.pone.0054973. Epub 2013 Jan 31. German scientists using a prospective multi-centre, comparative, observational, non-randomized, rater-blinded study design, looked at the effects of either individualised homeopathic or conventional therapy for 135 children diagnosed with mild to moderate atopic eczema. The main outcome was via the SCORAD (SCORing Atopic Dermatitis) rating system at 36 months and was performed by a blinded rater. A multilevel ANCOVA was used, with physician as random effect and the following fixed effects: age, gender, baseline value, severity score, social class and parents' expectation. The concluding assessment showed no statistical differences between the clinical outcomes achieved for both groups. It was also shown that homeopathic treatment was more expensive than conventional therapy.

193. Govekar JP, et al. **Clinical evaluation of homeopathic medicines in sinusitis.** *Indian Journal of Research in Homoeopathy*, 2008, 2, 1, 26-37. This was an open, multi-centric, prospective, observational study coordinated by an Indian government research team and looked at the effect of individualised homeopathy on sinusitis. 394 people diagnosed with acute or chronic sinusitis were enrolled in the study. Homeopathic medicines in different potencies (Q, 6, 30, 200 & 1M) were administered according to their prescribing indications and the treatment period ranged from 1 month to 6 years depending upon the nature of the disease condition. Then results showed that 138 patients had a complete remission of symptoms after a follow up period of one year. Varying degrees of improvement were seen in the rest of the cohort. Marked improvement was seen in 80 patients, moderate

improvement in 91 patients, and mild improvement was seen in a further 66 patients. 4 patients experienced an aggravation of their condition and 15 patients showed no improvement.

194. Garg KL. **A Study to clinically evaluate the Efficacy of Homoeopathic preparations of Cinnamonum Q, Erigeron Q, Ficus Religiosa Q, Geranium Maculatum Q, Thlaspi Bursa Pastoris Q, Ledum pal 30, 200, Trillium Pendulum Q in Menorrhagia.** *Indian Journal of Research in Homoeopathy*, 2007, 1, 1, 9-12. This Indian government study looked at the potential effectiveness of a number of predefined homeopathically prepared substances in the management of menorrhagia. To do this, the researchers enrolled 174 women diagnosed by a gynaecologist with menorrhagia. They were given one of the predefined homeopathic medicines based on their presenting signs and symptoms and assessed over 30 days according to predefined criteria. An analysis of the results found that of the 174 women enrolled, 81 showed a marked improvement, 69 experienced a moderate improvement, 13 had a mild improvement and 11 were unresponsive to treatment.

195. Sunil S, et al. **An open clinical observational study on the usefulness of pre-defined homoeopathic medicines in the management of chronic sinusitis.** *Indian Journal of Research in Homoeopathy*, 2009, 3, 1, 34-40. This study, conducted under the control of the Indian Central Council for Research in Homoeopathy, sought to determine what improvements, if any, homeopathy could provide for people suffering from clinically diagnosed chronic sinusitis. To do this, one of 17 predefined homeopathic medicines in centesimal scale of potencies (30C, 200C and 1M), were prescribed on the basis of the presenting signs and symptoms. 51 people completed the treatment and follow-up period of 6 months and were assessed using the Chronic Sinusitis Symptom Score (CSSS). At the end of the 6 month period, it was shown that 88% of the subjects experienced improvement in varying degrees. Marked improvement was seen in 31(61%), moderate improvement in 10 (20%) and mild improvement in 4 (8%) of the subjects.

196. Reddy GRC. **Treating Benign Prostatic Hyperplasia in elderly Men with Homoeopathy – a series of eleven cases.** *Indian Journal of Research in Homoeopathy*, 2009. 3, 4, 37-40. In this case series from the Indian government's Clinical Research Unit (Homeopathy) in Andhra Pradesh, individualised homeopathy was prescribed for 11 men suffering from clinically diagnosed benign prostatic hyperplasia. They were followed up for one year and assessed via the American Urological Association Symptom Index (AUASI) to quantify the severity of illness. Of the 11 men treated, 7 were relieved of their urinary symptoms with the homeopathic medicine Pulsatilla nigricans and 4 with Thuja. In all the cases, reduction in AUASI score was found. In 6 cases prostate volume was reduced; in 3 cases prostate size and volume increased, while in 2 cases prostate volume remained unchanged.

197. Bindra SK, et al. **Usefulness of homoeopathic therapy in Distress During Climacteric Years.** *Indian Journal of Research in Homoeopathy*, 2010, 4, 1. 21-28. In this open trial carried out by workers from the Indian government's Clinical Research Unit (Homeopathy) in Jharkhand, individualised homeopathy was prescribed for 35 women diagnosed with menopausal symptoms, for 12 months. An analysis of the results at this point indicated that averaged level of change in symptoms severity across all presenting menopause symptoms was a 68% reduction. Some symptoms, such as hot flushes and night sweats, were reduced in severity by an average of 90%.

198. Nayak C, et al. **A Prospective Multicenter Observational Study to evolve the usefulness of the nine predefined homoeopathic medicines in Furunculosis.** *Homoeopathic Links*; Spring 2010; 23: 60-3. This observational study was conducted through 9 different government clinical research institutes across India and was coordinated by the Indian Central Council for Research in Homoeopathy (CCRH). It was designed to determine which of 9 predefined homeopathically prepared materials could be useful for the treatment of furunculosis. 397 people who were clinically diagnosed with this disorder

formed the study cohort and they were treated for 3 years using a Furunculosis Symptom Score developed by the CCRH. At the beginning of the study, the results indicated an average FSS of 5.61 and this fell to an average of 1.14 by the end of the study. 85% of the patient population responded to one of the following four trial medicines: Hepar sulphuris, Antimonium crudum, Sulphur or Calcarea carbonica.

199. Nayak C, et al. **A multicentric open clinical trial to evaluate the usefulness of 13 predefined homeopathic medicines in the management of acute rhinitis in children.** *Indian Journal of Research in Homoeopathy*, 2010, 4, 2, 23-27. In research conducted across India and coordinated by the Indian Central Council for Research in Homoeopathy, a team of scientists and clinicians sought to determine what effects, if any, homeopathic treatment had on the clinical outcomes for children suffering from acute rhinitis. 638 children suffering from clinically diagnosed acute rhinitis were given one of twelve predefined homeopathic medicines in 6C homeopathic potency and their progress followed for 7 days. They were assessed using an acute rhinitis symptom score (ARSS) at baseline and at the end of the treatment period. Over this time there was a statistically significant improvement in all of the signs and symptoms observed. The most frequently prescribed medicines were Nux vomica, Merc sol and Belladonna.

200. Goda C, et al. **Role of homeopathic treatment in scabies infection in adivasi children attending ashram shalas (resident schools).** *Indian Journal of Research in Homoeopathy*, 2010, 4, 2, 33-40. Using a prospective, randomized controlled, single blind study design, a group of Indian researchers investigated the capacity of homeopathic therapy to relieve a cohort of 300 Indian schoolchildren of scabies. The children were divided into three treatment groups i.e. constitutional group, acute / sector group and placebo group. Scabies infection was diagnosed by a dermatologist and graded according to the severity of infection and children were observed for 2 years. All treatment groups were subjected to standard hygienic measures during the course of the study. Results were analysed at the end of each year and by the end of the study period it was found that 90% of the children from the constitutional group improved at the end of the 1st year whereas 27% from the acute and 4% from the placebo group improved. At the end of the second year, the rate of improvement of the constitutional group rose to 98% whereas 48% from the acute and 12% from placebo group improved. The prevalence of scabies in the school dropped from 52% to 17% at a time when the prevalence of scabies in the residential schools in the area did not show any reduction.

201. Zanasi A, et al. **Homeopathic medicine for acute cough in upper respiratory tract infections and acute bronchitis: a randomized, double-blind, placebo-controlled trial.** *Pul Pharmacol Ther*, 2014, 27, 1, 102-8. Using a randomized, double blind, placebo controlled clinical trial design, the authors of this study tested the efficacy of a homeopathic syrup in treating cough arising from Upper Respiratory Tract Infections (URTI). 80 people with an URTI-related cough were treated with either the homeopathic syrup or a placebo for a week, and recorded cough severity in a diary by means of a verbal category-descriptive score for two weeks. Sputum viscosity was assessed with a viscosimeter before and after 4 days of treatment and patients were asked to provide a subjective evaluation of viscosity. On analysis of the results it was shown that in each group, cough scores decreased over time, however, after 4 and 7 days of treatment, cough severity was significantly lower in the homeopathic group than in the placebo group. Sputum was collected from 53 patients: in both groups, viscosity significantly decreased after 4 days of treatment and viscosity was significantly lower in the homeopathic group than in the placebo group.

202. Gupta G, et al. **Evidence based clinical study to assess the usefulness of homeopathic medicines in patients of Benign Prostatic Hyperplasia.** *Indian Journal of Research in Homoeopathy*, 2010, 4, 2, 49-56. In a collaborative observational study between the Indian Central Council for

Research in Homoeopathy and the Lucknow Homoeopathic Research Foundation, 43 men diagnosed with benign prostatic hyperplasia were given one of 20 predefined homeopathic medicines and monitored for 12 months. Assessment was done before and after treatment via the International Prostate Symptom Score (IPSS), ultrasonography, uroflowmetry and Prostate Specific Antigen (PSA). After comparing pre and post treatment results, the difference in mean values of IPSS, Prostate weight, PSA and average flow rates were found to be statistically significant. Maximum Flow Rate and Post Void Residual Urine (PVRU) were improved but statistically not significant. The most frequently prescribed medicines were Lycopodium, Pulsatilla, Sulphur and Calcarea carb.

203. Chand KS, et al. **Homeopathic treatment in addition to standard care in multi drug resistant pulmonary tuberculosis: a randomized, double blind, placebo controlled clinical trial.** *Homeopathy*, 2014, 103, 2, 97-107. In the face of a global increase in the number of cases of human multiple drug resistant tuberculosis (MDRTB), this research was conducted to determine if individualised homeopathy, in addition to standard care, could improve the prognosis for people suffering from this disease. A randomized, double blind, placebo controlled study was conducted with 120 people diagnosed with MDRTB over 5 years. They were randomised to receive standard regimen + individualised homeopathic medicine (SR + H) or standard regimen + identical placebo (SR + P). The outcome measures were sputum conversion, changes in chest X-ray (CXR), haemoglobin, erythrocyte sedimentation rate (ESR), weight gain, and clinical improvement. An analysis of the results showed an improvement in most of the outcome measures associated with the use of homeopathy, in particular, weight gain, ESR and mean haemoglobin and CXR.. In addition, the cure rate was 11.4% more in SR + H group as compared to placebo group.

Animal studies

1. Aboitboul R. **Snake remedies and eosinophilic granuloma complex in cats.** *Homeopathy*, 2006, 95, 1, 15-19. An Israeli veterinary clinic compiled case records involving Eosinophilic granuloma complex (EGC) in cats taken over an 8 year period. 20 cases of the condition were seen during this period and details of 15 of these cases were recorded. EGC is a syndrome characterised by lesions affecting the skin and the oral cavity. Conventional treatment is mainly symptomatic and may have undesirable side effects. The cases recorded involved the use of homeopathic snake remedies (the most frequently used being Lachesis) and in all 15 cases, reactions were mostly quick, leading to significant improvements, including complete recoveries.

2. Banerjee P, et al. **Comparative Efficacy of Two Microdoses of a Potentized Homeopathic Drug, Arsenicum album, to Ameliorate Toxicity Induced by Repeated Sublethal Injections of Arsenic trioxide in Mice.** *Pathobiology*. 2008, 75, 3,. 156-70. This subject has had previous attention by Datta, Kundu and others, and in this randomised controlled trial, 6C and 30C homeopathic potencies of Arsenicum album (Arsenic trioxide) were given to mice prior to exposure to material doses of arsenic trioxide, as a means of determining whether or not the potentised Arsenicum album had any influence on the effects of arsenic. Mice were divided into 6 groups with 1 group receiving 6C Arsenicum album, another group receiving 30C Arsenicum album, and the remaining 4 groups receiving various control substances. Cellular and various biochemical parameters such as acid and alkaline phosphatases, aspartate and alanine aminotransferases, glutathione, lipid peroxidation, catalase and succinate dehydrogenase were assessed at 30, 60, 90 and 120 days from the beginning of the study. On analysis of these results it was found that both the 6C and 30C potencies of Arsenicum album provided protection against the effects of arsenic trioxide, with the 30C providing a slightly better level of protection than the 6C.

3. Bhattacharjee N, Pathak S, Khuda-Bukhsh AR. **Amelioration of Carcinogen-Induced Toxicity in Mice by Administration of a Potentized Homeopathic Drug, Natrum Sulphuricum 200.** *Evid Based Complement Alternat Med.* 2009, 6, 1, 65-75. Researchers at India's University of Kalyani, expanding on work that had been previously been done in area, designed a trial to discover whether or not the homeopathic product, Nat sulph 200C was able to protect mice against the effects of liver carcinogens, when compared to controls. Using various enzyme assays and other tests to determine the effects of the product, Nat sulph 200C was found to reduce genomic and other carcinogenic effects as well as liver tumor formation caused by hepatocarcinogens, and to also increase the in-vivo levels of glutathione.

4. Berchieri A Jr, et al. **Evaluation of isopathic treatment of Salmonella enteritidis in poultry.** *Homeopathy.* 2006,, 95, 2, 94-7. 180 chickens were divided into 4 groups. 2 of these groups were given pre-treatment with placebo and 2 were given different pre-treatment with preparations of a homeopathic nosode made from an antibiotic resistant strain of Salmonella enterica (Enteritidis) at a 30X potency, over a 10 day period. On day 17 the chickens were challenged with a culture of the same species of Salmonella from which the nosode was made. Cloacal swabs taken twice daily from the chickens at this point revealed that the birds that received the nosode showed a reduction in the growth of the bacteria compared to those given placebo.

5. Biswas SJ, Khuda-Bukhsh AR. **Evaluation of protective potentials of a potentized homeopathic drug, Chelidonium majus, during azo dye induced hepatocarcinogenesis in mice.** *Indian Journal of Experimental Biology.* 2004, 42, 7, 698-714. In this study, groups of mice were given substances that would normally be expected to induce the formation of liver cancer. At the same time, selected groups of these mice were given either homeopathic Chelidonium in 30C or 200C potencies or a placebo control. Both potencies of chelidonium provided a significant protective effect against the formation of liver cancers and favourably modulated some of the haematological markers normally associated with hepatotoxicity.

6. Biswas SJ, et al. **Efficacy of the potentized homeopathic drug, Carcinosis 200, fed alone and in combination with another drug, Chelidonium 200, in amelioration of p-dimethylaminoazobenzene-induced hepatocarcinogenesis in mice.** *J Altern Complement Med.* 2005, 11, 5, 839-54. Mice suffering from liver cancers were given either homeopathic Carcinosis 200C, or a combination of Carcinosis 200C and Chelidonium 200C over a period of 120 days, and the ability of these to ameliorate the cancers was compared to the effects of potentised alcohol over the same period of time. After the results were analysed it was found that both of the homeopathic remedies were effective in ameliorating these cancers. In addition, they were both individually effective in protecting against the development of any further hepatocarcinogenesis and the combination of the 2 homeopathic medicines were slightly more so.

7. Cazin JC, et al. **A Study of the Effect of Decimal and Centesimal Dilutions of Arsenic on the Retention and Mobilisation of Arsenic in the Rat.** *Human Toxicol,* 1987, 6, 315-320. Radioactively labelled arsenious anhydride was administered to 60 rats. The rats were then given various homeopathic potencies (10X to 30X and 5C to 15C) of Arsenicum album or a potentised water control. All of the potencies successfully increased the excretion rate of the radio-labelled arsenious anhydride when compared with the control, with the highest level of excretion being produced by the 14X and 7C potencies.

8. Chakrabarti J, Biswas SJ, Khuda-Bukhsh AR. **Cytogenetical Effects of Sonication in Mice and their Modulations by Actinomycin D and a Homeopathic drug, Arnica 30.** *Indian Journal of Experimental Biology,* 2001, 39, 12, 1235-42. Mice were exposed to ultrasonication (high frequency shaking) and assessed for the effects of the ultrasonication after the administration of either Arnica 30

or Actinomycin D. These interventions were assessed against controls for parameters such as chromosome aberrations, mitotic index, sperm head anomaly and micronucleated erythrocytes. In comparison the control mice, the mice that were given Arnica 30, had appreciably reduced effects from the ultrasonication, indicating that Arnica 30 can ameliorate the cellular and subcellular damage resulting from this form of physical trauma.

9. Chaudhuri S, Varshney JP. **Clinical management of babesiosis in dogs with homeopathic *Crotalus horridus* 200C.** *Homeopathy*. 2007, 96, 2, 90-4. Babesiosis is a protozoal disease suffered by dogs. It's associated with infestation by *Babesia gibsoni* and is normally transmitted by ticks. In this clinical case comparison the effects of *Crotalus horridus* 200C on dogs suffering from this condition were compared with the effects of the standard pharmaceutical treatment, diminazine acetate. At 18 days after the medications were given results were assessed and on the clinical scores for the various symptoms produced by the dogs in response to the protozoa, it was found that *Crotalus horridus* 200C provided the same level of clinical recovery from the illness as did diminazine acetate.

10. Datta S, Mallick P, Bukhsh AR. **Efficacy of a potentized homeopathic drug (*Arsenicum album*-30) in reducing genotoxic effects produced by arsenic trioxide in mice: II. Comparative efficacy of an antibiotic, actinomycin D alone and in combination with either of two microdoses.** *Complement Ther Med*. 1999, 7, 3, 156-63. This study, carried out at the University of Kalyani in India's West Bengal, was part of an ongoing series of trials looking at the use of homeopathically potentised arsenic to protect against the effects of exposure to material doses of arsenic, this latter being a serious health issue in several parts of India and elsewhere. The efficacy of *Arsenicum album* 30C and 200C have already been demonstrated to be effective against the toxicity from arsenic in previous experiments and in this particular study, the influence of the DNA transcription inhibitor, actinomycin D, on the protective effects of the homeopathic medicines was assessed. Compared to controls it was found that the use of the actinomycin D did inhibit the protective effects of *Arsenicum album* 30C and 200C against arsenic toxicity.

11. Datta SS, Mallick PP, Rahman Khuda-Bukhsh AA. **Comparative efficacy of two microdoses of a potentized homeopathic drug, *Cadmium sulphuricum*, in reducing genotoxic effects produced by cadmium chloride in mice: a time course study.** *BMC Complement Altern Med*. 2001, 1:9 doi:10.1186/1472-6882-1-9. In a similar study to that described above, researchers again tested the hypothesis that the homeopathically potentised version of a potentially toxic substance could protect against the effects of the substance from which it's derived. In this case, the protective effects of homeopathic *Cadmium sulphuricum* 30C and 200C were used in an attempt to control the genotoxic effects of cadmium in mice exposed to this element. When the results of this study were analysed it was found that the homeopathic medicine did provide a statistically significant protective action against the effects of cadmium.

12. Daurat V, Dorfman P, Bastide M. **Immunomodulatory activity of low doses of interferon alpha,beta in mice.** *Biomed Pharmacother*. 1988, 42, 3, 197-206. This was a placebo controlled study designed to ascertain what effects, if any, divided doses of interferon alpha,beta, potentised to 10X, had on specific immune responses of mice, in particular the cytotoxic activity of allospecific T-cells and natural killer (NK) cells. The authors of the study found that, compared to the controls, mice given Interferon alpha,beta 10X produced a statistically significant increase in all of the specific immune response variables measured.

13. Day C. **Stillbirth in Pigs.** *Veterinary Record*, 1984, 9114, 216. 20 sows were randomly assigned to receive either homeopathic *Caulophyllum* 30C or placebo, to determine if the former had any effect on reducing the number of stillbirths experienced by these sows. On analysis, it was found that the sows

given *Caulophyllum* had a stillbirth rate of 11.5%, and those given placebo had a rate of 26%, showing quite clearly that the homeopathic medicine successfully reduced the rate of stillbirths.

14. de Paula Coelho C, et al. **Therapeutic and pathogenetic animal models for *Dolichos pruriens*.** *Homeopathy*. 2006, 95, 3, 136-43. This study was designed to determine the effect of various homeopathic potencies of *Dolichos pruriens* on artificially induced itch in laboratory rats, and also to determine if these potencies could elicit a proving effect in normal rats. In the first part of this study (performed blind) the rats with the induced itch were given ascending potencies of the remedy over a 30 day period and the results compared to placebo controls. It was found that all potencies of the remedy provided a therapeutic effect against the induced itch. In the second part of the study, also performed blind, no proving effects were seen.

15. Dos Santos AL, et al. **In vivo study of the anti-inflammatory effect of *Rhus toxicodendron*.** *Homeopathy*. 2007, 96, 2, 95-101. This study was essentially designed to do 2 things; to determine which homeopathic potency of *Rhus tox* provides the most effective anti-inflammatory action, and to reconfirm the results of previous studies aimed at demonstrating any anti-inflammatory effect of *Rhus tox*. Of 6C, 12C, 30C and 200C potencies of this remedy, 6C was found to provide the highest level of activity, and, using an in-vivo inflammation model, researchers confirmed the anti-inflammatory activity of the remedy by interfering with inflammatory processes involving histamine, prostaglandins and other inflammatory mediators, when compared with controls.

16. Eizayaga FX, et al. **Platelet aggregation in portal hypertension and its modification by ultra-low doses of aspirin.** *Pathophysiol Haemost Thromb*. 2005, 34, 1, 29-34. Researchers in this controlled study attempted to determine the effects of potentised aspirin on rats exhibiting reduced platelet aggregation associated with portal hypertension. Given that material doses of aspirin are known to be associated with a reduction in platelet aggregation, one of the aims of the study was to confirm that the reverse of this would be the case with if potentised aspirin were used. The researchers did, in fact, confirm this in their results which showed that, compared to controls, Aspirin 14C normalised deficiencies in platelet aggregation in the rats involved in this study.

17. Endler PC, et al. **Pretreatment with Thyroxine 10⁻⁸ Enhances a Curative Effect of Homeopathically prepared Thyroxine 10⁻¹³ on Lowland Frogs.** *Forschende Komplementarmedizin Und Klassische Naturheilkunde*, 2003, 10, 137-42. In this randomised, placebo-controlled trial carried out simultaneously by 3 independent researchers, tadpoles were exposed to an equivalent of a 13X potency of thyroxine. This hormone, normally responsible for promoting metamorphosis, was found to inhibit this process when potentised into a homeopathic medicine.

18. Epstein OI, Pavlov IF, Shtark MB. **Improvement of Memory by Means of Ultra-Low Doses of Antibodies to S-100B Antigen.** *Evidence Based Complementary and Alternative Medicine*. 2006, 3, 4, 541-545. Antigen S-100B of nervous tissue affects the mechanisms of nervous system plasticity and memory. In this trial, 28 rats were given either a placebo, or Antigen S-100B, at a 6C potency to determine the effect of either on three learning behavioural models; inhibitory avoidance, choosing of bowls with sucrose, and feeding behaviour cessation after auditory signal. For all three tasks, parameters of reproduction of the learned skills improved after per oral administration of potentiated antibodies to S-100B antigen immediately after learning when compared to placebo.

19. Graunke H, et al **Treatment of lowland frogs from the spawn stage with homeopathically prepared thyroxin (10(-30)).** *Scientific World Journal*. 2007, 22, 7, 1697-702. In this project, performed at the Interuniversity College for Health and Development in Graz, Austria, lowland frog spawn were exposed to thyroxine potentised to 30C to determine the effect, if any, of this remedy of the development

of the spawn into 2 and then 4 legged frogs, when compared to controls. It would be normal for the development of frog spawn to be accelerated by exposure to material levels of thyroxine. In this instance, exposure to 30C thyroxine produced a statistically significant reduction in the speed of development from spawn to 4 legged lowland frogs.

20. Guajardo-Bernal G., Searcy-Bernal R., Soto-Avila J. **Growth Promoting Effect of Sulphur 201C in Pigs.** *British Homoeopathic Journal*, January, 1996, 85, 15-16. In a blind, placebo-controlled trial, Sulphur 201C was given to pregnant sows every 10 days, and extending into the feeding period after birth. By day 30 the piglets fed by the sows given the active remedy exhibited a higher final weight, mean total and daily weight gain, indicating that not only was the remedy effective, but that its effects were transmitted through the sows milk.

21. Herkovits J, Perez-Coll CS. **Could Potentized Microdoses of Cadmium change the Toxicological Effect of this Heavy Metal?** *Berlin Journal on Research in Homoeopathy*, Report from the 4th Giri Symposium, 1991, June, 1, 3, 171. Toad embryos were exposed to Cadmium in 4X, 8X and 10X potencies. Either immediately or 24 hours later, the embryos were exposed to a (normally lethal) solution equivalent to 1mg/l of Cadmium. Both on immediate and delayed exposure, the potencies of cadmium exerted a statistically significant protective effect against the actions of the cadmium solution.

22. Jonas WB, et al. **Can homeopathic treatment slow prostate cancer growth?** *Integr Cancer Ther.* 2006, 5, 4, 343-9. This US study examined the effects of the homeopathic remedies Thuja, Sabal, Conium and Carcinoin (made from the specific prostate cancer cell line used in this trial) in vitro on prostate cancer cell cultures and in vivo on 100 rats, all of which were suffering from prostate cancer. A double blind randomised design was used for this latter part of the study. The rats were given all 4 homeopathic medicines on a sequential basis over a period of 5 weeks. The in vitro part of the study, carried out over a period of 96 hours and assessed according to tumor cell viability and gene expression, showed that the cancer cell lines were unaffected by the homeopathic medicines. When the researchers assessed the results from the in vivo aspect of the study, it was found that, compared to the controls, the rats given the homeopathic medicines showed a 23% reduction in tumor incidence and a 38% reduction in the size of prostate tumors.

23. Kumar KH, et al. **Inhibition of chemically induced carcinogenesis by drugs used in homeopathic medicine.** *Asian Pac J Cancer Prev.* 2007, 8, 1, 98-102. In this study, carried out at the Amala Cancer Research Centre in India's Kerala State, rats and mice were treated for the development of liver tumors using homeopathic Hydrastis, Lycopodium, Phosphorus, Ruta or Thuja. Assessment was made on the basis of the development of tumors and their corresponding biochemical markers such as gamma-glutamyl transpeptidase, glutamate pyruvate transaminase, glutamate oxaloacetate transaminase and alkaline phosphatase in the serum and in liver. Of the 5 medicines tested, Ruta (in a 200C potency) and Phosphorous (in a 1M potency) provided the most benefit.

24. Kuzeff RM, Mecheva RP, Topashka-Ancheva MN. **Inhibition of (-)-propranolol hydrochloride by its enantiomer in white mice--a placebo-controlled randomized study.** *Forsch Komplementarmed Klass Naturheilkd.* 2004, 11, 1, 14-9. Researchers in this trial from Swinburne University of Technology in Melbourne examined the effects on toxicity from (S)-(-)-propranolol hydrochloride of a homoeopathically prepared optical isomer version of the same substance. When used in mice prior to exposure to (S)-(-)-propranolol hydrochloride, a remedy made from (R)-(-)-propranolol hydrochloride was found to reduce the toxicity resulting from its isomer.

25. Labrecque G., Guilleminot J. **Effect of Bryonia on Experimental Arthritis in Rats.** *Berlin Journal of Research in Homoeopathy*, 1991,1, 3, 169, (Congress Report Poster). In this study, 35 male rats

suffering from arthritis were treated with placebo or 4X, 4C or 9C potencies of homeopathic Bryonia for 15 days and assessed at various stages using grip strength body weight as assessment criteria. At the end of the treatment period, all of the Bryonia potencies had improved the condition when compared to placebo, with Bryonia 4C providing the best outcomes.

26. Lingg G, et al. **Treatment of Highland Frogs from the Two-legged stage with Homeopathically prepared Thyroxin (10^{-11} - 10^{-21})**. *Scientific World Journal*. 2008, 20, 8, 446-50. Researchers working in Austria conducted this study to determine the effects of thyroxine, homeopathically potentised to 11X and 21X, on the metamorphosis rates of highland frogs (*Rana temporaria*) when compared to controls. The assessment of the effects of these remedies was done on the basis of the number of 2 legged tadpoles that develop into frogs with 4 legs over fixed periods of time. 90 animals in all acted as the subjects in this trial. As would be expected, given that thyroxine would stimulate development, thyroxine 11X and 21X, when compared to controls, were found to suppress the development of tadpoles into frogs over the observation period.

27. Macedo SB, et al. **Anti-inflammatory activity of Arnica montana 6cH: preclinical study in animals**. *Homeopathy*. 2004, 93, 2, 84-7. Researchers in this study evaluated the protective effect of Arnica 6C on the acute inflammatory effects in mice of carrageenan and the chronic inflammatory effects of Nystatin. Arnica was given prior to the induction of both forms of inflammation and it was found to provide a protective effect against Nystatin, but not carrageenan induced inflammation.

28. MacLaughlin BW, et al. **Effects of homeopathic preparations on human prostate cancer growth in cellular and animal models**. *Integr Cancer Ther*. 2006, 5, 4, 362-72. To confirm the effectiveness of the homeopathic treatment of prostate cancer, the researchers in this trial assessed the effects of the homeopathic medicines Sabal serrulata, Conium maculatum and Thuja occidentalis against PC-3 and DU-145 human prostate cancer cell cultures and against the growth of prostate tumors in mice. Sabal reduced the proliferation of the PC-3 cell line by 33% in 72 hours and the DU-145 cell line by 23% in 24 hours. Compared to controls, Sabal also had a statistically significant effect on the tumors suffered by mice. The homeopathic medicines Conium maculatum and Thuja occidentalis showed no beneficial effect on the proliferation of the cell lines or tumors observed in this study.

29. Mallick P, et al. **Ameliorating effect of microdoses of a potentized homeopathic drug, Arsenicum Album, on arsenic-induced toxicity in mice**. *BMC Complement Altern Med*. 2003, 3, 1, 7. In this study, Indian researchers using mice as a model for the management of human arsenic toxicity from drinking contaminated groundwater in rural India, assessed the toxicity from arsenic in mice pretreated with homeopathic Arsenicum album 30C and 200C. When compared to controls, the homeopathic remedies were found to reduce experimentally induced arsenic toxicity.

30. Mathie RT, et al. **Outcomes from homeopathic prescribing in veterinary practice: a prospective, research-targeted, pilot study**. *Homeopathy*. 2007, 96, 1, 27-34. In this cohort study, 8 veterinarians trained in homeopathy collected clinical case outcome data over a 6 month period for animals treated by them using homeopathic medicines. The records for 767 consecutive patients were collected and the results analysed via an owner- assessed 7-point scale which compared the condition before and after homeopathic treatment. These patients consisted of 547 dogs, 155 cats, 50 horses, 5 rabbits, 4 guinea-pigs, 2 birds, 2 goats, 1 cow, and 1 tortoise. The results from 539 cases were amenable to analysis and from these an improvement was seen in 79.8% of the animals, 6.1% of animals experienced a deterioration of their condition and 11.7% had no response to treatment.

31. Oberbaum M, Weissman Z, Bentwich Z. **Treatment of Murine SLE by Idiotypic Isotherapy**. *Berlin Journal on Research in Homoeopathy*, Congress Report, 1991, 1, 3, 168. Using the knowledge that

Systemic Lupus Erythematosus (SLE) is induced by anti-DNA idiotype 16/6, homeopathic potencies were made of this material and it was administered to mice suffering from SLE. When compared to controls, 100% of the mice treated with the 30X potency of the idiotype had a positive response to the treatment.

32. Pathak S, et al. **Protective potentials of a potentized homeopathic drug, Lycopodium-30, in ameliorating azo dye induced hepatocarcinogenesis in mice.** *Mol Cell Biochem.* 2006, 285, 1-2, 121-31. The researchers in this study, which was carried out at the University of Kalyani in India's West Bengal, used 210 mice in an experiment to determine the protective effect of Lycopodium 30C against the carcinogenic effects of p-dimethyl amino azo benzene and phenobarbital. When assessed using chromosomal aberrations as well as several morphological and biochemical parameters at 120 days from the beginning of the experiment, it was confirmed that Lycopodium 30C not only exhibited a protective effect, but also a restorative effect against the action of p-dimethyl amino azo benzene and phenobarbital.

33. Pedalino C.M.V., et al. **Effect of Atropa belladonna and Echinacea angustifolia in homeopathic dilution on experimental peritonitis.** *Homeopathy*, 2004, 93, 4, 193-198. 36 mice with experimentally induced peritonitis were given either Echinacea angustifolia 4X, a combination of belladonna and Echinacea in mixed homeopathic potencies, a combination of Echinacea in mixed potencies, 2 separate combinations of belladonna in mixed potencies, or a control substance, and their progress was monitored over time. Outcomes were measured using polymorphonuclear cell migration, mononuclear cell percentages, degenerate leucocyte proportions and phagocytosis characteristics. All of the homeopathic test substances produced positive outcomes with the belladonna and Echinacea potency combination providing the maximal increase in polymorphonuclear cell migration and phagocytosis.

34. Rajkumar R, et al. **Effect of a Homeopathic complex on oestrus induction and hormonal profile in anoestrus cows.** *Homeopathy*. 2006, 95, 3, 131-5. From a group of 12 anoestrus cows, 6 were selected to receive treatment with a combination of homeopathic medicines, given as 15 pills twice daily for 10 days. The remaining 6 cows acted as untreated controls. The treatment was effective in inducing oestrus in all of the 6 treated cows with an average of 1 conception per 1.83 services. In addition, the researchers found that oestradiol levels in the treated cows almost doubled from pre-treatment levels. Treatment results were seen at a mean interval of 27.5+/-5.3 days.

35. Reis LS, et al. **Matricaria chamomilla CH12 decreases handling stress in Nelore calves.** *J Vet Sci.* 2006, 7, 2, 189-92. In this study, 60 Nelore calves were randomly assigned to receive either Chamomilla 12C or no Chamomilla 12C in their feed. Following this they were subjected to short periods of handling stress after which blood samples were taken to assess their cortisol levels. After the results from the 2 groups had been compared, it was found the calves given Chamomilla 12C had significantly lower levels of blood cortisol than those that did not, indicating that they were better able to deal with stress as a result of ingestion of the homeopathic medicine.

36. Ruiz- Vega G, et al. **An Evaluation of Coffea cruda effect on Rats.** *British Homeopathic Journal*, 2000, 89, 3, 122-126. This study tested the effects of Coffea 30C versus placebo on the sleep patterns of rats assessed using EEG readings. The results showed a statistically significant effect consistent with increased sleeping activity in those rats given the active medicine.

37. Ruiz-Vega G, et al. **Comparitive Effect of Coffea cruda Potencies on Rats.** *Homeopathy*, 2002, 91, 2, 80-84. 30C and 200C potencies of *Coffea cruda* and caffeine were administered orally to rats, and EEG data from the parietal region recorded. When compared with control animals, *Coffea* 30C and 200C were associated with changes in EEG patterns that were consistent with increased sleep activity.

38. Ruiz-Vega G, et al. **A Kinetic Approach to Caffeine- Coffea cruda Interaction.** *Homeopathy*, 2003, 92, 1, 19-29. In this blinded and controlled study, rats were given caffeine and then Coffea 30C in an effort to determine what effects, if any, the Coffea 30C had on sleep characteristics. The homeopathic remedy was found to increase the intensity of sleep in the rats when compared with the effects of the control used.

39. Ruiz-Vega G, Poitevin B, Perez-Ordaz L. **Histamine at high dilution reduces spectral density in delta band in sleeping rats.** *Homeopathy*. 2005, 94, 2, 86-91. Histamine in material doses is a central nervous system stimulant operating via H1 receptors. The researchers in this study examined the effects of histamine in 30C homeopathic potency on the sleep patterns of rats. Using the spectral density of the delta band in the sleep electroencephalogram to measure the effects of the remedy, which is higher during periods on non-REM sleep, researchers found that histamine 30C produced an increase in wakefulness when compared to controls.

40. Sakakura CE, et al. **Influence of Homeopathic Treatment with Comfrey on Bone Density around Titanium Implants: A Digital Subtraction Radiography Study in Rats.** *Clinical Oral Implants Research*. 2008, 19, 6, 624-8. This controlled trial looked at populations of rats to discover what influence, if any, Symphytum 6C had on improving the density of bone around recent titanium implants. Implants were given to 2 groups of 24 rats; one group was given 10 drops of Symphytum 6C per day and the other was given a similar amount of a control substance. Animals were radiologically assessed for bone density around the implants at the beginning of the study period, and again at 7, 14 and 28 days. Radiographs taken at day 7 showed an increase in bone density over controls, although no statistically significant effect was seen for the radiographs taken on days 14 and 28.

41. Sato DYO, et al. **Histopathological and immunophenotyping studies on normal and sarcoma 180-bearing mice treated with a complex homeopathic medication.** *Homeopathy*, 2005, 94, 1, 26-32. 55 mice with experimentally induced sarcomas were given placebo or a homeopathic combination product, and observed daily over a period of 21 days. Compared to those receiving placebo, the mice being given the homeopathic combination showed a reduction in tumor size, an increased infiltration by lymphoid cells, granulation tissue and fibrosis surrounding the tumor, all of which are indicative of a positive response to the medicine.

42. Sukul A., Sinhabau S.P., Sukul N.C., **Reduction of Alcohol Induced Sleep time in albino mice by Potentised Nux vomica prepared with 90% Ethanol.** *British Homoeopathic Journal*, 1988, 88, 2, 58-61. In a controlled experiment to determine the effect of Nux vomica 30C on alcohol induced sleep, mice that had sleep induced via an injection of 25% ethanol were given a control substance or Nux vomica 30C. Nux vomica 30C prepared in 90% ethanol was effective in reducing sleep time.

43. Sukul NC, et al. **Strychnos nux vomica extract and its ultra high dilution reduce voluntary ethanol intake in rats.** *Journal of Alternative and Complementary Medicine*, 2001, 7, 2, 187-193. In an attempt to determine the effect of homeopathic Nux vomica on alcoholism, potentially alcoholic laboratory rats housed in the Visva-Bharati University in West Bengal, India, after being divided into 4 groups, were given a choice of drinking from bottles containing either 20% ethanol in water or plain water. The rats were given diluent, or strychnine, or nux vomica tincture, or nux vomica 30C. When compared to the control group (diluent only) both the nux vomica tincture and nux vomica 30C groups of rats showed a distinct aversion to the 20% ethanol drinking bottle.

44. Sukul NC, Ghosh S, Sinhababu SP. **Reduction in the number of infective Trichinella spiralis larvae in mice by use of homeopathic drugs.** *Forsch Komplementarmed Klass Naturheilkd*. 2005, 12,

4, 202-5. Trichinellosis, a disease caused by *Trichinella spiralis*, which occurs in humans and animals, was the subject of this trial. Mice infected with this organism were given Podophyllum as a homeopathic mother tincture, Cina 30C, Santonin 30C, or ethanol 30C as a control substance. After 120 days the mice were examined for the presence of the *T. spiralis* larvae and this was compared with the larval load before therapy. At 120 days the mice given Podophyllum had their larval load reduced by 61% when compared to the control, those given Santonin had a reduction of 81% and the mice given Cina had a reduction of 84%.

45. Varshney JP, Naresh R. **Evaluation of a homeopathic complex in the clinical management of udder diseases of riverine buffaloes.** *Homeopathy*. 2004, 93, 1, 17-20. Indian researchers involved in this trial developed a homeopathic complex against mastitis and tested it, without placebo controls, with 102 riverine buffaloes suffering from various levels of mastitis. The treatment was deemed to be 80 to 97% effective against the disease, depending on the severity of the condition.

46. Varshney JP, Naresh R. **Comparative efficacy of homeopathic and allopathic systems of medicine in the management of clinical mastitis of Indian dairy cows.** *Homeopathy*. 2005, 94, 2, 81-5. Bovine mastitis is a serious problem in India and for many Indian dairy farmers, standard veterinary treatment, because of its cost, is not a viable option. With this in mind, researchers treated 96 lactating dairy cattle suffering from mastitis using a homeopathic combination product (Group A). These were compared with a group of the same number of lactating dairy cattle suffering from mastitis that were treated with antibiotics (Group B). The treatment outcomes, duration and costs were then compared. Cattle from Group A had a successful treatment response rate of 86.6%, a mean time to recovery of 7.7 days and a total cost of (US) 47 cents. Cattle from Group B had a successful treatment response rate of 59.2%, a mean time to recovery of 4.5 days and a total cost of (US) \$3.28.

47. Varshney JP. **Clinical management of idiopathic epilepsy in dogs with homeopathic Belladonna 200C: a case series.** *Homeopathy*, 2007, 96, 1, 46-48. In this uncontrolled study, 10 dogs suffering from idiopathic epilepsy were given 3-4 drops of homeopathic Belladonna 200C during the seizure phase orally at 15min intervals until the seizure activity was reduced, and this was continued then four times daily. Four dogs with head shaking syndrome in addition to seizures were given an additional Cocculus 6C, 3-4 drops orally weekly for 3 months. As a result of this therapy, the numbers of fits reduced to 2-3 during first 2 weeks post-therapy and then became occasional in next 2 weeks. With continuation of Belladonna therapy, no fits were observed during 2-7 months follow-up. In two cases seizures reappeared within 15-25 days of cessation of therapy. Belladonna therapy was resumed and seizure control was again achieved. Owners were advised to continue the therapy at least twice daily until no fits occurred for at least 2 months.

48. Varshney JP, Chaudhuri S. **Atrial paroxysmal tachycardia in dogs and its management with homeopathic Digitalis--two case reports.** *Homeopathy*. 2007, 96, 4, 270-2. Homeopathically prepared Digitalis 6C is a common prescription for those suffering from atrial tachycardia. This paper reports on the effects of Digitalis 6C, given at the Division of Medicine of the Indian Veterinary Research Institute in Izatnagar in India, to a Labrador dog and a German Shepherd dog, both of which were suffering from atrial paroxysmal tachycardia. Both dogs were given 4 drops of the medicine 4 times daily and their ECGs were assessed after 7 days of continuous treatment. At this point it was found that the heart rates of both dogs was stabilised and synchronized, with atrial and ventricular electrical activity appearing to be functioning normally.

49. Viriato EP, et al. **Study of high dilutions of copaiba oil on inflammatory process.** *Int J High Dilution Res* 2009, 8, 26, 9-149. This trial was a collaborative effort by researchers from several Brazilian universities and was designed to test the hypothesis that Copaiba oil, homeopathically

potentised to 30C from either mother tincture or triturate, is as effective as Indomethacin in reducing inflammation induced by carrageenan, and also to determine if it was capable of influencing tissue granulation when compared to conventional treatment. The 30C potency from mother tincture and triturate both reduced inflammation by up to 73%, and Indomethacin reduced inflammation by 55%. In addition, 6C potencies of Copaiba oil were able to produce a 48% inhibition of granulation, compared to a 57% reduction from the use of Dexamethasone.

50. Williamson AV, et al. **A Trial of Sepia 200**. *British Homeopathic Journal*, 1995, 84, 1, 14-20. Using a randomised placebo control method, Sepia 200C was assessed for its ability to increase reproductive performance in a herd of Friesian cross dairy cows. Sepia increased all parameters measured.

51. Marzotto M, et al. **Effects of Ignatia amara in mouse behavioural models**. *Homeopathy*. 2012, 101, 1, 57-67. This University of Verona study adds to previous work done on anxiety in mice and in this case used various potencies of homeopathically prepared Ignatia amara in potentially stressful experimental scenarios. Groups of 8 mice were given a negative (solvent) or positive control (diazepam) substance or Ignatia 4C, 5C, 7C, 9C and 30C and subjected to 5 repetitions of the light-dark test or open-field test in a randomised and blinded manner. Mice were then assessed for their levels of anxiety and capacity for locomotion. Compared to controls a statistically significant association was seen between the Ignatia potencies (particularly the 9C potency) and a reduction in anxiety, without a significant impact on locomotion.

52. Bellavite P, et al. **Testing homeopathy in mouse emotional response models: pooled data analysis of two series of studies**. *Evid Based Complement Alternat Med*. 2012;2012:954374. In this data analysis carried out by researchers from the Department of Pathology and Diagnostics at Italy's University of Verona, an assessment was made of previous work using homeopathically prepared Gelsemium against anxiety in mice, and comparing various homeopathic potencies of this material with solvent (negative) controls and diazepam (positive) controls. An analysis of this pooled data confirmed the original findings of both studies of a statistically significant association between homeopathically prepared Gelsemium and a reduction in the anxiety experienced by mice when confronted with a potentially anxiety producing situation.

53. Neumann S, et al. **Effectiveness of the homeopathic preparation Zeel compared with Carprofen in dogs with osteoarthritis**. *J Am Anim Hosp Assoc*. 2011, 47, 1, 12-20. Workers from the Institute of Veterinary Medicine in Germany's University of Goettingen carried out this study to determine what effects, if any, could be produced by a combination of homeopathically prepared materials to relieve the effects of osteoarthritis in dogs, compared the effects of Carprofen, a commonly used non-steroidal anti-inflammatory drug. 68 dogs suffering from clinically determined osteoarthritis were assigned to receive either the homeopathic combination, or Carprofen for 56 days. Assessments were made by treating veterinarians and owners at baseline, at 28 days and 56 days, of lameness, stiffness of movements, and pain on palpation. After accumulating and analysing the results it was shown that the interventions were equal in their effectiveness.

54. Hielm-Björkman A, et al. **Evaluating complementary therapies for canine osteoarthritis--Part II: a homeopathic combination preparation (Zeel)**. *Evid Based Complement Alternat Med*. 2009, 6, 4, 465-71. In an extension to previous work done in this area, researchers at Finland's University of Helsinki used a randomized, double-controlled and double-blinded clinical trial model to compare the effects of a combination of homeopathically prepared materials with that of placebo for the relief of the symptoms of osteoarthritis suffered by dogs. 44 dogs were randomly assigned to receive either the homeopathic combination or one of two control substances for 8 weeks. Regular observations made of mobility, force plate variables, chronic pain index and pain and locomotion via visual analogue scales

(VASs) as well as the intake of extra non-steroidal anti-inflammatory drugs. On analysis of the results, a significant association was found between the homeopathic combination and a reduction in 4 of the 6 variables measured, and these were the variables predominantly associated with chronic orthopaedic pain.

55. Bellavite P, et al. **Homeopathic Doses of Gelsemium sempervirens Improve the Behavior of Mice in Response to Novel Environments.** *Evid Based Complement Alternat Med.*

2011;2011:362517. In yet more interesting work on Gelsemium, researchers from the Department of Morphological Biomedical Sciences at the University of Verona in Italy, build on previous studies to further confirm the role of homeopathically prepared Gelsemium on anxiety. Once again, mice were exposed to potentially anxiety-producing situations such as the light-dark test and open field test after being given various homeopathically prepared 5C, 7C and 30C homeopathic potencies of Gelsemium, or a positive (Diazepam) or negative (solvent) control substance. When compared to the controls, the application of all of the Gelsemium potencies were associated with an improvement in some aspect of anxiety as produced by the test environments.

56. Sunila ES, et al. **Effect of homeopathic medicines on transplanted tumors in mice.** *Asian Pac J Cancer Prev.* 2007, 8, 3, 390-4. Indian researchers operating at the Amala Cancer Research Centre in Kerala State added to previous work done in this area by investigating the antitumour and antimetastatic capacity of 3 different homeopathically prepared substances on mice, when compared to controls. Mice suffering from specific tumors were exposed to the homeopathic preparations *Ruta graveolens* 200C, *Hydrastis canadensis* 200C, *Hydrastis canadensis* 1M, *Thuja* 1M and *Lycopodium* 1M. When compared to controls it was found that the 200C potencies were associated with an increase in the lifespan of tumour bearing mice by up to 69.4%. A strong association was also found between the use of these remedies and a reduction in solid tumour volume of up to 95.8% after 31 days of treatment. The use of *Hydrastis* 1M was associated with a complete disappearance of tumors in 60% of the mice and the use of *Thuja* 1M and *Lycopodium* 1M were also associated with significant reductions in metastatic activity.

57. Klocke P, et al. **A randomized controlled trial to compare the use of homeopathy and internal Teat Sealers for the prevention of mastitis in organically farmed dairy cows during the dry period and 100 days post-calving.** *Homeopathy.* 2010, 99, 2, 90-8.

Mastitis in organically farmed dairy cows is a major issue since, by definition, organically farmed animals cannot be given antibiotics. To deal with this, Swiss scientists from the Research Institute of Organic Agriculture in Frick sought to come up with a solution using a herd specific homeopathic mixture in cows affected by mastitis. 102 cows were randomly assigned to receive teat sealing via Orbeseal, a sterile, non-antibiotic inflammatory infusion in the form of a viscous paste, the homeopathic mixture or no treatment. All cows were checked for clinical mastitis and somatic cell count for the first 100 days post-calving (milk from cows infected with mastitis generally have higher total bacteria counts and somatic cell counts than milk from uninfected cows). On analysis it was shown that the herd-specific homeopathic was effective in increasing the number of animals with normal milk secretion compared to untreated controls.

58. Gazim ZC, et al. **Efficiency of tick biotherapeutic on the control of infestation by *Rhipicephalus (Boophilus) microplus* in Dutch dairy cows.** *Int J High Dilution Res.* 2010; 9, 33, 156-164.

This Brazilian work was done to investigate alternatives to conventional pesticides for the management of the tick *Rhipicephalus (Boophilus) microplus* in cattle. To do this, 34 Dutch dairy cows infested with *Rhipicephalus (Boophilus) microplus* were given either mineral salt alone or mineral salt impregnated with a 12C homeopathic preparation of the organism daily for 6 months, then a 30C preparation every second day for a further 22 months. At this point, engorged female ticks were collected from both groups, counted and weighed. In vitro tests were carried out to assess mass of ticks; egg mass; egg-hatching rate; and reproductive efficiency. After comparing these results from both groups it was shown that the use of the

homeopathically prepared tick was associated with a significant decrease in the mass of engorged females, deposition and hatching rate of eggs, and a decrease of the reproductive efficiency of these ticks.

59. Vaz AF, et al. **Anxiolytic effect of the homeopathic complex Tepeex.** *Int J High Dilution Research*, 2009 8, 28, 91-99. This trial, carried out at the Universidade Federal do Amapá in Brazil, was designed to test the effects of a homeopathic combination product known as Tepeex, on anxiety and depression in rats, when compared with the effects of a negative control (water) and a positive controls (diazepam, amfepramone chloride). The study were carried out over 30 days using a maze test, swimming test, open field test and Rotarod test as the primary means of assessment. At the end of the study, an analysis of the results was conducted and it was found that the use of the homeopathic combination product was associated with an anxiolytic effect. The combination showed no evidence of an inhibition of motor coordination.

60. de Araújo FR, et al **Effect of Mercurius solubilis on the bacteriological response in the alveolitis process in rats.** *Homeopathy*. 2009, 98, 3, 160-4. In more Brazilian research into homeopathy, scientists from the Microbiology Division of the Federal University of Pernambuco embarked on a randomised and blinded study to assess the bacteriological response in rats with alveolitis treated with homeopathically prepared mercury (Merc sol 12C). Rats suffering from bacterial alveolitis were exposed to Merc sol 12C, water or ethanol and observed at days 6, 15 and 21 from baseline. After the results were collected and analysed it was found that the rats exposed to Merc sol 12C had bacterial counts that were the closest to what could normally be expected to be seen in healthy rats.

61. Rosas-Landa V, Garcia M, Rodriguez R. **Evidence for Homeopathic Vaccination?** *Boletín Mexicano de Homeopatía*, 1997, 30, 5-10. This Mexican research describes the process and outcomes of two pilot studies done to evaluate the immunological response in rabbits to homeopathic preparations made from an oral mycobacterial antigen. In the first study, 1C to 30C homeopathic preparations of the antigen were given to rabbits in their drinking water for one month and assessed against positive and negative controls. All of the homeopathic potencies were associated with the production by the rabbits of antimycobacterial antibody. In the second trial, a tuberculin reaction was assessed after oral administration of the 30C homeopathic potency, and this compared to the reaction to the conventional inoculation. The reaction to the homeopathic potency was comparable to that caused by the conventional inoculate.

62. Jonas WB, Dillner DK. **Protection of Mice from Tularemia Infection with Ultra-Low, Serial Agitated Dilutions Prepared from *Francisella tularensis*-Infected Tissue.** *Journal of Scientific Exploration*, 2000, 14, 1, 35–52. In this study, researchers investigated the possibility that homeopathically prepared potencies made from the tissues from mice infected with *Francisella tularensis* (nosode), the organism associated with tularaemia, had the capacity to protect uninfected mice from this pathogen. Using 15 repetitions, mice were pretreated with various potencies of the nosode or a control substance for 1 month and then exposed to the pathogen and assessments made of the extent of the response to it. On analysis, it was found that all potencies of the nosode were associated with protection against the pathogen and it was also noted that two of the potencies were associated with the production of anti-tularemia IgG antibody during the pretreatment stage of the trial.

63. Oberholzer HM, Pretorius E. **Investigating lung remodelling in Modul8 treated BALB/c asthmatic animals.** *Micron*. 2009, 40, 8, 775-82. This trial was carried out at the faculty of Health Sciences in South Africa's University of Pretoria and was performed to investigate what effect, if any, a specific homeopathic combination product (Module8) had against hydrocortisone, compared to a

control, in mice suffering from atopic asthma. Assessment was made via the analysis of tissue structures and the numbers of eosinophils found on bronchial lavage before and after treatment. On analysis of the results noted at the end of the trial, the use of hydrocortisone and the homeopathic formula were both associated with a significant reduction in tissue structure changes and eosinophil count.

64. Bhattacharjee N, Pathak S, Khuda-Bukhsh AR. **Amelioration of carcinogen-induced toxicity in mice by administration of a potentized homeopathic drug, Natrum sulphuricum 200.** *Evid Based Complement Alternat Med.* 2009, 6, 1, 65-75. In this study, scientists from the University of Kalyani in India examined the possibility of a protective effect from the homeopathically prepared remedy Nat sulph 200C, in mice with liver damage induced by P-dimethylaminoazobenzene and Phenobarbital. To do this, mice affected by these hepatotoxic agents were given Nat sulph 200 or various control substances and then assessed at days 7, 15, 30, 60, 90 and 120 for cytogenetic changes such as chromosomal aberrations, micronuclei, mitotic index, sperm head anomaly liver enzymes and glutathione assay. Over these observational periods it was shown that the use of Nat sulph 200C was associated with a reduced impact on all of the parameters measured.

65. Welles SU, et al. **Pretreatment with thyroxin 10(-8) and the effect of homeopathically prepared thyroxin 10(-30) on highland frogs--a multi-researcher study.** *Forsch Komplementmed.* 2007, 14, 6, 353-7. This builds on previous work done in this area that showed that homeopathically potentised thyroxin slowed the rate of metamorphosis in highland frogs. In this study, tadpoles were pretreated with a 10 to the minus 8 molar solution of Thyroxin, which should be expected to stimulate metamorphosis. They were then exposed to either a homeopathically prepared Thyroxin 30X or a negative control. Four sets of these experiments were carried out, each by a different researcher. On analysis of the results it was found that the tadpoles that had been exposed to the Thyroxin 30X had a slower rate of metamorphosis than controls, which is consistent with previous findings and does not support the notion that pretreatment with a 10 to the minus 8 molar solution of Thyroxine alters this outcome.

66. Sukul A, et al. **Altered solution structure of alcoholic medium of potentized Nux vomica underlies its antialcoholic effect.** *Br Homeopath J.* 2000, 89, 2, 73-7. Researchers from the Department of Zoology at Visva-Bharati University in West Bengal, India explored the notion that homeopathically prepared Nux vomica, in 30C, 200C and 1M homeopathic potencies, could accelerate the recovery from alcohol intoxication. This adds to previous work done in this area and was carried out using a controlled crossover trial design on mice that were exposed to ethanol and then given Nux vomica 30C, 200C, 1M or one of three control substances. When compared to the controls, it was shown that the use all of the Nux vomica potencies was associated with a statistically significant reduction in ethanol intoxication.

67. Silva NL, et al. **Use of biotherapeutic in the control of natural infestation by Boophilus microplus: pilot study.** *Int J High Dilution Research,* 2008, 7, 22, 36-38. Scientists at the Agronomic Institute of Parana in Brazil conducted this research to assess the effects of a combination of 12C homeopathically potentised parasites on infestation in cattle by the cattle tick *Boophilus microplus*. This mixture included a 12C homeopathic potency of *Boophilus microplus*. 27 tick infested cattle were randomly assigned to receive the homeopathic mixture, or a standard veterinary drug-based dip used for this condition, or were given no treatment. The cattle were assessed for ticks at baseline and then every 14 days. On analysis of these assessments it was found that the homeopathically potentised mixture provided the same level of relief from ticks as the standard drug-based dip.

68. Rocha MPS, et al. **Behavior of rats treated with Rhus toxicodendron 200cH.** *Int J High Dilution Research,* 2008, 7, 22, 3-6. The object of this exercise was to determine the effects of homeopathically

prepared Rhus tox 200C and diazepam, on hyperactivity and hypoactivity in mice in open field tests, compared to controls. Mice were classified into hyperactive or hypoactive groups and assigned to receive Rhus tox 200C, diazepam or a water control, and their activities in an open field environment observed before and after treatment. Upon analysis it was found that Rhus tox 200C and diazepam both produced statistically significant reductions in hyperactivity when compared to controls. None of the interventions produced a significant effect on hypoactivity.

69. Fontes OL, et al. **A Study Comparing Different Doses of Arsenicum album 6CH on Rats Intoxicated with Arsenic.** *Int J High Dilution Research*, 2006, 5, 17, 9-13. This study was carried out with the intention of determining what effect, if any, the dose volume of homeopathically prepared Arsenicum album 6C has on the capacity of rats to eliminate arsenic in the form of sodium arseniate. Oral doses of 2, 5 and 10 drops of Arsenicum 6C were given to arsenic intoxicated rats daily for 30 days and their urine was measured daily for arsenic via atomic absorption spectrophotometry. On assessment, all of the three different drop volumes were equally effective at causing an increased elimination of arsenic.

70. Banerjee P, et al. **Evidences of Protective Potentials of Microdoses of Ultra-high Diluted Arsenic Trioxide in Mice Receiving Repeated Injections of Arsenic Trioxide.** *Evid Based Complement Alternat Med*. 2011: 391752. Published online 2011 February 14. This study was undertaken to determine if Arsenicum Album 200C has hepatoprotective effect in mice subjected to repeated exposure to arsenic trioxide. Arsenic intoxicated mice were divided into: (i) those receiving Arsenicum Album-200C daily, (ii) those receiving the same dose of diluted and succussed alcohol (Alc 200C) and (iii) another group receiving neither drug nor ASlc 200C. Two other control groups were also maintained: one fed a normal diet only and the other receiving normal diet and Alc-200C. Toxicity biomarkers such as aspartate and alanine aminotransferases, glutathione reductase, catalase, succinate dehydrogenase, superoxide dismutase and reduced glutathione contents were periodically assayed'. Additionally, electron microscopic studies and gelatin zymography for matrix metalloproteinases of liver tissues were made at day 90 and 120. Blood glucose, haemoglobin, oestradiol and testosterone levels were also assessed. When compared to controls, the mice that were fed Arsenicum Album-200C showed less evidence of chronic arsenic exposure.

71. Bellavite P, et al. **Homeopathic Doses of Gelsemium sempervirens Improve the Behavior of Mice in Response to Novel Environments.** *Evid Based Complement Alternat Med*. 2011: 362517. Published online 2011 February 15. Researchers in this study looked at the effects of 5C, 7C and 30C homeopathic potencies of Gelsemium in comparison to the effects of diazepam on the behavioural characteristics of mice when challenged with potentially anxiety-producing situations such as exposure to new environments or environments where cover was limited. Using measurements from these parameters, it was determined that the use of homeopathic Gelsemium was associated with an increase in exploratory behaviour and a reduction in the fear of new environments.

72. Zacharias F, et al. **Effect of homeopathic medicines on helminth parasitism and resistance of Haemonchus contortus infected sheep.** *Homeopathy*. 2008, 97, 3, 145-51. This Brazilian study reports the findings of a group investigating the effects of 3 homeopathically potentised substances on sheep infected with the Barber's Pole worm (*Haemonchus contortus*), a pathogenic nematode common to sheep. 20 sheep were randomly assigned to receive Doramectin, a commonly used antihelminthic; homeopathically prepared Ferrum phos, Arsenicum album and Calc carb; or no treatment. Faecal and blood samples were taken 18, 38 and 68 days from baseline and these checked for evidence of the parasite. On assessment of these results an association was found between the use of the homeopathic preparations and a reduction in the presence of the parasites, leading to an improvement in vital

function and weight gain. In addition, the homeopathic option was also found to be more economical than the standard antihelminthic method of management.

73. Camerlink I, et al. **Homeopathy as replacement to antibiotics in the case of *Escherichia coli* diarrhoea in neonatal piglets.** *Homeopathy*, 2010, 99, 1, 57-62. This work, performed by a team primarily from the Wageningen University in The Netherlands, concerns the design and outcomes of the homeopathic treatment of piglets suffering from diarrhoea associated with *E. coli*. 52 sows in their last month of gestation were given either placebo or a homeopathically potentised preparation of *E. coli* twice weekly for that month. These sows subsequently gave birth to 525 piglets; 265 from the placebo sow group and 260 from the homeopathic *E. coli* group and all were monitored for *E. coli* diarrhoea. On analysis of the results from the observations made of both groups, it was found that the piglets from the placebo group had a diarrhoeal incidence that was 6 times higher than the piglets from the homeopathic group.

74. Magnani P, et al, **Dose-effect study of *Gelsemium sempervirens* in high dilutions on anxiety-related responses in mice.** *Psychopharmacology* (Berl). 2010, 210, 4, 533-45. Researchers from the University of Verona in Italy carried out this trial on mice to determine whether or not any of five homeopathically potentised preparations of *Gelsemium* could influence the generation of anxiety. Mice were exposed to *Gelsemium* 4C, 5C, 7C, 9C and 30C, a positive control substance (Buspirone) or a negative control (the solvent used to produce the *Gelsemium* potencies) and then challenged with potentially anxiety generating situations, these being open-field tests and light-dark tests. While *Gelsemium* had little effect on the mice in the open-field test, it did produce a statistically significant reduction in anxiety associated with the light-dark test that was comparable to the effect produced by Buspirone, particularly the *Gelsemium* preparations potentised to 5C, 9C and 30C.

75. Zubedat S, et al. **Plant-derived nanoparticle treatment with cocc 30c ameliorates attention and motor abilities in sleep-deprived rats.** *Neuroscience*. 2013, 3, 253, 1-8. This was a 4-arm trial with randomisation and double-blinding of verum and placebo treatments designed to test the effects of homeopathically prepared *Cocculus* 30C on the outcomes of sleep deprivation in rats. Sleep deprivation was induced for 48 hours and its behavioural and hormonal effects monitored at 6 hours, 12 hours, 24 hours, and 14 days post sleep deprivation. *Cocculus* 30C was administered orally every three hours starting immediately after baseline tests and for a period of 24 hours. On day 14, blood samples were taken and serum levels of corticosterone, testosterone, serotonin and leptin were assayed. It was found that when compared to placebo, *Cocculus* 30C improved all of the sleep deprivation factors measured.

76. Keirn AP, et al. **The Multicomponent Medication Lymphomyosot Improves the Outcome of Experimental Lymphedema.** *Lymphatic Research and Biology*, 2013, 11, 2, 81-92. In this study from the Michigan Technological University in Michigan, USA, researchers sought to evaluate the ability of the homeopathic combination product, Lymphomyosot, to treat tissue swelling and promote lymphangiogenesis in experimental models of murine lymphoedema. To do this, experimental models of mouse lymphoedema were injected with varied amounts of Lymphomyosot or saline as a control. Measurements of tail swelling and wound closure were taken and compared amongst the groups. Three separate groups of mice were analysed for lymphatic capillary migration, lymphatic vessel regeneration, and macrophage recruitment. On analysis of the results it was found that Lymphomyosot was associated with significantly reduced swelling and an increased the rate of surgical wound closure.

77. Merlini LS, et al. **Effects of a homeopathic complex on the performance and cortisol levels in Nile tilapia (*Oreochromis niloticus*).** *Homeopathy*, 2014, 103, 2, 139-42. This work was performed in an effort to determine what effects, if any, a homeopathic combination product (Homeopatila 100) had on the cortisol levels of farmed fish (Nile tilapia) suffering from stress. 60 fish were randomly distributed

into six water tanks and received one of two treatments: 30 animals received a negative control substance and 30 animals received the homeopathic complex. Blood levels of cortisol were assessed on days 1, 30 and 60. At the end of the experiment it was found that the fish receiving the homeopathic complex had significantly lower circulating cortisol level ($17.96 \text{ ng/mL} \pm 0.95$) than the control group ($38.68 \text{ ng/mL} \pm 1.21$).

78. Sarkar A, et al. **Anti-rheumatoid and anti-oxidant activity of homeopathic *Guaiacum officinale* in an animal model.** *Homeopathy*, 2014, 103, 2, 133-8. Guaiacum has been used for generations in homeopathy both constitutionally and specifically for musculoskeletal disorders. The aim of this study was to evaluate the anti-rheumatic and anti-oxidant activity of homeopathic preparations of *Guaiacum officinale* on rats. To do this, a group of rats suffering from rheumatoid arthritis were divided into 6 groups and received Sham control, Arthritis control, Standard treatment (indomethacin), *Guaiacum* mother tincture, *Guaiacum* 30C or *Guaiacum* 200C. These groups were given these interventions for 5 days and anti-rheumatic activity was examined through physical, urinary, serum parameters. These included body weight, ankle and knee diameter, urinary parameters (hydroxyproline), glucosamine, calcium, creatinine, phosphate, serum acid phosphatase, alkaline phosphatase, gamma-glutamyl transferase, lipid peroxidation, glutathione, superoxide dismutase, catalase, serum GGT and serum interleukins. When compared to the controls, treatment with all of the 3 forms of *Guaiacum* was associated with a normalisation of these parameters.

79. Bellavite P, et al. **Mice behavioural models with pooled data analysis of *Gelsemium* studies and new findings about *Ignatia* and *Aconitum*.** *Int J High Dilution Res*, 2011, 10, 36, 198-200. Proceedings of the XXV GIRI Symposium and VIII CBFH; 2011, Sep 04-07; Foz do Iguaçu (Brazil) 198. In a follow-up to previous work done in this area, researchers from the University of Verona in Italy investigated the anxiolytic properties of homeopathically prepared materials on mice. Using a randomized, blinded and controlled protocol, mice were assigned to be given several one of several homeopathic potencies of *Gelsemium*, *Aconite*, *Ignatia* or material doses of positive controls (diazepam or buspirone) or a negative control (ethanol and water). They were exposed to stressful environmental situations (open field test or light-dark tests) and assessed for anxiety in relation to these environments. Compared to the controls, cumulative analysis of the results demonstrated a highly significant effect of *Gelsemium* 5C and 30C in both tests and *Ignatia* 9C in the Light-Dark test. The results indicate an anxiolytic rather than a sedative effect.

80. Fontes OL, et al. **The problem of dose in homeopathy: evaluation of the effect of high dilutions of *Arsenicum album* 30cH on rats intoxicated with arsenic.** *Int J High Dilution Res*, 2011, 10, 36, 218-219. Proceedings of the XXV GIRI Symposium and VIII CBFH; 2011, Sep 04-07; Foz do Iguaçu (Brazil) 218. A significant amount of work has been done to confirm the notion that homeopathically prepared arsenic increases the rate of arsenic excretion in animals. This study sought to determine if the volume of homeopathically prepared arsenic had any effect upon this excretion, Brazilian researchers gave rats that were intoxicated with arsenic undiluted homeopathically prepared *Arsenicum album* 30C or a 1% solution of the same material. Blood and urine from the rats was assayed via atomic absorption spectrophotometry for arsenic before, during and after treatment, and the results compared to samples from untreated intoxicated and unintoxicated controls. The rats treated with undiluted *Arsenicum* 30C and 1% *Arsenicum* 30C eliminated significant amounts of arsenic through urine when compared to the control groups. The group treated with undiluted *Arsenicum* 30C eliminated significantly higher amounts of arsenic than the group treated with the same medicine in 1% solution.

81. Haine GB, et al. **Assessment of homeopathic medicine *Aconitum napellus* in the treatment of anxiety in an animal model.** *Int J High Dilution Res*, 2012, 11, 38, 33-42. *Aconite* has a long history of use in homeopathy for people experiencing anxiety. This Brazilian research sought to test the effects of

this medicine in mice. 48 mice were randomly divided into six groups and given the following treatments 1) positive control (diazepam); 2) negative control (saline); 3) Aconite 6C; 4) Aconite 12C; 5) Aconite 30C or 6) 30% ethanol. Behavioral effects were blindly and randomly assessed in elevated plus maze (EPM) and open field test. The results showed that mice given Aconite 12C and 30C exhibited possible anxiolytic effects on the central nervous system since they increased the number of entries in the EPM open arms (12C and 30C) and the permanence time in the EPM open arms (30C only).

82. Falkowski GJS, et al, **Causticum hahnemanni, Conium maculatum and Lycopodium clavatum highly diluted medications decreases parasitemia in mice infected by Trypanosoma cruzi.** *Int J High Dilution Res*, 2012, 11, 40, 198-199. Proceedings of the XXVI GIRI Symposium; 2012, Sep 20-22; Florence (Italy). This Brazilian research looked into the effect of homeopathically prepared Causticum 13C, Conium maculatum 13C and Lycopodium clavatum 13C, on mice infected with T. cruzi, the organism associated with Chagas' disease in humans. In a blind randomized controlled trial design, mice were given one of the 3 medicines being tested, or a placebo, to test the preventative capacity of these substances. Parasitaemia and clinical parameters were assessed daily. When compared to the control, all of the medicines tested provided a significant level of protection, with the best results seen in the mice given Lycopodium.

83. Chakraborty I, Sukul A, Sukul NC. **Nux Vomica 200 CH reduced acute hypnotic effect of alcohol in young toads.** *Int J High Dilution Res*, 2012, 11, 40, 208-208. Proceedings of the XXVI GIRI Symposium; 2012, Sep 20-22; Florence (Italy). Previous research has shown that homeopathically prepared Nux vomica has the capacity to correct ailments produced by alcohol. In this Indian study, a replication of this work was performed. Using 10 repetitions of the same experiment, young toads given either Nux vomica 200C or a control substance, and then exposed to sufficient quantities of ethanol to cause them to become unbalanced. They were then assessed for their capacity to regain that balance and it was shown that, compared to the control, Nux vomica 200C was associated with a significant reduction in ethanol related imbalance.

84. Sukul A, Sukul NM. **Effect of Rhus tox and Causticum on rat adjuvant arthritis.** *Int J High Dilution Res*, 2013, 12, 44, 135-136. Proceedings of the XXVII GIRI Symposium; 2013, Sep 03-04; Bern (Switzerland) 135. Indian researchers set out to confirm the effects of homeopathically prepared Causticum 30C and Rhus tox 30C on rats suffering from musculoskeletal inflammation. Rats were given the homeopathic medication or controls for 18 days and assessed before and after treatment for inflammatory swelling, locomotor capacity and open field activity. An analysis was made of the collected observational data and it showed that when compared to controls, the rats given the homeopathically prepared materials had significant improvement in all of the three parameters measured.

85. da Silva DM, et al. **Oral, topical, and inhalation of Calcarea carbonica derivative complex (M8) to treat inflammatory mammary carcinoma in dogs.** *Int J High Dilution Res*, 2012, 11, 40, 166-167. Proceedings of the XXVI GIRI Symposium; 2012, Sep 20-22; Florence (Italy), This reports on an investigation carried out at the Federal University of Paraná in Brazil using a combination of homeopathically prepared materials (M8) with dogs suffering from inflammatory mammary carcinoma (IMC). 3 dogs diagnosed with this condition and with an average age of 10 years were treated with M8 orally, topically or via inhalation or with oral pyroxican. Thoracic radiographs showed pulmonary metastasis in all dogs. After 7 days of treatment all of the dogs showed clinical improvement, specifically a reduction of mammary gland inflammation, decreased pain sensitivity, and owner-reported quality of life. One dog had 8 months of complete remission, and the other two died 1 and 2 month after initial treatment. However none of the dogs had progressive pulmonary disease, showed by radiographic examination, which would have been a normal sequelae to the IMCs.

86. Aleixo DL, et al. **Diluted benznidazole decreases side effects in animals infected by *Trypanosoma cruzi* and treated with benznidazole in ponderal dose.** *Int J High Dilution Res*, 2012, 11, 40, 170-171. Proceedings of the XXVI GIRI Symposium; 2012, Sep 20-22; Florence (Italy). The US Centers for Disease Control and Prevention estimates that at any one time there are approximately 8 million people suffering from Chaga's Disease in Mexico, Central and South America. The disease is normally treated with benznidazole but this therapy is associated with significant side effects. Brazilian scientists set out to investigate the possibility of using homeopathically prepared benznidazole as a means of dealing with these side effects. To do this mice infected with *Trypanosoma cruzi*, the organism thought to cause Chaga's disease, were treated with a benznidazole, benznidazole 30X, benznidazole plus benznidazole 30X, benznidazole plus benznidazole 30X started 4 days after beginning benznidazole treatment, or a control substance. The mice were then assessed for body weight, water and food intake, amount of faeces, temperature, aspect of the fur, mortality and survival time, and parasitemia. The results showed that when compared to the control and the mice treated with benznidazole alone, those mice treated with benznidazole plus either concurrent benznidazole 30X or benznidazole 30X after 4 days, all showed a statistically significant reduction in side effects. The mice given material doses of benznidazole had a reduction in their parasitaemia and those given benznidazole 30X alone derived no benefit from it at all.

87. Lopes CR, et al. **Effect of different homeopathic medicines on histopathology of mice infected by *Trypanosoma cruzi*.** *Int J High Dilution Res*, 2013, 12, 44, 141-142. Proceedings of the XXVII GIRI Symposium; 2013, Sep 03-04; Bern (Switzerland) 141. This Brazilian study attempted to assess the effectiveness of different homeopathic medicines on skeletal muscle, heart and intestine parasitism of mice infected by *Trypanosoma cruzi*, the organism implicated in the generation of Chagas' disease. Mice were given homeopathically prepared Lycopodium 13C, Causticum 13C, Conium maculatum 13C, or a control substance, as a means of preventing infection by *T. cruzi*. The mice were then exposed to the parasite and examined for infection. An analysis of the data collected showed that both Lycopodium and Causticum had a significant protective effect against the parasite when compared to controls. Conium was found to be relatively inactive.

88. Braccini GL, et al. **Morpho-functional response of Nile tilapia (*Oreochromis niloticus*) to a homeopathic complex.** *Homeopathy*, 2013, 102, 4, 233-41. This work looked at the effects of different concentrations of a homeopathic complex (Homeopatia 100) on the performance and prevalence of ectoparasites and the morpho-functional response of the liver and the branchiae of the fish, Nile tilapia (*Oreochromis niloticus*). This trial used farmed juvenile Nile tilapia that were randomly assigned to receive one of four treatments: negative control or 20 mL, 40 mL or 60 mL of the homeopathic combination per kg of fish meal food. There were four replications per treatment type over a period of 57 days. Assessment was via the number of hepatocytes/mm, the intercellular glycogenic behaviour, the rates of histological change (hyperplasia, lamella fusion and telangiectasia) and the percentage of neutral and acidic mucin-producing cells. Significant effect differences were found between the different homeopathic combination treatments and the hepatosomatic ratio of fish treated with it was significantly lower than that of fish from the control group. The best results in the liver and branchiae were achieved with a concentration of 40mL per kg of fish meal.

Plant studies

1. Baumgartner S., Thurneysen A., Heusser P. **Growth stimulation of dwarf peas (*Pisum sativum* L.) through homeopathic potencies of plant growth substances.** *Forsch Komplementarmed Klass Naturheilkd*. 2004, 11, 5, :281-92. In an effort to determine the effects of homeopathically potentised plant growth substances on the shoot growth characteristics of dwarf peas, plant cultures were immersed for 24 hours in solutions containing 4 different plant growth substances in 12X to 30X

potencies. These were compared to cultures grown in a control substance. At shoot length measurement after a 14 day growth period, the cultures grown in the potentised growth substances showed a measurable effect on the seed growth characteristics when compared to the control substance, the most notable of these, gibberellin 17X, producing the largest growth stimulation.

2. Baumgartner S, et al. **Reproducibility of dwarf pea shoot growth stimulation by homeopathic potencies of gibberellic acid.** *Complement Ther Med.* 2008, 16, 4, 183-91. In this Swiss study, which was slight variation of previous work done in this area by Hamman and others, dwarf pea seedlings in 4 batches containing seeds taken from adult plants in 1997, 1998, 1999 and 2000, were exposed to 17X and 18X potencies of Gibberellic acid (GA) and cultivated under controlled conditions, alongside dwarf pea seedlings that had received the same level of exposure to 2 negative control substances. GA in material doses is often used commercially to break periods of dormancy in seeds and has the capacity to stimulate the growth of seedlings and it's an endogenous component of some seeds and is involved in the growth of seeds and alpha amylase activity within the plant.. After 14 days all of these seedlings had their lengths measured and at this point it was found that the controls had performed as predicted, the 1997 seedling batch previously exposed to GA 17X and GA 18X had exceeded the growth rate of the controls by an average of 11.2% and the 1998 batch responded with a mixture of either stimulation or suppression of growth. Batches from 1999 and 2000 failed to respond to either potency of GA.

3. Binder M, Baumgartner S, Thurneysen A. **The effects of a 45x potency of arsenicum album on wheat seedling growth -- a reproduction trial.** *Forsch Komplementarmed Klass Naturheilkd.* 2005, 12, 5, 284-91. In a repeat performance of the previous trial, wheat seedlings previously exposed to sub-lethal doses arsenic were cultivated in either Arsenicum album 45X, water 45X or un-potentised water, and the seedling height measured at 7 days. The experiment was independently reproduced 8 times and after the results were collated the wheat seedlings cultivated in Arsenicum 45X showed a significant reduction in height when compared to the 2 controls.

4. Bornoroni C. **Synergism of Action between Indolacetic Acid and Highly Diluted Solutions of Calc carb on the Growth of Oat Coleoptiles.** *Berlin J on Res in Hom,* 1991, 1, 4-5275-278. This study demonstrated that Calc carb 5X significantly increased the growth stimulating effects of the plant growth stimulant, indole acetic acid.

5. Brizzi M, et al. **A biostatistical insight into the As(2)O(3) high dilution effects on the rate and variability of wheat seedling growth.** *Forsch Komplementarmed Klass Naturheilkd.* 2005, 12, 5, 277-83. Wheat seedlings previously stressed with sub-lethal doses of arsenic, a substance known to be lethal to this plant, were treated with various potencies of Arsenicum album (5X, 15X, 25X, 35X and 45X), equivalent potencies of water and equivalent un-succussed dilutions of arsenic trioxide. The stem lengths of the seedlings was assessed at day 7 and it was found that the 45X potencies of *Arsenicum* and the water but not the diluted arsenic trioxide induced an increase in seedling height.

6. Endler PC, Pongratz W. **Homoeopathic Effect of a Plant Hormone?** *Berlin J on Res in Hom,* 1991, 1, 3, 148-150. This study showed that Indole Butyric Acid, known at material levels to enhance the growth of new roots and leaves from plant slips, at a 33X potency, continued to provide an enhancement of growth

7. Jones RL, Jenkins MD. **Plant Responses to Homoeopathic Medicines.** *British Homeopathic Journal,* 1981, 70, 3, 120-146. The authors of this work set out to study the effects of various homeopathic potencies of Silver nitrate on the growth characteristics of the leaf sheaths of wheat. On analysis of the results they found that potencies of silver nitrate were in fact able to either inhibit or stimulate growth, depending upon the potency applied.

8. Scherr C, et al. **Effects of Potentised Substances on Growth Rate of the water plant Lemna gibba.** *Complementary Therapies in Medicine*. 2009, 17, 2, 63-70. Claudia Scherr and colleagues at the Research Institute of Organic Agriculture in Frick, Switzerland, conducted this randomised, controlled and blinded study to determine the extent to which various homeopathically potentised substances could influence the growth of Duckweed (*Lemna gibba*) when compared to controls. To do this, Duckweed was grown in 14X to 30X homeopathic potencies of *Argentum nitricum*, *Lemna minor* and Gibberelic acid (a known plant growth regulator), over a period of 7 days. Measurements were taken over 0-3 days, 3-7 days and 0-7 days. Succussed and un-succussed water controls were used. Neither controls produced any statistically significant effect and the potencies that caused the most pronounced reduction in growth when compared to controls were those of Gibberelic acid, particularly the 15X, 17X, 23X and 24X potencies.

9. Bonfim FPG, et al. **Germination and vigor of lettuce seeds (*Lactuca sativa* L.) pelleted with homeopathic preparations Alumina and Calcarea carbonica subjected to toxic levels of aluminium.** *Int J High Dilution Res* 2010, 9, 33, 138-146. Researchers from three different universities in Brazil were involved in this study that adds to previous work looking at the effects of homeopathically prepared materials on plants. Lettuce seedlings intoxicated with aluminium were exposed to homeopathically prepared Alumina 6C, Alumina 12C, Calc carb 6C, Carb 12C, or two controls. Outcomes were assessed using germination percentage, germination speed index and radicle length. On analysis and when compared to controls a statistically significant association was found between all of the homeopathically prepared substances and germination speed index, radicle length and germination index.

10. Marques RM, Marques-Silva GG, Bonato CM. **Effects of high dilutions of *Cymbopogon winterianus* Jowitt (citronella) on the germination and growth of seedlings of *Sida rhombifolia*.** *Int J High Dilution Research*, 2008, 7, 22, 31-35. This research comes from the State University of Maringa, in Parana, Brazil and was performed to ascertain the effects of various homeopathically prepared potencies of citronella against *Sida rhombifolia*, an invasive weed endemic in Southern Brazil and many other parts of the world, including Northern Australia. *Sida* seedlings were exposed to 3C, 6C, 12C, 24C and 30C homeopathic potencies of citronella and a control substance. These plants were then monitored for root system growth, shoot length, total fresh mass, germination percentage and germination speed. This process was carried out 5 times and on analysis of the measurements it was found that all of the citronella potencies increased all parameters measured. Specifically, the 3C and 24C potencies had the greatest effect on root length, the 6C and 12C potencies had the greatest effect on shoot length, the 6C had the greatest effect on total biomass growth, and the 12C on germination percentage and germination speed.

11. Gangar H.U. **Management and Control of Genetic Processes in Cotton Plants through Homeopathy.** *Indian Journal of Research in Homoeopathy*, 2007, 1, 1, 1-5. In this Indian research, the effects of homeopathically prepared solutions on a broad range of parameters, using plants as the subjects, were measured. The homeopathic solutions were used in CM (100,000C) potencies and made from differing source materials. These were then assessed for their capacity to influence growth, germination, flowering and fruiting of cotton plants, compared to inactive dilutions applied in the same manner. In all cases, the homeopathically prepared solutions had a clear and objective effect on the parameter assessed. Work was also done here which confirmed that different potencies of different homeopathic drugs have a remedy-specific electrical charge.

12. Rossi F, et al. **Application of homeopathic remedy *Carbo vegetabilis* and development of plants of Lettuce.** *Int J High Dilution Research*, 2006, 5, 17, 23-30. A significant amount of work has

been done to determine the effect effects of homeopathically prepared substances have on plants. This study sought to investigate the effect of a number of different potencies of the homeopathic product, Carbo vegetalis, on the development of seedlings of the lettuce, *Lactuca sativa*. Lettuce seedlings housed in an environment likely to induce stress, a shaded greenhouse and a greenhouse in full sun, were exposed to Carbo veg 6C, 12C, 30C, 100C or one of 2 control substances. An analysis of the results confirmed the action of Carbo veg in these environments, with the 100C have the most notable effect on seedlings grown in the stressed environment.

13. Sukul S, Mondal S, Sukul NC. **Sepia 200 cH in 1:1,000 dilution counteracts the effect of salt stress in cowpea seedlings but vehicle 90% ethanol proves ineffective in the same dilution.** *Int J High Dilution Res*, 2012, 11, 41, 237-246. Work carried out at the Department of Botany, Visva-Bharati University in West Bengal, looked at the influence of homeopathically prepared Sepia 200C on the very common problem experienced by those growing cowpea in soil with rising salinity levels- salt stress. To do this, the team grew cowpea seedlings over moist filter paper in Petri dishes and divided them into 4 groups: (1) control in sterile water, (2) in 50 mM NaCl solution, (3) seeds pretreated with 90% ethanol diluted with water 1:100 and then transferred to 50 mM NaCl solution, and (4) seeds pretreated with Sep 200C diluted with water 1:100 and transferred to 50 mM NaCl solution. The data were analyzed by ANOVA followed by Student's t-test and this showed that, compared to controls, Sepia 200C significantly increased the growth, sugar, chlorophyll, protein and water content of the seedlings, thereby confirming that it counteracted the effects of salt stress.

14. Trebbi G, et al. **Phytopathological and nutraceutical evaluation of cauliflower plants treated with high dilutions of arsenic trioxide.** *Int J High Dilution Res*, 2012, 11, 40, 161-162. Proceedings of the XXVI GIRI Symposium; 2012, Sep 20-22; Florence (Italy). The fungus, *Alternaria brassicicola*, is a common cause of dark leaf spot disease in cauliflower (*Brassica oleracea* L.). In this study, researchers from the University of Bologna tested the antifungal capacity of homeopathically prepared Arsenic trioxide 35X and Cuprum metallicum 5X and compared to controls. 2 experiments were performed. In the first, spore suspensions were prepared in the test substances and their inhibiting effect on germination was recorded microscopically after incubation at 25°C for 5 hours. In the second experiment, the same treatments were tested on plants artificially inoculated with the fungus. To do this the test field in which the plants were to be grown was divided into plots according to a complete randomized block design. In the first trial, plants were artificially inoculated and treated every week; the infection level was evaluated on cauliflower heads. The second trial was performed on the same field with the aim to induce a natural infection, mediated by infected crop residues. Measurement endpoints concerned the evaluation of some physiological parameters along with the glucosinolate content on cauliflower heads. On analysis, the team found that Arsenic 35X and Cuprum 5X induced a significant decrease of mean infection level (-50%). In addition, physiological and nutraceutical analyses of healthy heads demonstrated that Arsenicum induced a significant increase of both head size and glucosinolate content.

15. Betti L, et al. **Effectiveness of ultra high diluted arsenic is a function of succussion number as evidenced by wheat germination test and droplet evaporation method.** *Int J High Dilution Res*, 2013, 12, 44, 127-128. Proceedings of the XXVII GIRI Symposium; 2013, Sep 03-04; Bern (Switzerland) 127. This Italian research was performed to determine what effect, if any, the number of successions used in the preparation of a homeopathic medicine, has on its activity. Previous research has shown that homeopathically prepared potencies applied to arsenic-stressed wheat seeds stimulates their germination rate. In this study multiple replications of this model were employed using controls and a 45X homeopathic potency of arsenic trioxide succussed 4, 8, 16, 32, 40, 70 and 100 times. On analysis of the results it was shown that increasing the number of the successions increased the activity of the arsenic 45X.

16. Banerjee P, Sukul S. **Cuprum Sulphuricum - a homeopathic drug can combating toxic effect of Cu, promote seed germination and peroxidase activity in Vigna unguiculata.** *Int J High Dilution Res*, 2013, 12, 44, 129-130. Proceedings of the XXVII GIRI Symposium; 2013, Sep 03-04; Bern (Switzerland) 129. High concentration of copper can cause toxic effects in some plants due to its redox properties and can catalyze free radicals, such as reactive oxygen species and peroxide compounds. This Indian study was performed to examine the effect of homeopathically prepared copper sulphate 200C on seed germination of *Vigna unguiculata*. 3 sets of 100 seeds were prepared for germination. 2 sets were soaked in copper sulphate 200C and the third in a control substance. All were then exposed to material doses of copper sulphate. The seedling weight and length of germinating axis were observed after 24 hours, 48 hours and 72 hours. Water uptake percentages were recorded, total protein, chlorophyll, soluble and insoluble sugar were measured and the activity of peroxidase was determined. The results confirmed that in all the parameters observed, copper sulphate 200C-treated seeds showed significant changes as compared to controls.

17. Sukul NM, Chakraborty I, Sukul A. **Potentized Cina reduces root-knot nematode in infestation of cucumber and the antinematode effect is transmitted through water.** *Int J High Dilution Res*, 2013, 12, 44, 133-134. Proceedings of the XXVII GIRI Symposium; 2013, Sep 03-04; Bern (Switzerland) 133. Root-knot nematodes belonging to *Meloidogyne incognita* are responsible for substantial loss in yield of vegetable crops all over the world. Chemical nematicides are expensive, cause environmental pollution and leave toxic residues in crops. In this Indian research, homeopathically prepared Cina was investigated for its properties as a nematicide and whether these properties could be dispersed through water. To do this, aseptically germinated seeds of cucumber, (*Cucumis sativus* L) were grown in sterilised pots. The pots were divided into 5 groups (10 pots per group): (i) uninoculated untreated, (ii) inoculated untreated, (iii) inoculated and treated with Cina 200C, (iv) inoculated and treated indirectly by connection with wet cotton threads to group (iii) and (v) inoculated and treated with Ethanol 200C as a remedy control. Groups (ii), (iii), (iv) and (v) were inoculated with the second stage larvae of *Meloidogyne incognita* when the plants were at six leaf stage. Just before inoculation plants of group (iii) and (iv) were connected leaf by leaf by wet cotton threads encased in polythene tubes. Then plants of group (iii) were directly pretreated by foliar spray with Cina 200C diluted with distilled water (1:500). Two days after inoculation plants of group (iii) were treated again with Cina 200C in a similar way. After 2 weeks all the plants were harvested and measured for shoot length, shoot weight, root length, root weight, numbers of leaves per plant, leaf area, root gall number per plant, nematode population in roots and rhizospheric soil, leaf chlorophyll content, leaf sugar, protein content and root protein content. Analysis of the data showed a strong association between the use of Cina 200C, a reduction in nematode population, and a significant reduction in their effects. The data also showed that these effects were transferred through water.

18. Fagan V, et al. **High dilution of Belladonna affect the mycelial growth of *Corynespora cassiicola* in vitro.** *Int J High Dilution Res*, 2011, 10, 36, 245-248. Proceedings of the XXV GIRI Symposium and VIII CBFH; 2011, Sep 04-07; Foz do Iguaçu (Brazil) 245. In this work from the State University of Maringá in Brazil, researchers sought to trial the use of homeopathically prepared Belladonna against the growth of spores from the fungus *Corynespora cassiicola*, which is associated with Target Spot disease, a problem that causes infection in various crops such as soybeans and is endemic to Brazil. This is a significant issue for organic farmers who are prohibited from using agricultural chemicals to control it. To test the effectiveness of this protocol, agar growth plates were produced and to these were added filtered Belladonna in 6X, 12X, 24X or 30X potencies or a filtered control (distilled water). The fungal isolate was peaked and grown and a disc of the fungal mycelia placed in the centre of each plate. The plates were incubated and checked daily for fungal growth from the disc for 12 days. The results showed that all of the potencies of Belladonna were effective in

reducing the mycelial growth of the fungus when compared to control, with the best results achieved with the 30X potency.

19. Barbosa IS, et al. **Evaluation of the effects of homeopathic medicines on the germination seeds of Brassica oleracea l. ar. Italica.** *Int J High Dilution Res*, 2012, 11, 40, 213-214. Proceedings of the XXVI GIRI Symposium; 2012, Sep 20-22; Florence (Italy). Scientists from the Federal Institute of Rio de Janeiro in Brazil, in an effort to reduce the dependence on agricultural chemicals, designed an experiment to determine the effects of homeopathically prepared Phosphorus on the germination of seeds from Brassica oleracea (Broccoli). Broccoli seeds were grown in multiple sets and exposed to Phosphorus 6C, 30C, 200C or 2 controls, every 2 days for 10 days, and assessed for germination percentage and germination speed index. An analysis of the results showed that when compared to the controls, seeds under the influence of Phosphorus 6C showed a significant increase in germination speed.

20. Datta S, et al. **Potentized Sucrose alters growth, sugar, protein and chlorophyll content in cowpea seedlings.** *Int J High Dilution Res*, 2013, 12, 44, 137-138. Proceedings of the XXVII GIRI Symposium; 2013, Sep 03-04; Bern (Switzerland) 137. Scientists from Calcutta University performed this work to measure the effects of homeopathically prepared sucrose on various physiological parameters in cowpea seedlings. To do this, cowpea seeds were sterilized and allowed to germinate in petri dishes over moist filter papers. Immediately after germination they were divided into two groups. While one group was treated with Sucrose 30C diluted with distilled water 1:500, the other group was treated with Ethanol 30CH, diluted with water 1:500. After treatment the seedlings were transferred to separate petri dishes and allowed to grow for 72 hours. Samples of seedlings from each treatment group were weighed, kept at 70 degrees Celsius for 24 hours and weighed again. Another sample from each group was analysed for their sugar, protein and chlorophyll content. Leaf and cotyledon sections were examined for changes in the epidermal cells of cotyledons and density and morphology of stomata. It was shown that Sucrose 30C induced significant changes in water content, chlorophyll, sugar and protein content in the seedlings as compared to the control. Sucrose 30C also increased stomata density in the leaves significantly and there was a marked change in the structure of epidermal cells of cotyledons.

In-Vitro Studies

1. Aziz DM, Enbergs H. **Stimulation of bovine sperm mitochondrial activity by homeopathic dilutions of monensin.** *Homeopathy*. 2005, 94, 4, 229-32. Mitochondrial activity is an important marker for the health of sperm. It's linked to sperm motility and in research laboratories monensin is commonly used as an inhibitor for sperm mitochondrial activity. The researchers in this study examined the effects of the 5X to the 14X homeopathic potencies of monensin on the activity of the mitochondria of sperm taken from mature bulls. All of the potencies produced a stimulatory effect on the bull sperm mitochondrial activity, with the 9X producing the strongest of these effects

2. Belon P, et al. **Inhibition of Human Basophil Degranulation by Successive Histamine Dilutions.** *Inflammation Research*, 1999, 48, Supplement 1, S17-18. In this controversial, blinded multi-centre trial (which confirmed earlier studies published in Nature in 1988), homeopathic potencies of histamine were found to substantially reduce the potential for degranulation by sensitised basophils when exposed to allergens.

3. Belon P, et al. **Histamine Dilutions Modulate Basophil Activation.** *Inflammation Research*, 2004, 53, 5, 181-8. In this study, which was a replication of work by Jacques Benveniste published in Nature in 1988, the researchers attempted to use homeopathic dilutions of histamine to inhibit the activation of

human basophils exposed to an inflammatory mediator. The study was carried out blind in 4 separate laboratories. Histamine dilutions equivalent to 30X and 38X were found to inhibit basophil activation and subsequent histamine release.

4. Casaroli- Marano RP, Alegre J, Campos B. **Infrared Changes in Potentised Solutions.** *Revista Homeopatica*, 1998, 38, 5- 12. In this experiment, 70% alcohol/water solutions were serially diluted 1 in 100 up to 30 times, with and without succussion at each step. On examination of each of these significant spectral differences were found between the solutions that were succussed and those that were not, indicating that dilution and succussion may produce structural changes to the molecules in the solution. This may provide further evidence for the possibility of a “memory” of water.

5. Chirila M, et al. **The Action of Succussed Substances on the Human Lymphocytes and PMN Granulocytes in Vitro Stimulated with Phytohaemagglutinin (PHA) and Zymosin Opsonised (ZO).** *Berlin Journal on Research in Homoeopathy*, 1991, Congress Report, 1, 3, 166-167. Peripheral blood lymphocytes were taken from people with a history of allergy to bee products (Group 1), and from people who were immunosuppressed (Group 2). These cells were incubated in culture media supplemented with a succussed water control, various homoeopathic potencies of bee venom (for Group 1 cells), or cortisone (for Group 2 cells), and the cells were grown. The proliferation of Group 1 cells was inhibited by the potencies of bee venom, indicating that these remedies may be useful in the management of allergies to bee products. The effects of the potencies of cortisone on the Group 2 cells varied from stimulation to inhibition.

6. Chirumbolo S, et al. **Effects of Homoeopathic Preparations of Organic Acids and Minerals on the Oxidative Metabolism of Human Neutrophils.** *British Homeopathic Journal*, 1993, 82, 4, 237-244. The in vitro adhesion and superoxide production of human neutrophils were monitored in the presence of various homoeopathic medicines. Of these, Sulphur 6X, Manganum phos 6X and 8X, and Magnesium phos 6X and 8X all lead to a 15-30% increase in these parameters.

7. Delbancut A, et al. **Mechanistic Approach to the Effect of High Dilutions of Cadmium to Protect from Cytotoxic Cadmium doses in Renal Tubular Cell Cultures.** *International Research Group on Very Low Dose and High Dilution Effects*, 1993 Giri Meeting, reported in *British Homeopathic Journal*, April, 1994, 83, 84-100, Material concentrations of cadmium have strong toxic effects on renal tubules. The researchers involved in this study found that pre-treatment with homeopathic cadmium 40X, and subsequent exposure to material concentrations of cadmium, led to a significant reduction in cadmium induced damage.

8. Enbergs H. **Effects of the homeopathic preparation Engystol on interferon-gamma production by human T-lymphocytes.** *Immunol Invest.* 2006, 35, 1, 19-27. In one of the few experiments carried out in this area to date, researchers conducting this study collected T-lymphocytes from 30 healthy human volunteers to investigate the ability or otherwise of a homeopathic combination product to increase the production of interferon-gamma from these cells. After exposure to various concentrations of this combination, when compared to control cells, interferon-gamma producing cell levels were increased by a means of 20.9% to over 24% with no dose-dependence of the effect at the concentrations tested.

9. Fougeray S, et al. **Effect of High Dilutions of Epidermal Growth Factor on in-vitro Proliferation of Keratinocyte and Fibroblast Cell Lines.** 6th Giri Symposium, Munich, Oct 1992, reported in *British Homeopathic Journal*, 93, 82. In this experiment, it was shown that 19X and 45X homeopathic potencies of Epidermal Growth Factor inhibited the proliferation of Keratinocyte and Fibroblast Cell Lines.

10. Fleisbach A, Fejfar V, Spranger J. **Effects of Homeopathic Potencies: Growth of *Saccharomyces cerevisiae* in Potentised Copper Sulphate Dilutions.** *British Homeopathic Journal*, 2000, 89, Supplement 1, S65. Material concentrations of copper sulphate inhibit the growth of *Saccharomyces cerevisiae* and in this study, researchers determined what effect if any a homeopathic medicine made from copper sulphate would have on this organism. On exposure to homeopathically potentised copper sulphate, a potency dependant inhibition or enhancement of growth was seen.
11. Gebhardt R. **Antioxidative, antiproliferative and biochemical effects in HepG2 cells of a homeopathic remedy and its constituent plant tinctures tested separately or in combination.** *Arzneimittelforschung*. 2003, 53, 12, 823-30. This laboratory study examined the effect of a homeopathic combination product and its separate components for antioxidative, antiproliferative and biochemical effects on liver cells grown in laboratory tissue-culture. Protective effects against oxidation of the cells by tert-butyl hydroperoxide were shown by *Cardus*, *China* and *Nux mosch*, and the combination provided the same level of protection as these 3 individual remedies combined. *Cardus*, *Chelidonium*, *Colocynthis* and *Veratrum alb* all showed an antiproliferative effect against cell proliferation agents on the cells and the combination exhibited the same effect. *Cardus* and the combination both increased the conjugation effectiveness of glutathione.
12. Glatthaar-Saalmuller B, Fallier-Becker P. **Antiviral Action of *Euphorbium Compositum* and its Components.** *Forschende Komplementarmedizin Und Klassische Naturheikunde*, 2001, 8, 207-212. In this in-vitro study, human cell cultures were infected with influenza A virus, respiratory syncytial virus, human rhinovirus or herpes simplex virus type 1, and then treated with *Euphorbium compositum*, a homeopathic complex. Various anti-viral drugs such as acyclovir, rabavirin and amatadine were used as positive controls against which to compare the results of the complex. When compared with control cells exposed to the same concentration of ethanol used in the complex, the homeopathic complex showed anti-viral properties comparable to the effects of the drugs against respiratory syncytial virus and herpes simplex virus type 1.
13. Glatthaar-Saalmuller B, Fallier-Becker P, Weiser M. **Influence of homeopathically processed Coenzyme Q10 on proliferation and redifferentiation of endothelial cells.** *Forsch Komplementarmed Klass Naturheilkd*. 2004, 11, 5, :267-73. CoEnzyme Q10, known for its ability to regulate cell metabolism and proliferation, was assessed for its ability to promote the same functions after being homeopathically potentised. Undifferentiated human umbilical vein endothelial cell cultures were exposed to various potencies of CoQ10 (5X to 10X) The cell division rate was then assessed by flow cytometry and cell differentiation determined by von Willebrand factor expression. The 7X to 10X potencies of CoQ10, and particularly the 8X potency, increased cell proliferation while none of the potencies appeared to enhance cell differentiation.
14. Moss VA, Roberts A, Simpson K. **Action of Remedies on Movement of Macrophages and Leucocytes.** *Homeopathy*, 2002, 91, 2, 113-114. Laboratory measurements of guinea pig macrophages and human leucocytes exposed to the homeopathic remedies *Belladonna*, *Hepar sulph*, *Pyrogenium*, *Silica* and *Staphylococcinum*, showed that these remedies caused an increase in the movement of these cells through a Boyden micropore filter. This may indicate that the remedies produce an increase in this aspect of immune competence.
15. Oberbaum M, et al. **Antiviral activity of Engystol: an in vitro analysis.** *J Altern Complement Med*. 2005, 1, 5, 855-62. Cultured tissue cells infected with herpes simplex virus 1 (HSV-1), human rhinovirus (HRV), adeno 5 (A5V) and respiratory syncytial virus were exposed to Engystol, a homeopathic combination product. These cells were then assayed for virus clearance using plaque reduction, virus titration and Elisa methods. The results of these assays showed an 80% reduction in HSV-1 specific

proteins, a 73% reduction in A5V specific proteins and a reduction in infectivity of RSV by 37% and HRV by 20%.

16. Pathak S, et al. **Ruta 6 selectively induces cell death in brain cancer cells but proliferation in normal peripheral blood lymphocytes: A novel treatment for human brain cancer.** *Int J Oncol.* 2003, 23, 4, 975-82. In this uncontrolled study, 15 people suffering from various intracranial tumors were treated with a combination Ruta 6C and homeopathic calcium phosphate. All forms of tumors, particularly gliomas, were found to regress under treatment with these medicines and the trial subjects also exhibited an increase in normal peripheral blood lymphocytes. Further examination of a possible mechanism for the tumor-killing effect of this combination found that it was due to cancer cell telomere erosion, causing a selective early death of these cells.

17. Poitevin B, Davenas E, Benveniste J. **In Vitro Immunological Degranulation of Human Basophils is Modulated by Lung Histamine and *Apis mellifica*.** *Br J Clin Pharmacol*, 1988, 25, 4, 439-444. In this study, potentised dilutions of *Apis mellifica* and Histamine were found to significantly reduce basophil degranulation in vitro.

18. Ramachandran C, et al. **Investigation of cytokine expression in human leukocyte cultures with two immune-modulatory homeopathic preparations.** *J Altern Complement Med.* 2007, 13, 4, 403-7. The aim of the researchers from Miami Children's Hospital in Florida who carried out this study was to determine the effects of homeopathics on cellular signalling pathways, specifically, the effects of 2 anti-influenza homeopathic combination products on normal human leukocyte cultures. When the researchers compared the effects of the homeopathic combinations to 20% ethanol solvent controls, it was found that exposure to either of the homeopathic combinations stimulated the production of pro-and anti-inflammatory cytokines by these cells.

19. Singh L.M., Gupta G. **Antiviral Efficacy of Homeopathic Drugs against Animal Viruses.** *British Homeopathic Journal*, 1985, July, 74, 168-174. Researchers at the Indian Central Drug Research Institute in Lucknow carried out this study to determine the inhibiting effects, if any, of various potencies of 10 homeopathic remedies on chicken embryo virus and simliki forest virus, a virus capable of causing encephalitis, paralysis ad death in mice. Homeopathic typhoidinum 200C, hydrophobinum 1M, tuberculinum 1M, nux vomica 200C and malandrinum 1M all produced 100% inhibition of the chicken embryo virus.

20. Sukul NC, Sukul A, Sinhababu SP. **Potentised Mercuric Chloride and Mercuric Iodide enhance Alpha Amylase activity in vitro.** *Homeopathy*, 2002, 91, 4, 217-220. In part a repetition of a trial published in 1954, researchers determined that Mercuric chloride 30C and Mercuric iodide 30C, both of which theoretically should contain no molecules of either of the original substance, were able to promote the hydrolysis of starch in vitro. This tends to support the view that the water molecules in the remedy retain the "memory" of the original molecule through the homeopathic potentisation process.

21. Sunila ES, et al. **Dynamized Preparations in Cell Culture.** *Evid Based Complement Alternat Med.* 2009, 6, 2, 257-263. This article describes a series of tests carried out at the Amala Cancer Research Centre in Kerala, India, on cells grown in the laboratory using various homeopathically prepared medicines to ascertain their effects on these cells. Mother tincture, 30C and 200C potencies of various substances as well as potentised alcohol controls were separately added to the individual growth media in which certain lymphoma, carcinoma, fibroblast and ovary cells were grown. After analysing the effects of these materials on the various cell cultures, it was found that some of these caused significant cell death during short and long term incubation when compared to alcohol controls. It was also found that some of the test materials inhibited thymidine uptake in lung fibroblasts (therefore inhibiting growth),

Thuja, Hydrastis and Carcinoin specifically, induced cell death in lymphoma cells, and Carcinoin was able to induce the expression of p53, which has been found to be capable of causing tumor suppression.

22. Walchli C, Baumgartner S, Bastide MJ. **Effect of low doses and high homeopathic potencies in normal and cancerous human lymphocytes: an in vitro isopathic study.** *Altern Complement Med.* 2006, 12, 5, 421-7. The aim of this study was to determine the effect of pretreatment with either low doses, or homeopathic potencies, of cadmium chloride on the ability of normal lymphocyte or cancerous lymphocyte cultures to withstand exposure to toxic doses of cadmium. Normal lymphocytes exposed to toxic levels of cadmium which were pretreated with either low dose of cadmium or potentised cadmium showed a significant increase in viability. This effect was the same in the cancerous lymphocytes except that these cells showed no increase in viability after pre-treatment with potentised cadmium.

23. Witt CM, et al. **The In-Vitro Evidence for an Effect of High Homeopathic Potencies--a Systematic Review of the Literature.** *Complementary Therapies in Medicine.* 2007, 15, 2, 128-38. This was essentially a meta-analysis of all of the in-vitro studies that have attempted to demonstrate a homeopathic effect to date, carried out by Professor Claudia Witt and colleagues at the Department of Epidemiology and Health Economics, Charité University Medical Center in Berlin, Germany. The aim here was to search all appropriate databases for relevant studies, determine which studies met the quality criteria set by the researchers, and then to determine which, if any of these, exhibited a statistically significant effect in this area. 67 papers were identified that met the quality criteria and of these, 73% found that an effect from high potencies can be demonstrated. The majority of these studies involved the effects of potentised substances on basophils. Replication of some of these studies has been carried out.

24. Khuda-Bukhsh AR, et al. **Analysis of the capability of ultra-highly diluted glucose to increase glucose uptake in arsenite-stressed bacteria Escherichia coli.** *Journal of Chinese Integrative Medicine,* 2011, 9, 8, 901-912. Scientists from the University of Kalyani in India and Boiron Labs in France conducted this analysis to determine the effects of homeopathically prepared glucose 30C on glucose uptake in E.coli. The bacteria were stressed by exposure to sodium arsenite thus increasing their glucose uptake. They were then exposed to a 1% glucose solution, 3% glucose solution, homeopathically prepared glucose 30C, or an inactive control. Glucose uptake, specific activities of hexokinase and glucokinase, membrane potential, intracellular adenosine triphosphate (ATP) and expression of glucose permease in E. coli were then analysed at two different time intervals. On examination of the results it was shown that when compared to controls, glucose 30C was associated with changes similar to those induced by the 1% and 3% glucose solutions.

25. de Oliveira CC, et al. **Developments on drug discovery and on new therapeutics: highly diluted tinctures act as biological response modifiers.** *BMC Complement Altern Med.* 2011, Oct 26; 11:101. In this trial, researchers from the Universidade Federal do Paraná in Brazil used mice as well as human and mouse derived immune cells to determine the effects of three combinations of homeopathically prepared substances on various immune functions of the cells in vitro and the mice in vivo. Human leukemia cells, cancer cells and normal human macrophages were cultured and exposed to the three combinations, labelled as M1, M2 and M8. Mice were exposed to M1, M2 and M3 and their macrophages, lymph nodes and bone marrow cells assessed with specific reference to cell viability, oxidative response, lipid peroxidation, bone marrow and lymph node cells immunophenotyping. Assessment on all human derived cells was via cytotoxicity, cytokines released and NF kappa B activation after in vitro treatment. Controls were used, multiples of tests were carried out and the researchers were blinded to the sources of the materials tested. On final analysis and in comparison to

controls, no cytotoxicity to the homeopathic complexes were seen and all three complexes were associated with a significant stimulation of specific aspects of both in vitro and in vivo immune functions.

26. Iwe EC, Couchman IM, Reddy L. **Therapeutic Effect of Arsenicum album on Leukocytes.** *Int J Mol Sci.* 2012;13(3):3979-87. Scientists from South Africa's Durban University of Technology performed this in vitro study to determine the effects of various succussed and unsuccussed homeopathically prepared Arsenic trioxide (Arsenicum album) on human T lymphocytes grown in tissue culture. Cells were intoxicated with arsenic trioxide and then exposed to succussed and unsuccussed Arsenicum 6C, succussed and unsuccussed Arsenicum 30C, succussed and unsuccussed Arsenicum 200C or a control substance for 24, 48 or 72 hours. Cells were assessed for viability at baseline and at these three data points. After the counts from these data points were assessed it was shown that when compared to controls, all of the homeopathically prepared Arsenicum potencies provided a statistically significant increase in cell viability. These results were unaffected by whether the material was succussed or unsuccussed, but were affected by the length of exposure time to the remedy.

27. De A, et al. **Potentized homeopathic drug Arsenicum Album 30C inhibits intracellular reactive oxygen species generation and up-regulates expression of arsenic resistance gene in arsenite-exposed bacteria Escherichia coli.** *Zhong Xi Yi Jie He Xue Bao.* 2012, 10, 2, 210-27. In more useful work from India's University of Kalyani, researchers looked into the effects of homeopathically prepared Arsenic trioxide (Arsenicum album) on arsenic toxicity in *E. coli*. The bacteria were grown in a sub-bacteriocidal concentration of sodium arsenite and exposed to Arsenicum 30C or several controls via a randomised schedule and were assessed for glucose uptake, specific activities of hexokinase, lipid peroxidase, superoxide dismutase and catalase, intra- and extra-cellular sodium arsenite content, cell growth, cell membrane potential, DNA damage, intracellular reactive oxygen species, adenosine triphosphate, free glutathione content and expressions of *arsB* and *ptsG* genes. On analysis and in comparison to the controls used, it was found that the use of Arsenicum 30C was associated with a reduced arsenic toxicity in *E. coli* by inhibiting the generation of reactive oxygen species and increasing the tolerance to arsenite.

28. Coelho Moreira CO, et al. **Lymphocyte proliferation stimulated by activated Cebus apella macrophages treated with a complex homeopathic immune response modifiers.** *Homeopathy.* 2012, 101, 1, 74-9. In more work done to validate the effects of the homeopathic combination, Canova, researchers at Brazil's Universidade Federal do Pará investigated the in vitro effects of this product on macrophages and the subsequent effects of these upon lymphocytes. Macrophages from tufted capuchin monkeys in culture were exposed to Canova. These macrophages were then co-cultured with peripheral blood lymphocytes. The analysis of Canova effects in the cultured lymphocytes was performed according to the cell cycle phase using flow cytometry and further assessed by enzyme-linked immunosorbent assay for Interferon gamma and Interleukin-5 cytokines. On examination of the results it was shown that the use of Canova was associated with an increase in the number of proliferation lymphocytes and in the levels of interferon gamma and interleukin-5 cytokines.

29. Guimarães FS, et al. **Stimulation of lymphocyte anti-melanoma activity by co-cultured macrophages activated by complex homeopathic medication.** *BMC Cancer.* 2009, Aug 22, 9, 293. This study, carried out by a team from Brazil's Universidade Federal do Paraná, sought to determine the effects of a complex of homeopathically prepared ingredients on the in-vitro response to melanoma cells. To do this, mouse lymph node lymphocytes were co-cultured with macrophages in the presence or absence of the homeopathic complex, and B16F10 melanoma cells; a particularly aggressive melanoma cell line. When compared to controls, it was found that the lymphocyte and macrophage cultures exposed to the homeopathic complex had greater anti-melanoma activity, reducing melanoma cell density and increasing the numbers of lysed tumor cells.

30. Frenkel M, et al. **Cytotoxic effects of ultra-diluted remedies on breast cancer cells.** *International Journal of Oncology*. 2010, 36: 2, 395-403. This University of Texas study was done to determine the in-vitro cytotoxic effects of homeopathically potentised Carcinosin 30C, Conium 3C, Phytolacca 200C, Thuja 30C, and succussed and unsuccussed negative solvent controls on MCF-7 and MDA-MB-231 human breast adenocarcinoma cell lines in tissue culture and a normal human cell line in tissue culture. On analysis, it was shown the use of homeopathically prepared Carcinosin and Phytolacca were associated with a reduction in the viability of the adenocarcinomatous cells, an increase in the rate of cell death, a preferential loss of telomeric DNA and early apoptosis induction from and of these cells.

31. Venard C, et al. **Comparative Analysis of Gelsemine and Gelsemium sempervirens Activity on Neurosteroid Allopregnanolone Formation in the Spinal Cord and Limbic System.** *Evid Based Complement Alternat Med*. 2011;2011:407617. Scientists at France's University of Strasbourg built on previous work done on Gelsemium by exposing rat limbic and spinal cord tissue to 5C, 9C and 15C homeopathic preparations of Gelsemium and gelsemine, one of Gelsemium's active constituents, to determine their effects on pain and anxiety at a cellular level. During this process it was shown that the 5C potencies of both remedies, and to a lesser extent the 9C potencies of both remedies, increased the conversion of progesterone to allopregnanolone in these tissues, indicating that exposure to these remedies was associated with an analgesic and anxiolytic effect.

32. Guimaraes F de SF, et al. **In vitro and in vivo anticancer properties of a Calcareo carbonica derivative complex (M8) treatment in a murine melanoma model.** *BMC Cancer* 2010, 10:113 doi:10.1186/1471-2407-10-113. This Brazilian study adds to previous work done to determine the anticancer effects of a combination product containing 10 homeopathically potentised substances, of which Calc carb 5C is the primary ingredient. B16F10 melanoma cells (a particularly aggressive cell line) in tissue culture were co-cultured with macrophages and lymphocytes. These were exposed to the homeopathic combination product and the results compared with an uninoculated control. On analysis it was shown that the homeopathic combination product was associated with an increase in the capacity of the lymphocytes in the tissue culture to destroy growing cancer cells, as well as an increase in the proportion of CD25+ lymphocytes and an increase in lymphocyte viability.

33. Burbano RR, et al. **Lymphocyte proliferation stimulated by activated human macrophages treated with Canova.** *Homeopathy*. 2009, 98, 1, 45-8. In this study, researchers from the Universidade Federal do Pará in Brazil add to work previously done in this area by using a homeopathic mixture referred to as Canova (homeopathically potentised Aconitum napellus, Arsenicum album, Bryonia alba, Lachesis muta, Thuja occidentalis) to determine its effect on the mitotic index of phytohaemagglutinin-stimulated human lymphocytes. These lymphocytes were cultured in media containing Canova and their mitotic index was compared with lymphocytes cultured without it. The mitotic index is a measure of the proliferation status of a cell population. On analysis of the results it was found that the addition of Canova to the culture media was associated with an increase in the proliferation (mitotic) index.

34. Patil CR, et al. **Immunomodulatory activity of Toxicodendron pubescens in experimental models.** *Homeopathy*. 2009, 98, 3, 154-9. This adds to previous work done in this area and focuses on the capacity of raw and homeopathically prepared Rhus tox to modulate immune functions, using parameters such as chemotaxis, oxidative processes and phagocytosis as a means of measuring outcomes. Mother tincture, 6C, 30C, 200C and 1M homeopathically prepared potencies of Rhus tox were used and all homeopathic potencies, apart from the 200C and 1M, as well as mother tincture, were found to intensify immune function.

35. Gupta G, Srivastava AK. **In-vitro activity of Thuja occidentalis Linn. against human pathogenic aspergilla.** *The Homoeopathic Heritage*, 2002, 27, 1, 5-12. This Indian research investigated whether or not homeopathically prepared Thuja has an in-vitro fungicidal effect on pathogenic *Aspergillus niger* and *flavus*. Pathogenic strains of these organisms were grown by standard laboratory means and were exposed to 30C, 200C, 1M, 10M and 50M homeopathically prepared potencies of *Thuja occidentalis* as well as two negative controls (water and ethanol) and a positive control (Ketoconazole). After incubation the cultures were measured to determine the extent of growth inhibition. All of the *Thuja* potencies showed some effect against both species of *aspergillus*, but when compared to the negative controls, the 30C and 200C potencies showed the greatest effect. In addition, the 30C potency proved to have a 93% equivalence to Ketoconazole and the 200C exhibited an 89% equivalence.

36. Queiroz AO, et al. **Evaluation of Trypanosoma cruzi 30dH biotherapeutic: an in-vitro study.** *Int J High Dilution Research*, 2006, 5, 17, 14-16. In this Brazilian study, researchers set out to determine whether or not exposure to a 30X homeopathically prepared medicine made from *Trypanosoma cruzi* had any effect on specific IgM and IgG antibody production in mice. The study confirmed the effect of this preparation and found that pretreatment with the *Trypanosoma cruzi* 30X was associated with a 50% reduction in mortality, an increase in specific antibody and a reduction in the numbers of the parasite in the blood of mice infected with this organism.

37. Chirumbolo S, et al. **Inhibition of CD203c membrane up-regulation in human basophils by high dilutions of histamine: a controlled replication study.** *Inflamm Res*. 2009, 58, 11, 755–764. This is one of quite a few studies that have been carried out to investigate the action of homeopathically prepared histamine on human basophils. In this paper, various homeopathic potencies of histamine and water controls were tested for their capacity to influence the responsiveness of basophils to anti-IgE antibodies. Assays were carried out using flow cytometry. After the results had been collected and calculations performed, it was revealed that histamine, homeopathically prepared to 2C, 12C, 14C, 15C and 16C, when compared to water controls, had a significant inhibitory capacity on the functions of human basophils.

38. Montagnier L, et al. **Electromagnetic Signals Are Produced by Aqueous Nanostructures Derived from Bacterial DNA Sequences.** *Interdiscip Sci Comput Life Sci*, 2009, 1, 2, 81–90. In this ground-breaking work by Nobel Prize winning scientist, Luc Montagnier, it was shown that bacterial DNA, at dilutions equivalent to those seen in 18X homeopathic potencies, has the capacity to emit objectively detectable and specific electromagnetic signals. This work goes some way towards confirming the notion that even at high dilutions, physical substances are capable of leaving an electromagnetic remnant of their physical form. In discussions on these findings, Montagnier was quoted as saying, "I can't say that homeopathy is right in everything. What I can say now is that the high dilutions are right. High dilutions of something are not nothing. They are water structures which mimic the original molecules."

39. Malarczyk E, Kochmanska-Rdest J, Wilkolazka AJ. **Influence of very low doses of mediators on fungal laccase activity - nonlinearity beyond imagination** *Nonlinear Biomedical Physics* 2009, 3:10doi:10.1186/1753-4631-3-10. In this work, carried out in the Biochemistry Department of the Maria Curie-Skłodowska University in Poland, scientists looked at the capacity of very low doses of biochemical mediators to facilitate the action of the enzyme laccase, which is normally used in various industrial applications. These mediators, ABTS and HBT, are normally used at material levels to facilitate the action of the enzyme, but in this study, it was shown that several homeopathic potencies of these mediators, homeopathically potentiated to the equivalent of 1C to 10C, had the capacity to increase the activity of laccase. The potencies associated with the highest level of activity were HBT 7C and 8C, and ABTS 4C and 5C.

40. Hostanska K, et al. **Effect of two homeopathic remedies at different degrees of dilutions on the wound closure of 3T3 fibroblasts in *in vitro* scratch assay.** *Int J High Dilution Res*, 2012; 11, 40, 164-165. Proceedings of the XXVI GIRI Symposium; 2012, Sep 20-22; Florence (Italy). Swiss scientists performed this trial to determine the extent to which two homeopathic combination products (Similisan Arnica plus and SIM WuS) could influence the activity of cultured fibroblasts, and thereby demonstrate a possible role in wound healing. In doing this, cell proliferation, cell migration and the wound closure promoting effect of the homeopathic preparations and negative controls were investigated on mouse fibroblasts. Cell viability was determined by WST-1 assay, cell growth was assessed using BrdU uptake, cell migration by chemotaxis assay and wound closure by CytoSelect Wound Healing Assay Kit which generated a defined wound area. All assays were performed in three independent controlled experiments. On analysis of the results, compared to the control, it was found that cell viability and proliferation were unaffected by either of the homeopathic combinations. Similisan did exert a stimulating effect on fibroblast migration (32% vs 15% for the control). Similisan also promoted in-vitro wound closure by 60% vs 22% for the control.

41. Coelho CP, et al. **Effect of homeopathic treatment used in commercial boar semen diluent on sperm viability.** *Int J High Dilution Res*, 2012, 11, 40, 174-176. Proceedings of the XXVI GIRI Symposium; 2012, Sep 20-22; Florence (Italy). This Brazilian study sought to determine the effects of homeopathically potentised material, Pulsatilla 6C, Avena sativa 6C, or a combination of the two, on the quality of boar semen. Semen samples were obtained from two 18 month old sexually mature boars and one dose of two globules of each of the test materials, plus a control, were added to individual aliquots of 100 mL of diluted boar semen, which were then chilled. All samples were labeled in codes for blinding. On analysis of the results the team discovered that when compared to controls, Pulsatilla 6C produced a statistically significant improvement in the quality of cooled and stored pig semen.

42. Mukherjee A, Boujedaini N, Khuda-Bukhsh AR. **Homeopathic Thuja 30C ameliorates benzo(a)pyrene-induced DNA damage, stress and viability of perfused lung cells of mice in vitro.** *J Integr Med*, 2013, 11, 6, 397-404. The aim of this work was to determine if homeopathically prepared Thuja 30C could ameliorate benzo(a)pyrene (BaP)-induced DNA damage, stress and viability of perfused lung cells from mice. To do this, perfused normal lung cells from mice were cultured and exposed to BaP for 24 h. Thereafter, the intoxicated cells were either treated with Thuja 30C or a negative control. Assessment was via the measurement of reactive oxygen species (ROS) accumulation, total glutathione (GSH) content, and the production of heat shock protein (hsp)-90 as well as cell viability and other test parameters. It was shown that, when compared to the control, Thuja 30C significantly increased cell viability of BaP-intoxicated cells. Thuja 30C inhibited BaP-induced stress levels, by down-regulating ROS and hsp-90, and increasing GSH content. Thuja 30C itself had no DNA-damaging effect, and no direct drug-DNA interaction. However, it showed quite striking ability to repair the DNA damage caused by BaP.

43. Chakraborty I, et al. **High dilutions of homeopathic remedies induce relaxation of rat aorta precontracted with Noradrenalin.** *Int J High Dilution Res*, 2013, 12, 43, 44-51. Indian researchers looked at the effects of homeopathically prepared Aurum metallicum 30C and Lycopodium virginicum 30C on the isolated aorta of rats in an effort to determine the possible effectiveness of these medicines in the management of hypertension. Isolated rings of aortic tissue were fixed in fluid and attached to a computer-monitored isometric transducer and then precontracted using noradrenalin. They were then exposed to the homeopathically prepared materials or a control substance and assessed for their extent of relaxation. The results showed that when compared to the control, both medicines produced significant relaxation of the aortic strips.

44. Rajan A, Bagai U. **Antimalarial potential of homeopathic medicines against schizont maturation of *Plasmodium berghei* in short-term in vitro culture.** *Int J High Dilution Res*, 2012, 11, 41, 224-236. Scientists from the Department of Zoology in the Panjab University at Chandigarh in India performed this in-vitro experiment to discover what effect, if any, various dilutions of homeopathically prepared materials would have on the viability of *Plasmodium berghei*, a parasite commonly implicated in malaria, when compared to the action of chloroquine. Using the in-vitro schizont maturation inhibition assay, *P. berghei* was cultured, and at the intra-erythrocyte phase of its life cycle, exposed to mother tincture, 6C, 30C or 200C homeopathic preparations of *China officinalis*, *Chelidonium majus* or *Arsenicum album*, or material doses of chloroquine. Significant reduction of the growth of intra-erythrocyte stages of *P. berghei* was observed with the decreasing dilutions of mother tincture and the various potencies of *China*, *Chelidonium* and *Arsenicum*, exhibiting a dose-dependent effect. Maximum schizont maturation inhibition (80%) was observed with *China* mother tincture, *China* 30C and *Chelidonium* 30C, with chloroquine providing an inhibition of 95%. *Arsenicum* 30C provided an inhibition of 75%.

45. Bandyopadhyay B, et al. **Decreased intensity of Japanese Encephalitis virus infection in chick chorioallantoic membrane under influence of ultradiluted *Belladonna* extract.** *Indian Journal of Research in Homoeopathy*, 2010, 4, 2, 1-6. The inner membrane of the chicken egg (the chorioallantoic membrane) has long been used as a platform for viral research, with pock formation on these membranes registering the presence of viral growth. This tool was used by a team of Indian researchers looking at the potential of homeopathically prepared *Belladonna* to prevent the growth of Japanese Encephalitis virus (JEV). To do this, membranes were inoculated with *Belladonna* 3C, 15C, 30C, 200C or a control substance. They were then inoculated with JEV and incubated at 37 degrees Celsius for 14 days and examined for pock formation. When compared to the controls, it was found that the use of all of the *Belladonna* potencies was associated with a significant reduction in viral pock formation, indicating an inhibition of growth.

46. Naoual B, Stéphane C, Terzan L. **Assessment of anti-inflammatory activity of homeopathic *Arnica Montana*.** *Int J High Dilution Res*, 2013; 12(44):121-122. Proceedings of the XXVII GIRI Symposium; 2013, Sep 03-04; Bern (Switzerland) 121. This study was done in two parts; in-vitro and in-vivo. The aim of the in-vitro trial was to measure the effect of *Arnica montana* 5C on the expression of intracellular cell adhesion molecule (ICAM-1) in human umbilical vein endothelial cells (HUVECs). Intercellular adhesion molecule-1 (ICAM-1) plays an important role in the inflammatory process and immune response. These cells were cultured and exposed to either *Arnica* or a placebo and assayed for molecular expression, after which it was shown that *Arnica* significantly attenuated ICAM-1 expression in endothelial cells compared to placebo, thereby displaying a significant endothelial anti-inflammatory effect. The in-vivo part looked at the effect of different homeopathic potencies of *Arnica montana* versus placebo, in the regeneration of skeletal muscle and inflammatory parameters in rats after injury. The results for this part of the study weren't quite as successful as the in-vitro arm but did show an increase in the ratio of M2 to M1 macrophages, indicating a reduction in inflammation.

47. da Silva RMRJ, et al. **Analysis of in vitro activity of high dilutions of *Euphorbia tirucalli* L. in human melanoma cells.** *Int J High Dilution Res*, 2011, 10, 36, 183-193 Proceedings of the XXV GIRI Symposium and VIII CBFH; 2011, Sep 04-07; Foz do Iguaçu (Brazil) 183. Brazilian researchers set out to determine what effects, if any, homeopathically prepared potencies of latex and tincture of *Euphorbia tirucalli* have on the proliferation of cultured human melanoma cells. The cultured cells were exposed to 5C, 15C and 30C homeopathic potencies of the latex and mother tincture as well as an ethanol and water control, and monitored via MTT assay for 24 to 72 hours. Compared to the control, all of the test solutions appeared to exert a proliferation inhibition, with the *Euphorbia tirucalli* 30C prepared from mother tincture exhibiting the strongest inhibition (32.1%).

48. Huh YH, Kim MJ, Yeo MG. **Homeopathic Rhus toxicodendron treatment increased the expression of cyclooxygenase-2 in primary cultured mouse chondrocytes.** *Homeopathy*, 2013, 102, 4, 248-53. In this in-vitro research, cultures of mouse chondrocytes were exposed to 4X, 30X, 30C and 200C homeopathic potencies of Rhus toxicodendron. Assessments were then made of the expression of collagen type II, a marker protein of chondrocytes, and cyclooxygenase-2 (COX-2), which is responsible for the biosynthesis of prostaglandin E2 (PGE2) and the regulation of the inflammatory response, using biochemical and immunological methods such as reverse transcription polymerase chain reaction (RT-PCR), quantitative (or real-time) RT-PCR (qRT-PCR) and immunoblot assays. The anti-inflammatory effects of the remedies were significant. All of the Rhus tox potencies, most notably the 30X, increased the mRNA expression of COX-2, and mRNA expression in both RT-PCR and qRT-PCR analyses. The 4X, 30X and 30C potencies inhibited collagen type II expression, suggesting that Rhus tox induced the dedifferentiation of chondrocytes. In addition, treatment with 30X Rhus tox significantly increased PGE2 release compared with other homeopathic dilutions of Rhus tox.

49. Arora S, et al. **Anti-proliferative effects of homeopathic medicines on human kidney, colon and breast cancer cells.** *Homeopathy*, 2013, 102, 4, 274-82. This study set out to investigate the potential cytotoxicity of homeopathic mother tinctures and 30C, 200C, 1M and 10M homeopathic potencies of Sarsaparilla, Ruta graveolens and Phytolacca decandra, against cell lines deriving from tumors of particular organs. Sarsaparilla was tested against ACHN cells from human renal adenocarcinoma as well as non-malignant Madin-Darby canine kidney (MDCK) cells. Ruta was tested against COLO-205 cells from human colorectal carcinoma, and Phytolacca was tested against MCF-7 cells from human breast carcinoma. Cytotoxicity was measured using the 3-(4, 5-dimethylthiazolyl)-2, 5-diphenyltetrazolium bromide (MTT) method, anti-proliferative activity by trypan blue exclusion assay, apoptosis determined by dual staining the cells with ethidium bromide (EB) and acridine orange (AO) dyes. On analysis it was found that all of the remedies tested (particularly the mother tinctures), produced cytotoxicity and a decrease in cell proliferation. Signs of apoptosis were evident including cell shrinkage, chromatin condensation and DNA fragmentation. The MDCK cells were unaffected by any of the Sarsaparilla potencies.

Robert Medhurst is a naturopath specialising in homeopathy and is the author of *The Concordant Clinical Homeopathic Repertory, the ultimate guide to clinical prescribing in homeopathy.*