

# Commentary

## The truth about homeopathy

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In this issue, Paris *et al.* [1] report a clinical trial showing that homeopathy is not better than placebo in reducing morphine consumption after surgery. Proponents of homeopathy would object to this statement. Even though the study was well-made, it did only suggest that a certain homeopathic remedy fails to be effective for a certain type of pain. Other homeopathic medicines might be effective and other types of pain might have produced different results. There are hundreds of different homeopathic remedies which can be prescribed for thousands of symptoms in dozens of different dilutions. Thus we would probably need to work flat out for several lifetimes in order to arrive at a conclusion that fully substantiates my opening statement.

This seems neither possible nor desirable. Perhaps it is preferable to simply combine common sense with the best existing knowledge. These two tell us that 1) homeopathy is biologically implausible, 2) its own predictions seem to be incorrect and 3) the clinical evidence is largely negative. Let me explain.

The main axioms of homeopathy are that 1) 'like can be cured with like' and that 2) less is more. According to the first axiom, a substance that causes certain symptoms in healthy volunteers is a cure for such symptoms in patients. The 'less is more' axiom posits that, if we dilute and shake a remedy, it becomes not weaker but stronger. The process is therefore aptly called 'potentiation' by homeopaths. Homeopaths believe that the most potent remedies are those that have been potentized to the point where no 'active' molecule is left. Samuel Hahnemann, the father of homeopathy, might be forgiven for developing these concepts some 200 years ago. Today, however, we know a lot more, and comprehend that they are not in line with much that science has taught us. Yet

today's followers of Hahnemann's doctrines seem to prefer mystical thinking to science.

Even homeopathy's own predictions seem to be incorrect. In order to know which remedy is effective in which situation and to apply the law of similars, homeopaths need to test each of their medicines on healthy volunteers and minutely record the symptoms it may cause. This process is called 'proving'. During the last 200 years, many such provings have been reported. A remedy is given to a group of volunteers who then record their experience. One may well ask whether the results are reliable. One could, for instance, investigate whether the symptoms reported are different from those caused by a placebo. Assessing the totality of these provings in a systematic review, homeopaths were recently surprised to find that 'the central question of whether homeopathic medicines in high dilutions can provoke effects in healthy volunteers has not yet been definitively answered' [2].

Another prediction homeopaths believe in is that of homeopathic aggravations. These are acute exacerbations of the patient's presenting symptoms after receiving the optimal remedy. Homeopaths expect these phenomena to occur in ~20% of all patients. When we scrutinized placebo-controlled trials of homeopathy, however, we found that aggravations did not occur more frequently in the verum than in the control group [3]. The likely explanation seems to be that this prediction is based on a myth.

The acid test, of course, is a clinical trial of the type conducted by Paris *et al.* [1]. Is the patients' response to homeopathy truly more than a placebo effect? Many investigators have asked that crucial question. As one might expect, the answers are far from uniform. Some trials are negative, some are positive, but very few are

rigorous. In this situation, it would be foolish to rely on the results of just one or two studies. What is needed is a systematic review of all studies of acceptable methodological quality. Dozens of such reviews are available today. The vast majority of those that are rigorous conclude that homeopathic medicines fail to generate clinical effects that are different from those of placebo [4–6].

Yet many patients swear by homeopathy and homeopaths insist they witness therapeutic success every day of their professional lives [7]. The discrepancy between the trial and the observational data continues to be hotly debated. Personally, I find this somewhat puzzling. The explanation seems obvious: patients often do improve for a number of reasons unrelated to any specific effect of the treatment we prescribe [8]. Amongst all the placebos that exist, homeopathy has the potential to be an exceptionally powerful one – think, for instance, of the individualized remedies or the long and empathic encounter between patient and therapist.

So the conundrum of homeopathy seems to be solved. ‘Heavens!’ I hear the homeopathic fraternity shout. ‘We need more research!’ But are they correct? How much research is enough to show that any treatment does not work (sorry, is not superior to placebo)? Here we go full circle: should we really spend several lifetimes in order to arrive at a more robust conclusion?

Perhaps one should ask the proponents of homeopathy and the best minds in medical research to design a comprehensive but finite research programme to determine the truth. As long as both camps agree at the outset to accept the results, this might be a feasible way of ending a 200 year old dispute. Most readers and even many homeopaths will be surprised to learn that that has already happened! During the Third Reich the (mostly pro-homeopathy) Nazi leadership wanted to solve the homeopathy question once and for all. The research programme was carefully planned and rigorously executed. A report was written and it even survived the war. But it disappeared nevertheless – apparently in the hands of German homeopaths. Why? According to a very detailed eye-witness report [9–12], they were wholly and devastatingly negative.

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