

Harmless homeopathy?

"Homeopathic remedies are used by many rheumatological patients ... There is no compelling evidence that they are effective beyond a placebo effect."

Homeopathy is a school of medicine that relies on the 'like cures like' principle. Most homeopathic remedies (i.e., all beyond a 12C 'potency') are so dilute that they do not contain a single active molecule. Despite its biological implausibility, homeopathy is again highly popular. During the past 5 years (2002–2007), UK sales of homeopathic remedies have increased by 24% [101]. Homeopaths treat mostly chronically ill patients, including many who are suffering from rheumatologic conditions [1]. The reasons for the popularity of homeopathy are diverse and range from frequently misleading information for the public, to the fact that patients tend to highly value the empathetic and lengthy encounter with clinicians. Crucially, the notion that it cannot cause harm is widespread. For key facts about homeopathy see Box 1.

The evidence

The trial data pertaining to homeopathy as a treatment of rheumatic conditions have recently been reviewed in some detail [2]. TABLE 1 summarizes the evidence available to date [3–7]. Only two studies exist that have tested the effectiveness of homeopathy as a treatment of fibromyalgia [3,4]. They found encouraging results, but two studies are clearly not enough for drawing firm conclusions. For osteoarthritis, the data are contradictory [5] and, for rheumatoid arthritis, the majority of the available trials are negative [6,7]. Thus, there is a paucity of reliable trials and a lack of independent replication. Different rheumatic conditions have different underlying pathogenesis. Therefore, a treatment might work for one but not for another disease. However, the totality of the available evidence fails to conclusively demonstrate that homeopathy is effective beyond a placebo effect for any rheumatic conditions. This is, of course, in stark contrast to an upcoming WHO report, which apparently concludes that "the evidence was positive for rheumatic diseases" [8].

The assumption that homeopathy can do no harm is widespread; the absence of an active ingredient in homeopathic remedies seems to signal absence of any risk. Yet there are several different ways in which homeopathy could harm patients.

Homeopathy as an alternative medicine

When Hahnemann developed homeopathy, he was adamant that it should be used as a replacement of conventional medicine. He even called homeopaths that used it alongside mainstream treatments 'traitors' [9]. In Hahnemann's time this, perhaps, made some sense – many conventional therapies were more dangerous than the diseases they sought to cure. Today this is no longer the case, and most homeopaths therefore use their remedies as a complement rather than an alternative to mainstream medicine – most, but by no means all. Whenever patients with a serious condition opt to employ homeopathy instead of effective interventions, harm is almost unavoidable. However, at present, there is no systematic research of this issue with respect to rheumatological diseases.

A relatively well-investigated example of homeopathy replacing effective interventions is the negative attitude of many 'professional' (i.e., not medically trained) homeopaths towards immunizations. Consulting professional homeopaths and following their advice have now become major reasons for parents to not immunize their children (doctor homeopaths and their professional organizations are often not against immunizations). If this trend continues, we will lose herd immunity from infectious diseases, and epidemics from the past will be the likely consequence [10]. Some homeopaths recommend using homeopathic remedies as an alternative to immunizations. Helios (Tunbridge Wells, Kent, UK), a major UK manufacturer, sells over a dozen



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Box 1. Ten key facts regarding homeopathy.

- Developed by the German physician Samuel Hahnemann (1755–1843)
- Hugely popular in the 19th century
- Originally advocated as a true alternative to (i.e., replacement of) conventional treatments
- Presently again popular in the context of a boom in ‘alternative medicine’
- Now mostly (but not exclusively) used as an adjunct to conventional treatments
- Based on two main principles:
 - Like cures like
 - Ultra-high dilutions
- Clinical practice involves elaborate, lengthy and empathetic history taking, which maximizes placebo effects
- Prescriptions are highly individualized
- Approximately 150 controlled clinical trials exist
- The totality of this evidence fails to demonstrate effectiveness beyond placebo

‘homeopathic vaccinations’. However, there is no good evidence to suggest that these treatments are effective.

Unethical placebo

In defense of homeopathy, some might argue that it is useful for many patients through maximizing the placebo effect. Placebo and other nonspecific effects have been shown repeatedly to benefit patients, for example, see [11,12]. A typical homeopathic consultation lasts approximately an hour. Homeopaths ask a myriad of questions regarding matters that conventional doctors would find trivial or meaningless. However, many patients feel warmly understood and like the idea of a remedy tailor-made for the complexity of their illness. Therefore, patients’ health may improve simply due to expectation, empathy and time. Many rheumatologists might view such effects as welcome.

However, they are not always positive. As pointed out previously, the placebo response can be at the expense of forfeiting an effective therapy, particularly if the homeopath is not medically trained. Moreover, the placebo response is unreliable and usually of short duration. In addition, we should not forget that effective treatments also generate a placebo response and that conventional doctors can (and should) also be sympathetic and empathetic. Crucially, the homeopathic placebo response is only possible if the most fundamental rules of medical ethics are violated. Informed consent of patients would mean that patients are being informed regarding the lack of plausibility of homeopathy and the unconvincing clinical

evidence in this area. If such information were provided, most patients may opt not to use homeopathy and, in those who nevertheless do, the placebo response would disappear.

Unreliable research

Homeopaths have published several ‘studies’ with impressive sample sizes apparently showing that homeopathy does, after all, work. For instance, Spence *et al.* published an observational study including a large number of patients (n = 6544) with diverse diseases. A total of 10% of these patients suffered from rheumatological conditions. They were treated with homeopathic remedies and various conventional treatments. The majority (71%) of these patients later stated that they had improved and the authors strongly implied that this improvement was due to homeopathy [1].

“...many patients are led to believe that homeopathy is supported by good science. The opposite is true, but few lay people will appreciate the often complex issues of research methodology.”

To claim that “homeopathic intervention offered positive health changes” [1] or to conclude that “the study results show that homeopathic treatment is a valuable intervention” [1] is misleading. To mislead patients can cause harm. The findings of such studies are invariably widely reported (e.g., in the lay press). Consequently, many patients are led to believe that homeopathy is supported by good science. The opposite is true, but few lay people will appreciate the often complex issues of research methodology. The outcome of such studies can, of course, be ‘positive’, in the total absence of any specific therapeutic effects, due to a range of factors: regression to the mean, natural history of the disease, placebo effects, concomitant treatments, social desirability and so on [13]. If, in clinical trials, these factors are accounted for, homeopathic remedies are regularly shown to be pure placebos [14,15].

Adherence to ethical standards

Most British professional homeopaths are registered in The Society of Homeopaths (SoH). To be a member of that body, a practitioner has “agreed to be bound by and observe [the] Code of Ethics, and supply the Society with a signed statement to witness this agreement” [102]. The

Table 1. Evidence relating to homeopathy as a treatment of rheumatic conditions.

Condition	Type of evidence	Findings	Conclusion	Ref.
Fibromyalgia	RCT	n = 30, <i>rhus toxicodendron</i> was superior to placebo for some end points	Not enough trial data available	[3]
	RCT	n = 62, individualized homeopathy was superior to placebo for symptomatic improvement		[4]
Osteoarthritis	SR	Four RCTs with a total of 406 patients, two RCTs suggested effectiveness while two failed to do so	No firm conclusions possible	[5]
Rheumatoid arthritis	SR	Three RCTs with a total of 266 patients, one RCT suggested effectiveness, while two failed to do so	The majority of the available trial data fail to suggest effectiveness	[6]
	RCT*	Failed to generate a positive result		[7]

*Published after the systematic review.

RCT: Randomized, controlled trial; SR: Systematic review.

code sets out the ethical rules by which members must abide. They include the following statements [103]:

- “All speculative theories will be stated as such and clearly distinguished”
- “No advertizing may be used which expressly or implicitly claims to cure named diseases”
- “Advertizing shall not be false, fraudulent, misleading, deceptive, extravagant or sensational”

The SoH’s own website includes the following assertions [103]:

- “...Homeopathic remedies ... work by gently boosting the natural energy of the body”
- “Children respond exceptionally well to homeopathic treatment...”
- “Homeopathic remedies ... work at an energetic level, stimulating the body’s own healing abilities...”
- “Homeopathy can help boost your child’s natural immunity” (this assertion was made in the context of childhood vaccination)

Most homeopathic remedies are highly dilute and have no pharmacological effects. Their mode of action (if any) is unknown and even proponents of homeopaths admit ‘we don’t know’ [16]. There is no good evidence to show that homeopathy remedies affect the immune system of children. A recent systematic review has failed to produce good evidence that it works particularly well for pediatric patients [17]. The above-listed statements [103] are therefore highly speculative. However, contrary to what the SoH’s Code of Ethics demands [102], they are not ‘clearly distinguished’ as such.

On the same website [103], we also find a plethora of therapeutic claims (Box 2).

None of these statements are supported by good evidence [14]. They do ‘expressly or implicitly’ claim “to cure named diseases”, and therefore violate the SoH’s Code of Ethics [102]. They are also misleading and therefore potentially harmful.

Conclusion

Homeopathic remedies are used by many rheumatological patients [1]. There is no compelling evidence that they are effective beyond a placebo effect. Rheumatic patients might be harmed in a variety of ways through homeopathy. The UK government’s chief scientific adviser, Sir David King, recently even warned that homeopathic remedies put lives at risk [104]. The risk–benefit profile of homeopathy as a treatment of rheumatic diseases is not demonstrably positive.

Box 2. A selection of therapeutic claims of The Society of Homeopaths’ website.

- “Homeopathy can help with unwanted side-effects of medication ... [and] lessen or even remove the need for some or all of your existing medication”
- “Homeopathy treats ... acute fevers, sore throats and toothache, and chronic illness such as arthritis, eczema, asthma, anxiety and insomnia”
- “Nux vomica 6c ... [is] a marvellous hangover remedy”
- “Chicken pox ... can be treated at home with homeopathic remedies”
- “Homeopathy is an alternative to hormone replacement therapy”
- “Acute conditions [of children] such as ear infection, tonsillitis and flu, can be resolved rapidly using the right remedies”
- “...Homeopathy ... can lessen the chance of side effects from vaccination”

Taken from [103].

Summary

Most homeopathic remedies do not contain any active molecules. Therefore, homeopathy is often considered to be devoid of risk. This article questions this assumption. It is argued that homeopathic remedies have not been shown to be effective; using them as a replacement of effective treatments can therefore cause harm. Using them as a placebo may be unethical. Furthermore, misleading information about homeopathy may put patients at risk. The overall conclusion is that the risk–benefit profile of homeopathy is not demonstrably positive.

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Future perspective

Currently the evidence fails to show that homeopathy generates more good than harm. Future research needs to scrutinize the value of homeopathy according to generally accepted scientific standards. If homeopathy does not meet these criteria, it will become obsolete.

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