

## Chapter 7

# HOMEOPATHY

Homeopathy, sometimes spelled homoeopathy, is a system in which minute doses of drugs are used to treat diseases. The drugs that are chosen are those which in much larger doses induce the same symptoms as the disease itself. Homeopaths believe that by using drugs that mimic the patient's symptoms, the body's healing processes will respond in such a way that the illness is cured. This basic tenet of homeopathy is expressed in the famous Latin dictum *similia similibus curantur* meaning "let likes be cured by likes". This belief explains the basis for the name "homeopathy" which is derived from the Greek words HOMOIOS and PATHEIA meaning "like" and "suffering" or "feeling", respectively. Sometimes, this concept is dignified by homeopaths with the phrase, "Law of Similars" (Figure 1).

Ideas such as this were propounded by the ancient Greek "father of medicine", Hippocrates (c. 400 BC) and have been followed by many others since that time. The system was expounded by a German doctor, Samuel Christian Hahneman (1775-1843). He believed that chemical compounds made by living bodies differed from inorganic compounds by having a "vital force", a special *vis vitalis*, that was necessary for their manufacture. Hahneman was of the view that chronic diseases were transmissible by heredity or by infection and were due to the vital force being distorted in its expression.

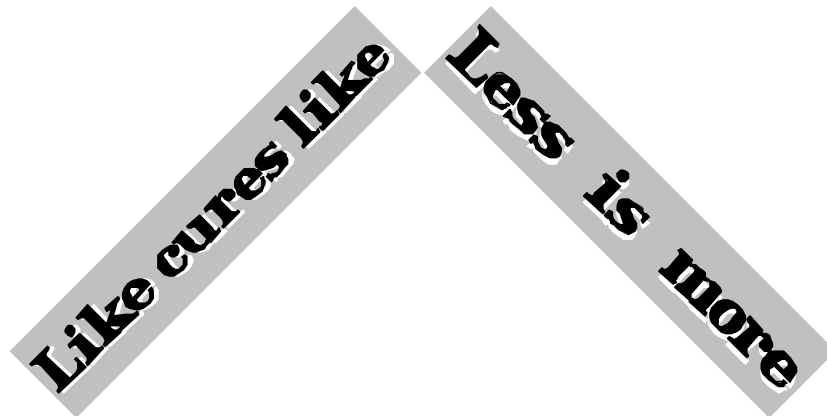


Figure 1. The twin pillars of homeopathic theory - the "Law of Similars" and the "Law of Infinitesimals".

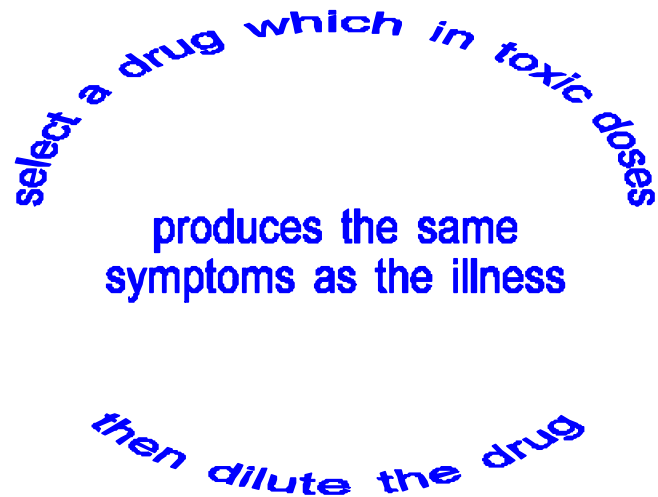


Figure 2. Drugs or “remedies” occupy a pivotal place in the practice of homeopathy.

However, Hahneman believed he had the answer to these problems. He noticed that when he took some Peruvian bark, which contains quinine and was often used for the treatment of malaria, the drug itself produced fevers. He then observed over a number of years the effects of a multitude of drugs on himself and other healthy individuals. He called this system the “proving of remedies”. With interesting involuted logic, he said that what a drug caused, it should also be able to cure. He published his homeopathic *Organon der rationellen Heilkunde* (Book of Rational Healing), a listing of the symptoms produced by healthy people after taking certain drugs, in 1810. It is these drugs that provide the basis of homeopathic therapy.

Hahneman then made a further astonishing “discovery”. Because he always wished to cure his patients and do them no harm, he diluted his drugs and gave them small doses of the remedies. Not surprisingly, this reduced the effects - we would say side-effects but he would have said effectiveness. He then claimed that if he shook the preparations violently during dilution, they retained their potency despite dilution, a process that he described as “potentisation”. He diluted his medicines in volumes of 100. For example, 1 ml of solution of drug was diluted in 100 ml of diluent. He called this his first centesimal potency. He then diluted 1 ml of this dilute fluid in another 100 ml of diluent. This process would be repeated up to 30 times. This meant that the original drug had been diluted  $100^{30}=10^{60}$  times. Yet he claimed that the diluted fluid retained the beneficial healing effect.

In fact the drugs had been diluted beyond the extent of Avogadro’s number. Amadeo Avogadro, an Italian physicist who lived from 1776-1856, discovered that every mole of

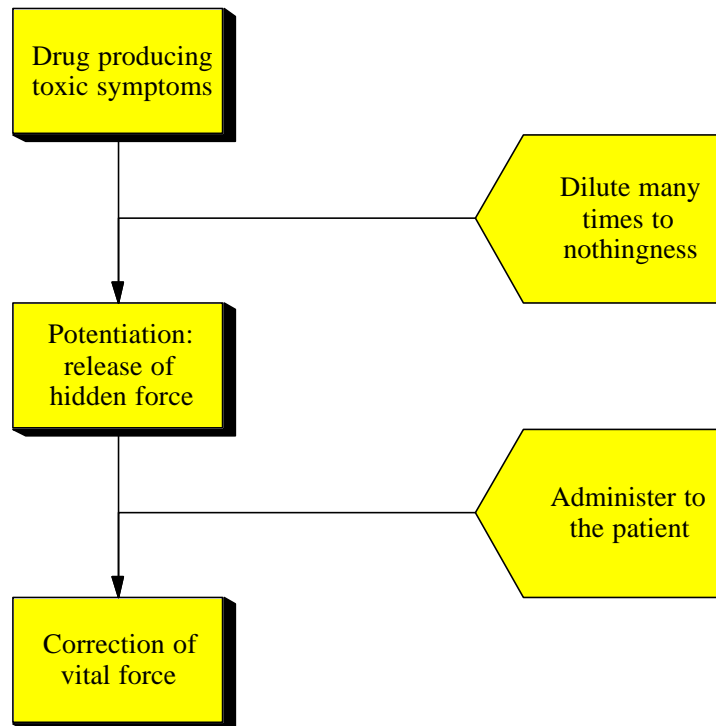


Figure 3. The manner in which homeopaths believe their remedies cure disease.

any substance is made up of  $6.0253 \times 10^{23}$  molecules of that substance. A mole is the molecular weight of a chemical expressed in grams. For example, common salt is made up of two chemicals, sodium and chlorine. The atomic weight of sodium is 23 and that of chlorine is 35.5. Since there is only one sodium atom and one chlorine atom for every molecule of salt (sodium chloride), the molecular weight of salt is  $23 + 35.5 = 58.5$ . Thus, you would have 602,530,000,000,000,000,000,000 molecules of sodium chloride if you took 58.5 grams of salt. If one mole of a substance in one litre of water is diluted  $10^{60}$  or even only  $10^{24}$ , that is, 1,000,000,000,000,000,000,000,000 times, it is unlikely that there will be a single molecule of the original substance left in one litre of the diluted material. In other words, the drug has been diluted to the point of being absent. Nevertheless, Hahnemann and his followers claim that shaking (succussion) of their solutions or grinding (trituration) of their powders somehow released hidden energy which has the power to heal. How could the medicinal power of a substance increase as its concentration in solution decreases? It makes no sense according to the known laws of

chemistry and physics. Hahnemann explained this "phenomenon" on a spiritual rather than a physical basis. He was a deeply religious man and came to regard the "spiritual essence" of a drug (whatever that is) as more important than its physical attributes. He exalted this theory in his second law, the "Law of Infinitesimals" (Figure 1).

Even so, it must be admitted that Hahnemann retained a modicum of insight. He recognised that some patients had only a transient response to treatment. However, he then formulated his third "Law of Chronic Diseases". This stated that when a disease persisted, it was due to one of three skin conditions: syphilis, sycosis (gonorrhoea or genital warts) and psora (itch from scabies) that had been driven deep within the body by earlier conventional medical treatment.

What happens when a patient visits a homeopath? The practitioner listens at length and records the symptoms. Then he searches the homeopathic literature to find a drug that induces similar symptoms. Finally, he dilutes the chosen medicine an appropriate number of times in order to potentiate it (Figure 2). This is then given to the patient so that the vital force may be restored to its pristine condition.

Homeopathy, therefore is based upon the premise that a drug which causes a certain set of side-effects is able to cure a patient with same set of symptoms. Further, it is maintained that when such a drug is diluted to a minuscule or non-existent dosage, an imaginary "healing force" is released which corrects abnormalities in a "vital force", the existence of which has never been confirmed by science (Figure 3).

For a while homeopathy became extraordinarily popular, both in Europe and North America, during the nineteenth century. In 1900 in the United States, there were 15,000 homeopaths, representing one sixth of the entire medical population, that were graduates of 22 homeopathic colleges. Today, there are few homeopaths left in the United States. In the United Kingdom, training is undertaken and patients are treated at the Royal London Homeopathic Hospital and at the Glasgow Homeopathic Hospital. Homeopathy is a recognised component of the National Health System and homeopathic remedies may be prescribed. Homeopathy is even more widely practised in continental Europe, especially France, Italy and Germany. It says something of the political power of pressure groups that the European Union in a directive in 1992 ordered that homeopathic preparations need not be proven to be effective before they are marketed.

Before we begin to look at the medical evidence in terms of clinical trials of homeopathy, it is worth diverting to consider what has been termed the "Benveniste affair".

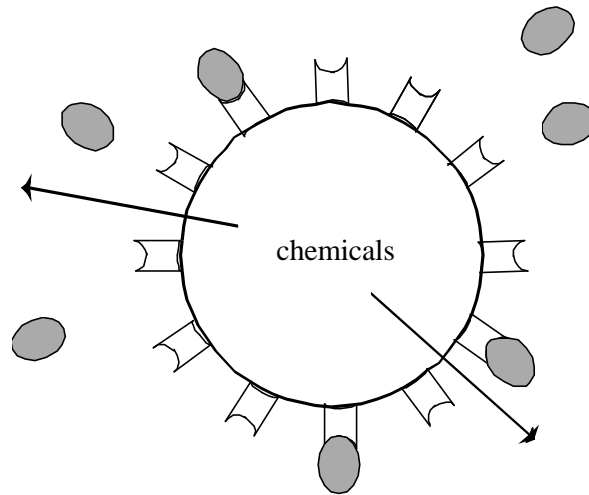


Figure 4. A basophilic cell containing chemicals. On its surface are IgE antibodies which react with substances in the environment; this reaction causes the cell to release chemicals into the surrounding milieu.

#### An experiment of Nature

The journal *Nature* is arguably the most prestigious and influential scientific journal in the world. One must sit up and take notice therefore when an article addressing the theory of homeopathy appears within its pages. Such a paper, together with an editorial<sup>1</sup> provocatively entitled "When to believe the unbelievable" appeared in the issue of 30 June 1988. The paper<sup>2</sup> had the rather technical title "Human basophil degranulation triggered by very dilute antiserum against IgE". It was written by 13 collaborating scientists who came from a number of different laboratories in the Université Paris-Sud in France, Kaplan Hospital and the Hebrew University of Jerusalem in Israel, the University of Milan in Italy, and the University of Toronto in Canada. The team leader was Prof. Jacques Benveniste from the University of South Paris. Basophils are special white cells which,

<sup>1</sup>Anonymous. *Nature* 333:787, 1988

<sup>2</sup>Davenas E, Beauvais F, Amara J, Oberbaum M, Robinson P, Miadonna A, Tedeschi A, Pomeranz B, Fortner P, Belon P, Sainte-Landy J, Poitevin B, Benveniste J. *Nature* 333:816-818, 1988

when stimulated in a certain way, release into the tissues a number of chemicals that are stored in granules within them. These chemicals cause symptoms in asthma and hay fever such as wheeze, shortness of breath and a runny nose. The basophils have on their surface special proteins called immunoglobulin E (IgE) antibodies. When cells containing these antibodies come in contact with substances in the environment to which people with asthma are allergic, such as grass pollens or house dust, these substances combine with the IgE molecules and set in train a sequence of events that culminates in the release of the noxious chemicals. This phenomenon can be reproduced in the test tube. One way of stimulating IgE antibodies on the basophil surface is to mix them with an antiserum containing antibodies to the IgE antibodies (Figure 4).

The essence of Benveniste's experiment was that he and his colleagues progressively diluted the antiserum to IgE and looked at the effect on degranulation of basophils. They reported that when they diluted the antiserum  $10^{120}$  times, ie when there were no antibodies against IgE left, they still found degranulation when they mixed this diluted material with basophils. Moreover, this only happened when the dilutions were shaken vigorously. The authors concluded that "transmission of the biological information could be related to the molecular organization of water".

But the editors of *Nature* knew they were on shaky ground. Benveniste's paper was followed by an unprecedented "Editorial reservation":

"Readers of this article may share the incredulity of the many referees who have commented on several versions of it during the past several months ... There is no physical basis for such an activity".<sup>1</sup>

Sagaciously, the accompanying editorial concluded that

"when an unexpected observation requires that a substantial part of our heritage should be thrown away, it is prudent to ask more carefully than usual whether the observation may be incorrect."<sup>1</sup>

The editors promised that they would arrange for independent investigators to repeat the experiments. In the event, a team was set up comprising the editor himself, a magician and a "policeman for scientific fraud" from the National Institutes of Health in the United States. They reported that the results obtained by Benveniste and his co-workers were false and were the result of sloppy laboratory practices and self-delusion.<sup>3</sup> Understandably, Benveniste could bitterly complain with some justification that the scientists had not been judged by their scientific peers.<sup>4</sup> More importantly, a similar experiment was then done in an independent laboratory by Drs Henry Metzger and Stephen Drakin at the National Institutes of Health in the United States. They could not reproduce the findings of Benveniste and his team.<sup>5</sup>

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<sup>3</sup>Maddox J, Randi J, Stewart WW. "High-dilution" experiments a delusion. *Nature* 334: 287-290, 1988

<sup>4</sup>Benveniste J. Dr Jacques Benveniste replies. *Nature* 334: 291, 1988

<sup>5</sup>Metzger H, Dreskin SC. Only the smile is left. *Nature* 334: 375, 1988

When reviewing this unlikely saga in the columns of *The Lancet* two years later, a commentator remarked that "Benveniste never retracted his findings". This incensed Benveniste who wrote<sup>6</sup> to *The Lancet* thundering "Far from retracting my results I will (try to) publish in the months to come indisputable proof." Years later, that "proof" has not yet appeared in print other than for him to write to *The Lancet* without providing any data that the effect of high dilutions in various systems is highly reproducible, that these effects are erased by alternating magnetic fields, that they can be transferred to naive water by a "specially configured amplifier" and that they can even be "recorded on a computer hard disk and sent any distance via the Internet"<sup>7</sup>!

Hirst and colleagues from University College, London, did try. Like Metzger and Drakin mentioned above, they repeated Benveniste's experiment. The results were negative and they wrote that "no aspect of the data is consistent with previously published claims".<sup>8</sup> Of course, Benveniste did not agree.<sup>9</sup>

What can one make of all this? There are no indisputable, concrete data nor is there any plausible theoretical scientific explanation to support Hahneman's Law of the Infinitesimals - "less is more".

#### **‘Proving’ homeopathy**

Homeopathic theory states that if a substance is diluted umpteen times by homeopathic dilution, then it will produce a characteristic set of symptoms when taken by healthy individuals. This process is known as "proving". It forms the basis for the homeopathic materia medica and thus the clinical basis for all homeopathic prescriptions because "like" is supposed to cure "like". This phenomenon, if it exists, ought to be testable.

Belladonna (deadly nightshade, *Atropa belladonna*) in homeopathic dilutions is supposed to cause head and upper respiratory symptoms and inflammation. Brien and colleagues from the Complementary Medicine Research Unit of the University of Southampton in England conducted a double-blind, randomised, placebo-controlled trial. They gave 252 healthy subjects either belladonna 30C (hundredfold dilutions, thirty times) or placebo for 4 weeks and recorded their symptoms. No significant differences were observed. The authors concluded that "ultramolecular homeopathy had no observable effects".<sup>10</sup>

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<sup>6</sup>Benveniste J. Publicity and controversial data. *The Lancet* ii: 944, 1990

<sup>7</sup>Benveniste J. Meta-analysis of homeopathy trials. *The Lancet* 351: 367, 1998

<sup>8</sup>Hirst, SJ, Hayes, NA, Burrige J *et al.* Human basophil degranulation is not triggered by very dilute antiserum against human IgE. *Nature* 366: 525-527, 1993

<sup>9</sup>Benveniste J, Ducot B, Spira A. Memory of water revisited. *nature* 370: 322, 1994

<sup>10</sup>Brien S, Lewith G and Bryant T. Ultramolecular homeopathy has no observable clinical effects. A randomized, double-blind, placebo-controlled trial of Belladonna 30C. *British Journal of Clinical Pharmacology* 56: 562-568

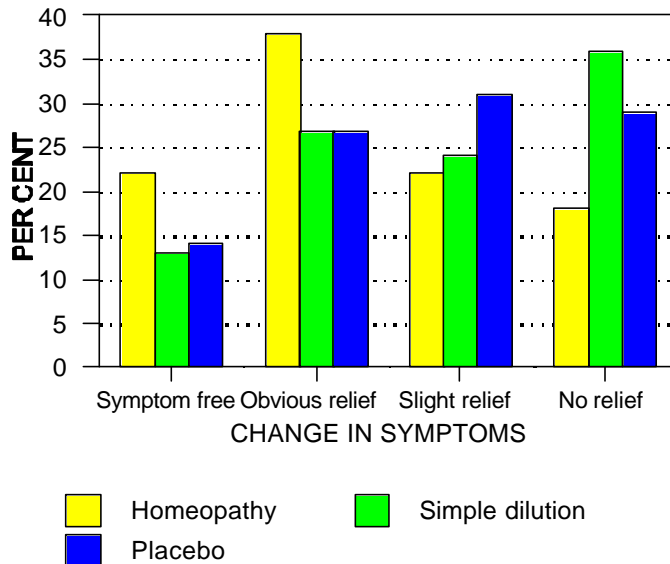


Figure 5. The effects of a homeopathic preparation of Galphimia, a simple dilution of Galphimia, and a placebo on the nasal symptoms of hay fever.

This is not very encouraging, but the proof of the pudding is looking at what happens when sick patients are given homeopathic remedies in proper trials. The rest of this chapter will be devoted to an assessment of such studies.

#### Can homeopathy relieve hay fever?

Many of us are afflicted with hay fever. When we come in contact with flowers or pollens to which we are allergic, the nose begins to itch, drip and become blocked while the eyes water and burn. Drs Wiesenauer and Gaus of the department of medicine of the University of Ulm in Germany decided to test the effectiveness of a homeopathic remedy, an extract of the tropical flower, *Galphimia glauca*. They prepared Galphimia in two ways. One preparation was diluted serially with ethanol by Hahneman's method  $10^6$  times whereas the other was serially diluted 1 million times in the standard way. One hundred and sixty-four patients of 75 general practitioners were entered into the trial and randomised blindly to receive either homeopathic Galphimia, ordinary diluted Galphimia or placebo (90% ethanol) for approximately two weeks. The patients evaluated changes in their symptoms.

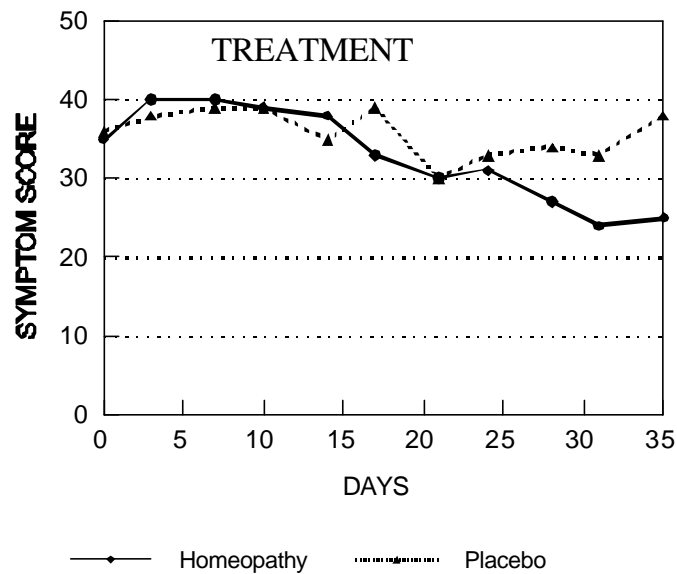


Figure 6. Hay fever symptom scores before, during and after treatment with either a homeopathic preparation or a placebo.

The authors reported their findings in a paper<sup>11</sup> entitled "Double-blind trial comparing the effectiveness of homeopathic preparation Galphimia potentisation D6, Galphimia dilution 10<sup>6</sup> and placebo on pollinosis". The results are shown in Figure 5. There were few differences among the three groups and these differences were not statistically significant, ie the observed variations could easily have happened by chance. Nevertheless, in a completely illogical summing-up, the authors claimed "Although the overall success of Galphimia D6 is not significant it should be taken into consideration for the therapy of pollinosis." In truth, the only conclusion that one can validly draw from their data is that there is no evidence to support the use of this homeopathic remedy for the treatment of hay fever.

Another study on this same subject appeared in *The Lancet* in the following year. Dr David Taylor Reilly and Morag Taylor from the Glasgow Homeopathic Hospital and their colleagues from the departments of bacteriology and immunology and of statistics in the University of Glasgow conducted a double-blind trial. Patients were recruited from the Homeopathic Hospital and from 26 local general practitioners, most of whom practised some homeopathy. Patients were randomly allocated to receive either a homeopathic

<sup>11</sup>Wiesenauer M, Gaus W. *Arzneimittel Forschung-Drug Research* 35:1745-1747, 1985

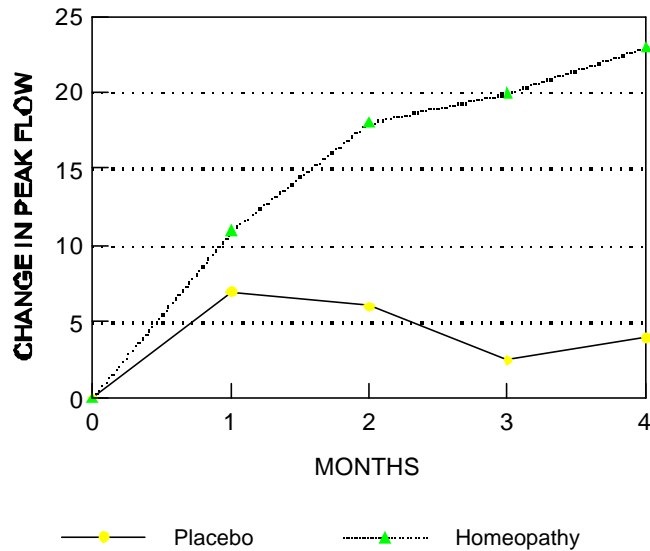


Figure 7. Improvement in ability to breathe in through the nostril after various weeks of treatment.

preparation of mixed grass pollens diluted  $100^{30}=10^{60}$  times or a placebo of 90% alcohol. The patients scored their own symptoms in a standardised fashion and the doctors assessed the patients in the same way. Results in 144 patients were analysed in a paper entitled “Is homeopathy a placebo response? Controlled trial of homeopathic potency, with pollen in hay fever as a model”.<sup>12</sup> The symptoms were quantified for one week before treatment, during the two weeks of treatment with the homeopathic preparation or placebo, and for two weeks afterwards. There was a slight decline in patients’ self-assessment of symptoms in the two weeks following treatment in the group of patients given the homeopathic preparation but not in those receiving placebo (Figure 6). The doctors’ analysis was similar but the differences were less marked. Since the difference was statistically significant for both the patients’ assessments and for the doctors’ assessments, the authors concluded that the patients taking the homeopathic preparation had a greater improvement in symptoms than those taking the placebo. They commented that their results were “a contemporary restatement of an empirical puzzle now in its second century and represent a confusing challenge to orthodox scientific models”.

Naturally enough, this brought a spate of correspondence to *The Lancet*. One commentator remarked that this was a “randomised double-blind trial of one placebo against another... Reilly et al. have shown that some hay fever patients get a bit better and

<sup>12</sup>Taylor Reilly D, Taylor MA, McSharry C, Aitchison T. *The Lancet* ii :881-886, 1986

some do not, regardless of therapy”<sup>13</sup> while another declaimed that “if a ‘new drug’ is effective, a new physics and a new chemistry will have been born”<sup>14</sup>. Finally, Skrabanek remarked that it was a great pity that the dilution and succussion did not potentiate the alcoholic diluent itself, and if it did, homeopathy would have long since been banned by the Internal Revenue.<sup>15</sup>

Twenty years later, Taylor and Reilly returned to the fray, this time with several collaborators including a psychiatrist and a statistician. They tested 51 people who had perennial allergic rhinitis, ie persistent nasal obstruction due to allergies. They conducted a randomised, double-blind, placebo-controlled trial. The homeopathic remedies were made from the principal substance that the patient was allergic to such as animal hair or fur, house dust mites or various plant pollens. They used a peak flow meter to measure the air flowing in through the nostrils and the patients recorded their symptoms. The results look pretty impressive, with nearly 25% improvement in being able to breathe in through the nostrils after homeopathic treatment compared with next to no improvement with the placebo (Figure 7). On the other hand, when the patients recorded their symptoms, no significant difference was seen between the two groups.<sup>16</sup> The authors concluded that they had found something. The *British Medical Journal*, which published the paper, was not so sure and solicited a commentary. The commentators wrote that since only relatively small numbers of patients were studied, the results were difficult to interpret and larger studies were needed.<sup>17</sup> Predictably enough, this paper brought forth a barrage of criticism including assertion that the trial was not big enough and questioning whether the patients really had perennial allergic rhinitis. What is the answer? Some would argue that we await more and larger trials.

### Can homeopathy help asthma?

Not deterred by their studies of hay fever in 1986, Reilly and his colleagues, this time from the University of Glasgow and the Glasgow Royal Infirmary turned their attention to investigating the value of homeopathy in asthma. Asthma is a common affliction of the lungs in which the sufferer wheezes and is short of breath. The pathological basis for asthma has been described in the chapter on acupuncture..

The investigators studied 28 patients with allergic asthma, most of them reactive to the house-dust mite. In addition to their ordinary treatment, patients were randomised to

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<sup>13</sup>O’Keefe D. Is homeopathy a placebo response? *The Lancet* ii: 1106-1107, 1986

<sup>14</sup>Khan MF. *The Lancet* ii: 1107, 1986

<sup>15</sup>Skrabanek P. *The Lancet* ii: 1107, 1986

<sup>16</sup>Taylor MA, Reilly D, Llewellyn-Jones RH, McSharry, Aitchison T. Randomised controlled trial of homeopathy versus placebo in perennial rhinitis is overview of four trial series. *British Medical Journal* 321: 471-576, 2000

<sup>17</sup>Lancaster T, Vickers A. Commentary: larger trials are needed. *British Medical Journal* 321: 19-26, 2000

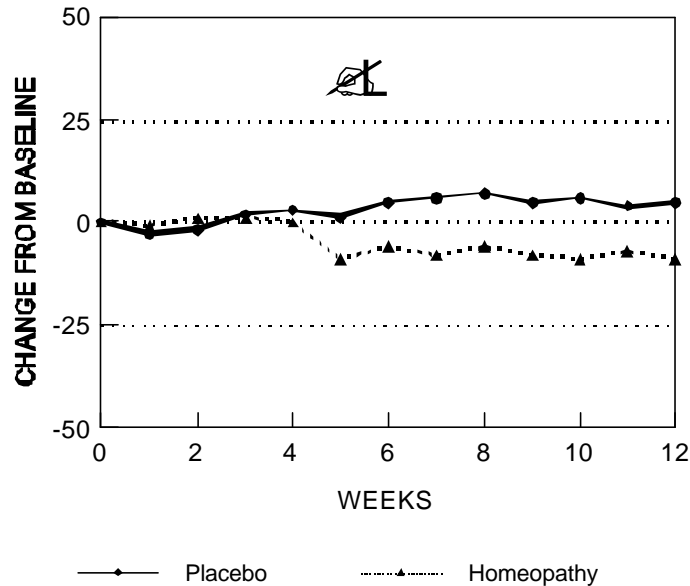


Figure 7. Changes in the visual analogue scale to represent patients' view of their asthmatic symptoms (expressed in millimetres) at various times before and after treatment (indicated by the funny squiggle) with either a homeopathic remedy or placebo.

receive either a placebo or a homeopathic preparation of the substance to which they were most allergic, diluted  $30^{100}$  times. Each preparation appears to have been administered three times over 24 hours. Each day the patients scored their own symptoms in a diary. They also used a visual analogue scale with 100 one millimetre gradations ranging from "fine" at one end to "terrible" at the other to quantify how they felt. In addition, they blew into a tube and measured their ability to blow out air, a process technically called the peak expiratory flow rate. The authors reported their results in *The Lancet* in a paper<sup>18</sup> entitled "Is evidence for homeopathy reproducible?". Four patients withdrew and 24 were analysed. Five of 13 patients given placebo were said to improve compared with nine of 11 given homeopathy. The changes in the patients' own assessment using the visual analogue scale are shown in Figure 7. However, when the actual ability to blow air was measured objectively, the authors did not provide the data but merely reported that "readings showed no significant trends".

Rather than accept these latter clear-cut results, they then reviewed their findings in

<sup>18</sup>Reilly D, Taylor MA, Beattie WGM, Campbell JH, McSharry C, Aitchison TC, Carter Stevenson RD. *The Lancet* 344: 1601-1606, 1994

the three trials that they had published on the subject. The three trials analysed included the present one, the trial in hay fever discussed earlier, and a third one reported in a homeopathic journal<sup>19</sup>. They concluded that a “meta-analysis of our three trials strengthened the evidence that homeopathy does more than placebo”. However, they then ended by writing, perhaps at the insistence of the referees or editor: “Is the reproducibility of evidence in favour of homeopathy proof of its activity or proof of the ability of clinical trials to produce false-positive results?”.

The editors of *The Lancet* then wrote a short editorial entitled “Reilly’s challenge” and remarked that there is either something amiss with clinical trials as conventionally conducted or the effects of homeopathy differ from those of placebo.<sup>20</sup> Perhaps they should have considered a third possibility, namely that if you measure enough parameters and only emphasize ones that by chance differ, you can totally misconstrue the situation.

Nevertheless, others have looked into the question again. Dr White and colleagues from the Peninsula Medical School in Exeter, United Kingdom conducted a randomised, double-blind, placebo-controlled trial of the effects of individualised homeopathic remedies compared with placebo in 96 children with mild to moderate asthma over 12 months. They used a quality of life subscale of the Childhood Asthma Questionnaire as well as many other parameters such as change in peak flow rates (measurements of the ability to blow air), use of medication, symptom scores, days off school and so on. In the words of the authors, they found “no evidence that adjunctive homeopathic remedies, as prescribed by experienced homeopathic practitioners, are superior to placebo in improving the quality of life of children with mild to moderate asthma in addition to conventional treatment in primary care”<sup>21</sup>, ie, adding homeopathy to standard medical care did not help at all.

A similar conclusion was reached by Dr Lewith and colleagues from Southampton, United Kingdom. They conducted a double-blind controlled trial of 242 people with asthma who allergic to house dust mites. The patients were given either homeopathic immunotherapy or a placebo and the usual effects were measured. Their conclusion?: “Homeopathic immunotherapy is not effective in the treatment of patients with asthma”.<sup>22</sup>

So what does all this mean? It is pretty unlikely that homeopathy has much to offer sufferers from asthma.

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<sup>19</sup>Reilly DT, Taylor MA. Potent placebo or potency? A proposed study model with initial findings using homeopathically prepared pollens in hay fever. *British Journal of Homeopathy* 74: 65-75, 1985

<sup>20</sup>Anonymous. *The Lancet* 344: 1585, 1994

<sup>21</sup>White PA, Slade P, Hart A, Ernst E. Individualised homeopathy as an adjunct in the treatment of childhood asthma: a randomized placebo controlled trial. *Thorax* 58: 317-321, 2003

<sup>22</sup>Lewith GT, Watkins AD, Hyland ME *et al.* Use of ultramolecular potencies of allergen to treat asthmatic people allergic to house dust mite: double blind randomized controlled clinical trial. *British Medical Journal* 324: 520-525, 2002

**Does homeopathy reduce recurrent infections of the upper respiratory tract?**

Some children get frequent upper respiratory tract infections such as pharyngotonsillitis (sore throat), otitis media (earache), colds and sinusitis. Often no specific cause can be found and the children tend to outgrow their susceptibility after 5 or 6 years of age. Some homeopathic practitioners claim good results in treating such children. Dr de Lange de Klerk, a homeopath, and colleagues from the epidemiology and biostatistics groups of Vrije University in Amsterdam, The Netherlands, joined forces with Professor L. Feenstra, professor of otorhinolaryngology (ear, nose and throat medicine and surgery) in Leuven, Belgium to investigate such claims.

They chose children 1.5-10 years of age who had recurrent upper respiratory infections and enrolled them in a randomised, double-blind, placebo-controlled trial in order to study the effects of homeopathic medicines on the frequency, severity and duration of upper respiratory infections and the general well-being of each child. Homeopathic medicines were chosen individually for each participating child, diaries were kept by the parents, and the children were followed for at least six months. From the diaries, a score of symptoms was generated and standard treatments given were analysed. The scores could range from 0 (no symptoms) to 56 (many symptoms). One hundred and seventy children were studied, 86 being randomised to receive homeopathic medicine and 84 to receive placebo.

The authors reported their results in the *British Medical Journal* in 1994 in an article<sup>23</sup> entitled "Effect of homeopathic medicines on daily burden of symptoms in children with recurrent upper respiratory tract infections". The mean symptoms score for children given homeopathic medicine was 2.21 compared with 2.61 for those given placebo; this was not significantly different when analysed statistically. Sixty-nine children given placebo received antibiotics for upper respiratory infections as compared to 52 of those given homeopathy; again this difference was not significant. Surgical operations in the two groups are shown in Table 1. It would be expected that if homeopathy worked, children receiving this treatment would need less surgery; once more there was no real difference between the two groups. The authors therefore concluded that "homeopathic medicines produced no clinically relevant improvement in upper respiratory tract infection" in children such as these with recurrent infections.

The question was re-examined a few years later by a group of investigators from Seattle in the United States. They conducted a randomised, double-blind, placebo-controlled "pilot study" of 75 children aged 18 months to 6 years with middle ear infections who were given either an individualised homeopathic remedy or placebo. There were no significant differences in treatment failures between the two groups. But instead of

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<sup>23</sup>de Lange de Klerk ESM, Blommers J, Kuik DJ, Bezemer PD, Feenstra L. *British Medical Journal* 309: 1329-1332, 1994

Table 1. Percentage of children treated with either homeopathy or placebo who underwent various surgical ear, nose and throat operations.

	Homeopathy	Placebo
Tonsillectomy	5	5
Adenoidectomy	16	21
Piercing of eardrum	10	12
Grommets (drains in eardrum)	19	18
Drainage of sinus	2	1

accepting the fact, the authors wrote “these results suggest that a positive treatment effect of homeopathy when compared with placebo in acute otitis media cannot be excluded and that a larger study is justified”.<sup>24</sup> Otitis media is commonly caused by bacteria called streptococci. It is worth remembering that when Howard Florey infected 12 mice with streptococci in 1941, then gave half of them a new drug called penicillin, the six given penicillin all survived and those given placebo all died. I would put my faith in antibiotics if my child were severely ill with otitis media!

#### Does homeopathy ameliorate influenza?

Influenza is a viral infection that most of us have suffered at one time or another and is characterised by fever and shivers, cough, shortness of breath, headache and pains in the limbs and back.

Dr Ferley and colleagues of the Alpine centre for epidemiological research and preventive medicine at Grenoble University Hospital in France decided to investigate the value of a homeopathic preparation called *Oscilloccinum* made from *Anas barbariae hepatis* (liver of foreign duck) and *Cordis extractum* (heart extract) made up in lactose and saccharose granules. Four hundred and seventy-eight patients were treated with either the homeopathic remedy or placebo, five doses being taken under the tongue twice daily. Patients kept a diary and noted their temperature and five cardinal symptoms each morning and evening for one week. They reported their results in a paper called “A controlled evaluation of a homeopathic preparation in the treatment of influenza-like syndromes”.<sup>25</sup> The authors noted that after 48 hours, 10.3% of 234 patients treated with

<sup>24</sup>Jacobs J, Springer DA, Crothers D. Homeopathic treatment of acute otitis media in children: a preliminary randomized placebo-controlled trial. *Pediatric Infectious Diseases Journal* 20: 177-183, 2001

<sup>25</sup>Ferley JP, Zmirou D, D’Adhemar D, Balducci F. *British Journal of Clinical Pharmacology* 27: 329-335, 1989

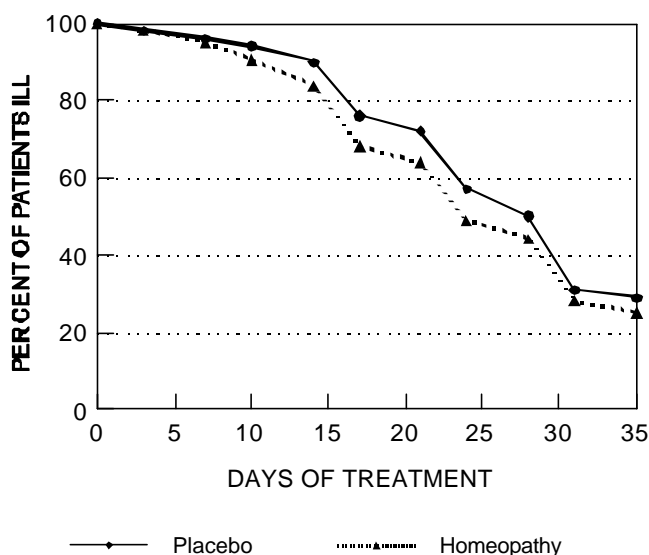


Figure 8. Percentage of patients still ill from influenza at various times after beginning treatment with either a homeopathic remedy or placebo.

placebo were cured compared with 17.1% of 228 given a homeopathic remedy and that this was statistically significant. They claimed that “patients with an influenza-like syndrome who received the homeopathic preparation showed a greater early recovery rate than those who received placebo”. However, when one looks at the time course for the two groups over one week (Figure 8), the differences seem marginal to say the least. The Cochrane Collaboration is an international not-for-profit organisation which examines the evidence base for health care. They have also looked at this question and concluded that “current evidence does not support a preventative effect of Oscillocochinum-like homeopathic medicines in influenza and influenza-like syndromes”.<sup>26</sup>

The reader must judge for himself or herself.

### Can homeopathy help arthritis and fibrositis?

#### *Osteoarthritis*

Pain and loss of mobility are major symptoms of osteoarthritis, a degenerative disease of joints. Two of the most affected are the weight-bearing joints of the hips and knees which

<sup>26</sup>Vickers AJ, Smith C. Homeopathic Oscillocochinum for preventing and treating influenza and influenza-like syndromes. *Cochrane Database Systematic Reviews* CD001957, 2004

Table 2. Pain scores on movement, at rest and at night, initially, and after treatment for two weeks with either placebo, Rhus tox, or fenoprofen, and the number of paracetamol tablets used by patients with osteoarthritis.

	Pain score			
	Initially	After 2 weeks' treatment		
		Placebo	Rhus tox	Fenoprofen
On movement	53	61	58	42
At rest	27	35	35	22
At night	40	48	46	35
Paracetamol used	-	38	41	30

wear out after years of effort. Since this is a chronic condition which responds only partially to standard medical treatment, many patients have tried alternative therapies, including homeopathy.

The effectiveness of a homeopathic remedy called Rhus tox. 6x, derived from the poison oak (*Rhus toxicodendron*) was put to the test by a team of rheumatologists (arthritis specialists) from King's College Hospital, London in collaboration with homeopaths from London and Tunbridge Wells in England. They compared the effectiveness of this remedy with a standard drug used by rheumatologists (called fenoprofen) or a placebo in a double-blind controlled trial of 36 patients. The patients, who did not know what they were taking, assessed their own symptoms, especially pain at rest, pain on movement, and pain at night and counted the numbers of paracetamol pain-killers used. They reported their results in a paper<sup>27</sup> entitled "Controlled trial of homeopathic treatment of osteoarthritis". The results are summarised in Table 2. Clearly, patients had less pain and used less paracetamol when they were taking fenoprofen compared with either the placebo or the homeopathic remedy. They concluded that "Rhus tox 6x alone had no greater effect than placebo on the pain of osteoarthritic hips and knees".

A far less convincing trial by two homeopaths from the Royal London Homeopathic Hospital was reported in a standard medical journal called *Rheumatology*.<sup>28</sup> They compared a gel (like an ointment) made either from piroxicam (a drug similar to fenoprofen) or a homeopathic remedy made from comfrey (*Symphatum officinale*), poison ivy (*Rhus toxicodendron*) and marsh-tea (*Ledum palustre*). Both gels were

<sup>27</sup>Shiple M, Berry H, Broster G, Jenkins M, Clover A, William I. *The Lancet* i: 97-98, 1983

<sup>28</sup>van Haselen RA, Fisher PAG. A randomized controlled trial comparing topical piroxicam gel with a homeopathic gel in osteoarthritis of the knee. *Rheumatology* 39: 714-719, 2000

administered three times a week. The authors claimed that the homeopathic gel was at least as effective as piroxicam gel in pain relief. Although this was a double-blind trial, there was a major problem with this investigation. The drugs were administered topically, ie applied to the skin rather than systemically, ie swallowed allowing penetration to the inner parts of the knee. They did not prove that piroxicam gel applied in this fashion had any efficacy either. They had forgotten the fundamental rule and not used a placebo as well. One of the investigators, learnt this lesson in his next study of rheumatoid arthritis, as will be described in the next section.

#### *Rheumatoid arthritis*

However, the results in osteoarthritis stand in apparent contrast to findings in rheumatoid arthritis. This latter disease is a chronic inflammatory condition of the joints characterised by pain and stiffness in the joints, especially in the mornings, leading over the years to destruction of joints with resultant deformity and immobility.

A study was undertaken by investigators from the Glasgow Homeopathic Hospital and the centre for rheumatic diseases at the Glasgow Royal Infirmary in Scotland. They studied 46 patients divided into two groups. Each patient continued their standard medical treatment and were given either a placebo or one or more of 20 homeopathic remedies ranging from arnica to thuja. Someone who did not know the treatment assessed pain, tenderness, grip strength, duration of morning stiffness, swelling of fingers and an index of function. In addition, the patients and their doctors made assessments of whether or not improvement had occurred. The authors reported their results in a paper<sup>29</sup> entitled "Homeopathy therapy in rheumatoid arthritis: evaluation by double-blind clinical therapeutic trial". More patients given homeopathy thought that they had improved slightly. Independent assessment revealed no change in finger swelling but claims were made for significant improvements in pain, tenderness, stiffness and the functional index in patients treated with homeopathy. However, these results have to be viewed with considerable scepticism. Despite making measurements one and two months after initiating treatment, these results were not presented, possibly because they did not support the case the authors wanted to make. Furthermore, when data were given, only the mean values were indicated; this means no measure of variability was provided. As such, it is impossible for anyone to analyse the results independently and validate whether or not any differences that were seen could have occurred by chance. No self-respecting statistician could accept the authors' conclusion that "there was a significant improvement in subjective pain, articular index, stiffness and grip strength in those patients receiving homeopathic remedies". It is unlikely that with increasing recognition of the importance of

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<sup>29</sup>Gibson RG, Gibson SLM, MacNeill AD, Watson Buchanan W. *British Journal of Clinical Pharmacology* 9: 453-459, 1980

Table 3. First reported assessment of patients with fibrositis after treatment with *Rhus toxicodendron* preparation or placebo.

	Placebo	Homeopathic remedy
Mean number of tender points	14.1	10.6
Number of patients with improved pain or sleep	27	53

adequate statistical methods, that a paper such as this would now be published in the *British Journal of Clinical Pharmacology*.

Twenty years later, another study of the value of homeopathy in rheumatoid arthritis appeared. Dr Fisher from the Royal London Homeopathic Hospital, who conducted the study of osteoarthritis mentioned above, teamed up this time with DL Scott from the department of Rheumatology of Kings College Hospital, London. They studied 120 patients with rheumatoid arthritis who were receiving standard medical treatment to which the effects of adding one of two homeopathic remedies were investigated. The remedies were made from 32 plants plus sulphur diluted  $10^{-6}$  (6cH) and  $10^{-30}$  (30cH) times. They conducted a 6-month randomised, cross-over, double-blind, placebo-controlled trial. Notice that this time it was placebo-controlled. Fifty-eight patients completed the trial. In the words of the authors: "We found no evidence that active homeopathy improves the symptoms of RA (rheumatoid arthritis), over 3 months".<sup>30</sup>

### *Fibrositis*

Fibrositis means inflammation of the fibrous or connective tissues that join the muscles and bones together. Since it is difficult to actually demonstrate inflammation, this condition is sometimes termed fibromyalgia which means pains in the muscles and connective tissues.

Dr Peter Fisher, a homeopath, Dr EC Huskisson, a rheumatologist, Alison Greenwood, a nurse, and Professor Paul Turner, a clinical pharmacologist, all from St. Bartholomew's Hospital in London, England, joined forces with Dr Philippe Belon, director of research at the Laboratoires Boyon in Sainte Foy, Lyon, France to investigate the effectiveness of homeopathy in the treatment of this condition. Thirty patients were recruited from the rheumatology clinic and were treated with a placebo of lactose (a sugar) or *Rhus toxicodendron* 6c, ie an extract of poison ivy diluted  $10^{12}$  times in ethanol then made up in lactose tablets. Each patient was randomly assigned to be given one form of tablet in a dose of two tablets three times a day for one month then the treatment

<sup>30</sup>Fisher P, Scott DL. A randomized controlled trial of homeopathy in rheumatoid arthritis. *Rheumatology* 40: 1052-1055, 2001

was reversed and the other tablet was given for another month. The nurse, dignified with the title of “clinical metrologist” did not know which treatment had been given and assessed each patient for the number of tender spots and estimated the effect on pain and sleep. The authors reported their results in a paper<sup>31</sup> entitled “Effect of homeopathic treatment on fibrositis (primary fibromyalgia)”. They claimed that there was a significant reduction in the number of tender points and in the severity of pain or loss of sleep in those given the homeopathic remedy (Table 3).

It is surprising that the *British Medical Journal* should have accepted such a statistical presentation as no indication is given of the variability between patients in each group. Hence it is not possible to independently verify the statistical analysis to determine whether or not these findings were likely to have been found by chance. Further, the authors did not obey the rules of statistics and combined pain and sleep into one group whereas they should have examined each symptom independently. Besides, who knows how many other symptoms they assessed and failed to tell us about because they did not get a statistically significant answer.

In fact, the original data were re-analysed by D. Colquhoun of the department of pharmacology at University College Hospital, London after they had been given to him by Dr. Fisher and concluded that the trial “provides no firm evidence for the efficacy of homeopathic treatment of fibrositis”<sup>32</sup>. It is interesting that this re-analysis found its way not into the correspondence columns of the *British Medical Journal*, but into those of its competitor, *The Lancet*. Needless to say, Dr Fisher and his colleagues<sup>33</sup> did not agree with Colquhoun’s conclusion.

### **Can homeopathy eliminate warts?**

Most people are familiar with plantar warts (warts on the feet) even if they have not had one themselves. They occur mainly on the weight-bearing area of the soles. Because of the pressure, they bury themselves in the soles causing discomfort on walking. Since it has been suggested by a homeopath that homeopathic treatment can heal up to 80% of plantar warts, Dr Michael Lebreque and his colleagues from the department of family medicine at Laval University in Quebec, Canada, decided to investigate the claim.

They conducted a randomised double-blind placebo-controlled trial of 172 people. Patients were randomised to receive either homeopathic sugar pellets saturated with tincture of cedar diluted 30c administered weekly as well as pellets containing antimony

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<sup>31</sup>Fisher P, Greenwood A, Huskisson EC, Turner P, Belon P. *British Medical Journal* 299: 365-366, 1989

<sup>32</sup>Colquhoun D. Re-analysis of clinical trial of homeopathic treatment in fibrositis. *The Lancet* 336: 441-442, 1990

<sup>33</sup>Fisher P, Huskisson EC, Turner P, Belon P. *The Lancet* 336: 954, 1990

Table 4. Percentage of people whose warts were cured at various times after receiving either homeopathic treatment or a placebo.

Time of follow-up	Per cent cured	
	Homeopathy	Placebo
6 weeks	4.8	4.6
12 weeks	13.4	13.1
18 weeks	20.0	24.4

7c and nitric acid 7c both given daily under the tongue or identical placebos. Treatment was given for six weeks then the patients were followed for many weeks. The authors reported their results in a paper<sup>34</sup> entitled "Homeopathic treatment of plantar warts". The results of treatment after various periods are shown in Table 4. Clearly, there was no difference between the two groups and the authors concluded that "homeopathic treatment was no more effective than the placebo treatment of plantar warts".

Warts can occur on other parts of the body besides the feet, especially the hands. Dr Josef Smolle and his colleagues from the University of Graz in Austria decided to look at the effect of homeopathic preparations on warts on the hands of children. They conducted a randomised, double-blind placebo-controlled experiment in which children were either given a placebo or a homeopathic remedy chosen by a homeopath.<sup>35</sup> After 8 weeks, 9 of the 30 children in the homeopathy group and 7 of the 30 in the placebo group had at least a 50% reduction in area occupied by the warts. This difference is of course not statistically significant and the authors correctly concluded that homeopathic remedies were no better than placebo for this problem.

#### Does homeopathy help treat soft tissue injuries?

Homeopathic preparations made from the alpine plant, *Arnica montana*, have been alleged to help recovery from soft tissue injuries by controlling bruising and reducing swelling. There have been at least four placebo-controlled trials of homeopathic arnica in treating trauma and they have all been negative. A description of one will suffice.

Mr Stevinson and colleagues from the departments of complementary medicine and plastic and reconstructive surgery of the University of Exeter in the United Kingdom

<sup>34</sup>Labrecque M, Audet D, Latulippe LG, Dronin J. *Canadian Medical Association Journal* 146: 1749-1753, 1992

<sup>35</sup>Smolle J, Prause G, Kerl H. A double-blind, controlled clinical trial of homeopathy and an analysis of of lunar phases on post-operative outcome. *Archives of Dermatology* 134: 1368-1370, 1998

carried out a double-blind, placebo-controlled, randomised trial. 62 patients undergoing elective hand surgery were given either high (30C) or low (6C) potency arnica or placebo. There were no differences with regard to pain, bruising, swelling or the use of pain-killers. They concluded that “the results of this trial do not suggest that homeopathic arnica has an advantage over placebo”.<sup>36</sup>

### **Does homeopathy shorten diarrhoea?**

Acute diarrhoea, or frequent loose bowel actions, is a symptom that most of us have experienced. When it occurs in small children in third world countries, it is very dangerous as it may lead to dehydration and death. Indeed, diarrhoeal diseases are the leading cause of illness and death in children worldwide. In most instances, it is due to ingestion of pathogenic bacteria or sometimes viruses.

Homeopathic therapy is used to treat childhood diarrhoea in many parts of the world. Consequently, Dr Jennifer Jacobs and her colleagues, two of them being homeopaths, of the department of epidemiology and the international health program at the University of Washington in Seattle, United States of America undertook a trial. They studied 81 children aged 6 months to 5 years in León, Nicaragua. In addition to standard oral rehydration therapy (ie giving fluids by mouth), each child was randomised to receive either placebo or one homeopathic remedy which may have been arsenic, chamomile, mercury, podophyllin or sulphur for five days. Community health workers followed up the children each day and reviewed information about their stools that had been recorded on a card by their parents. The authors published their results in 1994 in a paper<sup>37</sup> headed “Treatment of acute childhood diarrhea with homeopathic medicine: a randomized clinical trial in Nicaragua”. They claimed that children treated with a homeopathic remedy had a decrease in duration of diarrhoea (defined as the number of days until there were less than 3 unformed stools daily for two consecutive days) and in the number of stools per day between the two groups 72 hours after initiation of treatment. The trouble with this sort of approach is that you can play around with figures in all sorts of ways until you get something that by chance is different. Figure 9 shows the number of bowel actions per day after beginning treatment.

I suggest that most observers would think that if there are any real differences, they are pretty paltry and unlikely to have much clinical relevance. This study, incidentally, was funded by the Boiron Research Foundation in Pennsylvania and the Standard Homeopathic Company of Los Angeles. One commentator remarked that she tried to remain open-minded when she read this article but was overwhelmed by the complexity

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<sup>36</sup>Stevinson, C, Devaraj VS, Fountain-Barber, Hawkins S, Ersnt, E. Homeopathic arnica for prevention of pain and bruising; randomized placebo-controlled trial in hand surger. *Journal of the Royal Society of Medicine* 96: 60-65, 2003

<sup>37</sup>Jacobs J, Jiménez M, Gloyd SS, Gale JL, Crothers D. *Pediatrics* 93: 719-725, 1994

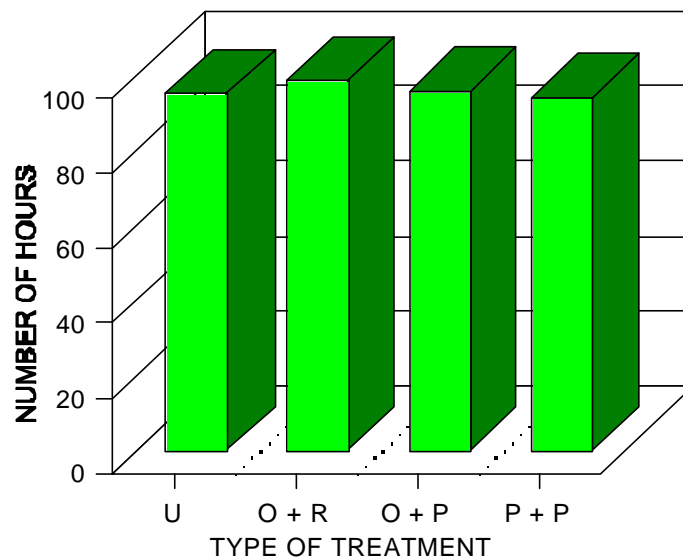


Figure 10. The number of hours to a bowel action after various types of intervention. U = untreated, O + R = homeopathic opium + raphanus, O + P = homeopathic opium + placebo, P + P = two placebos.

of the homeopathic prescribing process. What she asked, should one make of such symptoms as “one cheek red, other pale” or “blue circle under eyes”<sup>38</sup>? What indeed!

#### Is post-operative constipation relieved by homeopathy?

After abdominal surgery, the ability of the bowel to contract is temporarily impaired and patients may be unable to open their bowels or pass wind. This condition is known technically as “post-operative ileus”. In view of the increasing popularity of homeopathy, the French Ministry for Social Affairs set up a committee (Groupe de Recherches et d’Essais Cliniques en Homéopathie) to carry out controlled clinical trials.

They studied 250 patients who were randomly divided into four groups to receive either nothing, homeopathic opium diluted  $10^{30}$  times + homeopathic raphanus diluted  $10^{10}$  times, homeopathic opium + a placebo for raphanus, or two placebos. Homeopathic opium and homeopathic raphanus are two homeopathic remedies that are claimed to be effective for this condition. The preparations were given in a double-blind fashion four times daily until the first stool was passed. The number of hours until the first bowel action

<sup>38</sup>Berkowitz CD. Homeopathy: keeping an open mind. *The Lancet* 344: 701-702, 1994

is shown in Figure 10.

Clearly, there were no significant differences and the authors reported that their study “leads to the definite conclusion that the resumption of intestinal transit is not affected by placebo or opium, either alone or associated with raphanus in the concentrations studied”.<sup>39</sup>

### **Is homeopathy of any use for tinnitus?**

Tinnitus or ringing in the ears has been described in the chapter on acupuncture. JJ Simpson and colleagues from the department of pharmacology in the University of Birmingham in the United Kingdom examined the value of a homeopathic preparation called “Tinnitus” in a double-blind, placebo-controlled trial. They asked the patients to score the severity of their symptoms and conducted objective tests on the patients ability to hear. They found no significant differences between the homeopathic remedy and the placebo.<sup>40</sup>

### **Does homeopathy help vertigo?**

Vertigo or dizziness is usually due to a problem with the ears, especially the inner ear, but can also be caused by problems with the brain or its blood supply. In many cases, the problem resolves spontaneously, but sometimes it can be intractable and unresponsive to treatment. M Weisser and colleagues from Baden Baden in Germany compared the effectiveness of a homeopathic remedy called Vertigoheel with a drug called betahistine or betahistidine in 105 patients from 15 general practices in Germany. They showed that there was a similar reduction in the frequency, duration and severity of attacks in both groups in this randomised double-blind controlled trial.<sup>41</sup> Unfortunately, one cannot conclude from this study that the homeopathic treatment worked. Betahistidine has been used for decades in conventional medicine but there is next to no evidence that it actually works. If it were brought to the market these days, it would undoubtedly be rejected by the regulatory authorities on the basis of lack of evidence. Conventional medicine is not always perfect. All that Weisser’s study did was to compare one placebo with another.

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<sup>39</sup>Mayaux MJ, Guihard-Moscato ML, Schwartz D, Benveniste J *et al.* *The Lancet* i:528-529, 1988

<sup>40</sup>Simpson JJ, Donaldson I, Davies WE. Use of homeopathy in the treatment of tinnitus. *British Journal of Audiology* 32: 227-233, 1998

<sup>41</sup>Weisser M, Strosser W, Klein P. Homeopathic vs conventional treatment of vertigo: a randomised double-blind control clinical study. *Archives of Otolaryngology, Head and Neck Surgery* 124: 879-885, 1998

**Is homeopathy of any use in cancer?**

Many patients with cancer use homeopathic medicines. Is homeopathy an alternative treatment for potentially curable cancers? Dr ICM Paterson in a “personal view” paper wrote “the answer to this question is an emphatic ‘No’”, because there is no published evidence supporting its use.<sup>42</sup> He then went on to ask whether homeopathy is of value as an adjuvant, ie addition to standard treatment or as a palliative, ie when a patient is dying. Again, there is no convincing evidence to support its use.

**Does homeopathy have a place in the management of diseases of women?**

Homeopathy is used by many women as a means of relieving premenstrual symptoms, of inducing labour with caulophyllum, and for treating symptoms of the menopause. Reviews of each situation have concluded that there is no evidence to support their use.<sup>43,44,45</sup>

**What about homotoxicology?**

Homotoxicology is a treatment that uses homeopathically diluted remedies to eliminate toxins from the body. It is not based on accepted scientific principles or biological plausibility. Drs Ernst and Schmidt from the department of complementary medicine of the Universities of Exeter and Plymouth recently reviewed all the available literature. They found that “placebo-controlled, randomised clinical trials of homotoxicology fail to demonstrate the efficacy of this therapeutic approach”.<sup>46</sup>

**Reviews of the literature**

In 1990, Drs Hill and Doyon from the Institut Gustav Rouszy in Villejuif and INSERM in France reviewed all the randomised trials of homeopathy they could find that had been undertaken until that time. Their search was based upon scanning the medical literature and correspondence with various experts and homeopathic drug manufacturers. They

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<sup>42</sup>Paterson ICM. Homeopathy: what is it and is it of value in the care of patients with cancer. *Clinical Oncology* 14: 250253, 2002

<sup>43</sup>Stevinson C. Complementary/alternative therapies for premenstrual syndrome: a systematic review of randomized controlled trials. *American Journal of Obstetrics and Gynecology* 185: 227-235, 2001

<sup>44</sup>Smith CA. Homeopathy for induction of labour. *Cochrane Database Systematic Reviews* CD003399, 2003

<sup>45</sup>Thompson EA. Homeopathy and the menopause. *British Menopause Society* 8: 151-154, 2002

<sup>46</sup>Ernst E, Schmidt K. Homotoxicology – a review of randomised clinical trials. *European Journal of Clinical Pharmacology* 9: 2004 (Epub ahead of print)

reported their findings in a paper<sup>47</sup> entitled "Review of randomized trials of homeopathy". They found 40 randomised trials but considered that there was not acceptable evidence that homeopathic treatment was of any benefit, despite the conclusion of many of the individual reports. The three largest trials were well done - two were negative and one was positive. The other trials had major flaws including very small numbers of patients and biased exclusions of patients. They concluded that "the results do not provide acceptable evidence that homeopathic treatments are effective".

In the following year, Dr Jos Kleijnen, Prof Paul Knipschild and Dr Gerven ter Riet from the department of epidemiology and health care research at the University of Limburg in Maastricht, The Netherlands, published their own review<sup>48</sup> in the *British Medical Journal*. They conducted an extensive search and submitted 107 trials to what they called a meta-analysis, that is a critical statistical review of all published trials on the subject. They scored the trials according to their assessment of whether or not the trial was well-performed. They remarked that most of the trials seemed to be of very low quality although there were exceptions. They believed that there was a positive trend regardless of the quality of the trial or the variety of homeopathy used with 81 trials indicating positive results and 24 no positive results. They concluded that despite the low methodological quality of most trials and the unknown effect of publication bias, "there is a legitimate case for further evaluations of homeopathy".

Naturally enough, their article brought forth criticisms. For example, Dr Michael Baum<sup>49</sup> from the Clinical Trials Centre, King's College, London refuted their claim that they had done a meta-analysis and castigated their "invented" scoring system. Likewise, Dr Fisher and colleagues<sup>50</sup> from St Bartholomew's Hospital, London criticised Dr Kleijnen and partners for not adequately assessing the credibility of the publishing journals or taking into account peer review of the articles. Similarly, Dr Peter Gøtzsche<sup>51</sup> of the department of rheumatology in Hvidovre Hospital in Denmark believed that so-called benefits of homeopathy were due to bias. He wrote:

"Rather than accepting the absurd idea that placebo can be better than itself, or that water can remember what was once in it, it seems more realistic to assume that the positive results in the homeopathy trials were caused by bias. An example from rheumatology may be illustrative."

He then went on to give instances comparing various old and new drugs for the treatment of arthritis and concluded that massive bias had been produced in various trials during data analysis and report writing.

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<sup>47</sup>Hill C, Doyon F. *Revue de l'Épidémiologie et Santé Publique* 38: 139-147, 1990

<sup>48</sup>Kleijnen J, Knipschild P, ter Riet G. Clinical trials of homeopathy. *British Medical Journal* 302: 316-323, 1991

<sup>49</sup>Baum M. Trials of homeopathy. *British Medical Journal* 302: 529, 1991

<sup>50</sup>Fisher P, Huskisson EC, Scott DL, Whitmarsh TE. *British Medical Journal* 302: 727, 1991

<sup>51</sup>Gøtzsche P. Trials of homeopathy. *The Lancet* 341: 1533: 1993

But the issue still would not go away. *The Lancet* seems to have a peculiar fascination with homeopathy and in 1997 published yet another meta-analysis, this time emanating from Germany and the USA.<sup>52</sup> The authors concluded that “the results in our meta-analysis are not compatible with the hypothesis that the clinical effects of homeopathy are completely due to placebo”. This article was accompanied by not one but two editorials. One remarked that a randomised trial of a “solvent only” versus “infinite dilutions” is simply a game of chance between two placebos.<sup>53</sup> The other questioned the diversion of significant resources to support these trials when there is no rational basis for homeopathy.<sup>54</sup> A couple of years after this, Linde and colleagues from the Centre for Complementary Medicine Research from the University of Technology in Munich, Germany who wrote the 1997 *Lancet* review alluded to above, re-considered the matter. This time they appear to have changed their minds for they reviewed 89 placebo-controlled trials and concluded that the better the methodology of the study, the less likely were there to be any positive results in favour of homeopathy.<sup>55</sup>

In 2002, Dr Ernst from the department of complementary medicine in the University of Exeter in England decided to review all the reviews! His conclusion? “The best clinical evidence for homeopathy available to date does not warrant positive recommendations for its use in clinical practice”.<sup>56</sup> This could be translated as “it doesn’t work”. Similarly, Jonas and his colleagues, in their review, concluded that there is a lack of conclusive evidence for the effectiveness of homeopathy for most conditions.<sup>57</sup> Some people are hard to convince. Gene Feder, a professor of primary care research and development, and a paid consultant to a company that manufactures homeopathic medicines, wrote recently in the *British Medical Journal*: “there is still a role for pragmatic trials comparing the effect and cost effectiveness of orthodox and homeopathic treatments”.<sup>58</sup> One wonders why!

### Are there any problems with acupuncture?

If homeopathic remedies are merely water, then it stands to reason that there should not

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<sup>52</sup>Linde K, Clausius N, Ramirez G *et al.* Are the clinical effects of homeopathy placebo effects? A meta-analysis of placebo-controlled trials. *The Lancet* 350: 834-840, 1997

<sup>53</sup>Vandenbroucke JP. Homeopathy trials: going nowhere. *The Lancet* 350: 824, 1997

<sup>54</sup>Langman MJS. Homeopathy trials: reason for good ones but are they warranted. *The Lancet* 350: 825, 1997

<sup>55</sup>Linde D, Scholz M, Ramirez G *et al.* Impact of study quality on outcome in placebo-controlled trials of homeopathy. *Journal of Clinical Epidemiology* 52: 631-636, 1999

<sup>56</sup>Ernst E. A systematic review of systematic reviews of homeopathy. *British Journal of Clinical Pharmacology* 54: 577-582, 2002

<sup>57</sup>Jonas WB, Kaptchuk TJ, Linde K. A critical overview of homeopathy. *Annals of Internal Medicine* 138: 393-399, 2003

<sup>58</sup>Feder G, Katz T. Randomised control trials for homeopathy; who wants to know the results? *British Medical Journal* 324: 498-499, 2004

Table 2. Conditions for which efficacy of homeopathy is claimed (+) in a range of books<sup>59,60,61,62</sup> on alternative medicine. Diseases marked in bold have been formally tested and are described in this chapter.

	Fulder	Inglis	Readers' Digest	Stanway
almost anything except severe infections				+
almost anything except conditions requiring surgery		+		
<b>allergy</b>	+			
<b>arthritis</b>	+		+	
<b>asthma</b>	+		+	
<b>colds</b>			+	
<b>cramps</b>			+	
<b>conjunctivitis</b>			+	
<b>constipation</b>				
cystitis			+	
dermatitis	+		+	
<b>diarrhoea</b>				
digestive upsets	+		+	
<b>fibrositis</b>				
gall-bladder disease	+			
<b>hay fever</b>				
<b>headache</b>	+		+	
haemorrhoids			+	
heartburn			+	
<b>influenza</b>	+		+	
migraine	+		+	
motion sickness			+	
nervous disorders			+	
nosebleeds			+	
obesity			+	

<sup>59</sup>Fulder S. *The handbook of complementary medicine*. Oxford University Press, Oxford, 1988

<sup>60</sup>Inglis B, West R. *The alternative health guide*. Michael Joseph, London, 1983

<sup>61</sup>*The Reader's Digest guide to alternative medicine*. Reader's Digest, Sydney, 1992

<sup>62</sup>Stanway, A. *Alternative medicine: a guide to natural therapies*. Chancellor Press, London, 1986

	Fulder	Inglis	Readers' Digest	Stanway
sciatica	+		+	
sprains			+	
sunburn			+	
stress			+	
<b>tinnitus</b>			+	
<b>tonsillitis</b>			+	
tiredness			+	
ulcers	+			
<b>warts</b>				

be any troublesome side-effects. What is potentially dangerous, though, is if ineffective homeopathic remedies are used in place of effective medical or surgical treatments in patients with serious illnesses.

#### **Awaiting judgement**

Homeopaths are pretty confident. They claim that they can help almost anything except conditions requiring surgical correction or severe infections. Perhaps they are reticent about these latter conditions because it is so clear in these illnesses that homeopathy is worthless. No-one dares to claim effectiveness for homeopathy in these circumstances because they would soon be shown to be completely wrong and if the patient were to die, they may be found liable. In this chapter, I have recounted those studies that have appeared to date in the orthodox medical literature. As you can see, more than a dozen conditions that have been formally examined (Table 2).

#### **Conclusions**

Interest in homeopathy has undergone an enormous revival in the past few years. So much so, that there are now controlled studies investigating the effectiveness of homeopathic remedies reported in the orthodox medical literature. The weight of evidence is that they are no better than a placebo. Several studies have suggested a slight benefit of homeopathy. However, these benefits were marginal and of little clinical significance. Moreover, it is likely that these results were obtained by chance. Certainly, there have been no double-blind placebo-controlled trials repeated by an independent set of investigators that have reproduced any positive results.

Nevertheless, homeopathic remedies may have a powerful placebo effect and this may be of some benefit. Much of this could reflect the great interpersonal skills of many homeopathic practitioners who have the ability and take the time to communicate

effectively with their patients.

Robert Buckman, a medical oncologist (cancer specialist), in dialogue with George Lewith, a homeopath, succinctly summarised the state of affairs:

“This question is now so polarised that supporters of homeopathy will never believe negative evidence, and sceptics believe there is no reproducible positive evidence”<sup>63</sup>

Others, such as the Dutch Union against Quackery<sup>64</sup> or Dr W. Hopff<sup>65</sup> of the pharmacological institute of the University of Zurich in Switzerland, dismiss the whole concept as simply absurd. I suspect that orthodox doctors are not going to waste much more time examining the extravagant and seemingly nonsensical claims of homeopathy. In the immortal words of William Shakespeare, homeopathy seems to be:

## Much ado about nothing

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<sup>63</sup>Buckman R, Lewith G. What does homeopathy do - and how? *British Medical Journal* 309: 103-106, 1994

<sup>64</sup>Renckens CNM. Trials of homeopathy. *The Lancet* 341: 1533-1534, 1993

<sup>65</sup>Hopff WH. Homöopathie eine Irrlehre? *Monatsschrift Kinderheilkunde* 141: 241-247, 1993