



Randomised controlled trials for homoeopathy

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it comes to assessing risk experts are no better than the population at large.⁷ This is mainly because assessing risk is not simply a matter of statistics: it also involves factoring in the "horror" of the risk. A very low or perhaps highly uncertain risk of a dreadful outcome may feel to the public like a high risk—and who is to say that it isn't? It may even be—as the proponents of "lay epidemiology" argue⁸⁻⁹—that the public is good at combining confused and conflicting information to reach a conclusion.

The first argument against the government giving way is the scientific case that more choice is likely to lead to lower levels of protection and more infections. Another argument is that giving way to the few may cause harm to the many. The result of one set of parents deciding not to get their children vaccinated may be that somebody else's child suffers brain damage from measles. The doctors who watched the young Jehovah's Witness die went along with undoubted harm to the man's young children, but the scale is quite different with public health problems.

MMR vaccine is not the only example of authorities and the public taking different views. A dispassionate examination of the evidence suggests that routine screening for prostate cancer with prostate specific antigen may cause more harm than good.¹⁰ But—particularly in the United States—those who argue that case may find themselves howled down and abused.¹¹ Many men, particularly those who have had prostate cancer, resent greatly any attempt to restrict the availability of the test. Arguments over the effectiveness of mammography are more complicated because there are experts and patients on both sides.¹² Although the big money is on one side, a united patient view might eventually prevail. Views of patients are certainly beginning to prevail with chronic fatigue syndrome. England's chief medical officer took the bold step of setting up a working party on the condition that included every shade of opinion.¹³ One result was that

half the members resigned before the working party reported but another was that the patient view, based on what experts see as anecdote, was given the same credibility as the evidence based view.¹⁴⁻¹⁵

This is the way that the world is going. It's called postmodernism. There is no "truth" defined by experts. Rather there are many opinions based on very different views and theories of the world. Doctors, governments, and even the *BMJ* might hanker after a world where their view is dominant. But that world is disappearing fast.

Richard Smith *editor, BMJ*

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Randomised controlled trials for homoeopathy

Who wants to know the results?

Why should you read about a trial comparing homoeopathic treatment to placebo? If you prescribe homoeopathic medicines a trial will not influence your prescribing decisions because most trials of homoeopathic medicines do not individualise treatment, the hallmark of homoeopathic practice. If they do¹ it is difficult to apply the results to individual treatment decisions in practice. Moreover randomisation and blinding of participants substantially distorts the context of homoeopathic prescribing, potentially weakening its effect. If you do not prescribe homoeopathic medicines you will not use the results directly in your practice, so why take any interest in such trials? One reason could be that every year 8.5% of adults in the United Kingdom and 4% in the United States use a homoeopathic medicine.² It is also possible to refer patients to homoeopathic specialists in the NHS or refer to general practitioners who prescribe homoeopathically within a practice or primary care trust. The number of such referrals is growing.

The study by Lewith and colleagues (p 520) in this issue joins the pool of good quality placebo controlled trials and no doubt will take its place in the next meta-analysis.³ It is a negative trial in patients with asthma, showing no difference in lung function or their asthma-specific quality of life between those treated with placebo and those who received ultradiluted allergen. It is a test of isopathy (the use of homoeopathically prepared allergens to treat allergies), not a test of homoeopathy as such. The study was designed to replicate a previous trial by Reilly et al using the same intervention.⁴ The main differences between this and previous trials are the outcome measures and duration of treatment, which may account for the different result, although chance is another explanation.

Most trials of homoeopathy have a different function from those in orthodox medicine: their underlying rationale is to test whether homoeopathic medicines have any clinical effect greater than placebo. Without evidence of such an effect, it is difficult for

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orthodox clinicians to justify referral to homoeopathic services. The use of randomised controlled trials to test the legitimacy of homoeopathic treatments is the latest chapter in an ideological and scientific struggle between homoeopathy and orthodox medicine going back to the 19th century.⁵ The fervour of this struggle is reflected in the 58 electronic responses to another trial of homoeopathy reported in the *BMJ*.⁶

Are the results of placebo controlled trials in homoeopathy convincing? Linde et al's meta-analysis of 89 trials suggests an effect of homoeopathic medicines greater than placebo.⁷ The aggregated effect size of homoeopathic treatments, when possible publication bias is taken into account or only high quality trials are included, is modest.⁸ How seriously clinicians take these findings depends on their prior beliefs.⁹ If you cannot conceive of highly diluted solutions with undetectable drug concentrations having a biological effect, then no matter how well designed the trial or robust the meta-analysis, a positive result will not change your view. If you are less concerned about the integrity of our model of the universe or are intrigued by controversial laboratory work showing the activity of highly diluted histamine solutions¹⁰ than the overall positive result of the trials makes it easier to take homoeopathy seriously.

Despite homoeopathy's popularity with patients, orthodox medicine has had the upper hand in terms of institutional support, research funding, and strong evidence of effectiveness. Nevertheless, the flurry of trials in the past 20 years has changed the terms of the debate. At the very least, those who consider homoeopathy to be absurd have had to muster different philosophical and methodological arguments to defend their position. Randomised controlled trials may be efficient arbiters of clinical effectiveness, but they are not particularly good for resolving philosophical disputes.

Current trials are of a high methodological standard and, if positive, may sway agnostics. Opponents of homoeopathy have made it clear that no number of well designed trials showing an effect greater than placebo will overcome their prior belief that homoeopathy cannot work. Research funding is a scarce resource. Unlike other commentators in this journal,¹¹ we believe that new trials of homoeopathic medicines against placebo are no longer a research priority. The question whether ultramolecular dilutions can have any measurable physical effect, a scientific rather than philosophical

question, is best tackled with laboratory methods. However, there is still a role for pragmatic trials comparing the effect and cost effectiveness of orthodox and homoeopathic treatments. Within the homoeopathic medical community and other groups that use homoeopathy, such as anthroposophical physicians,¹² there is a call for outcome studies to evaluate the individualised treatment decisions that are at the heart of their clinical method and compare outcomes to orthodox treatment.¹³

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Brain drain and health professionals

A global problem needs global solutions

Migration of medical professionals from developing countries has become a major concern. This brain drain worsens the already depleted healthcare resources in poor countries and widens the gap in health inequities worldwide. It is time that international organisations collaborated to protect the value of this "intellectual property": where medical professionals cannot be dissuaded from moving, the country that trained them should at least gain from their movement.

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In Africa alone, where health needs and problems are greatest, around 23 000 qualified academic professionals emigrate annually.¹ Information from South African medical schools suggests that a third to a half of its graduates emigrate to the developed world.² The loss of nurses has been even more extreme—for example, more than 150 000 Filipino nurses³ and 18 000 Zimbabwean nurses⁴ work abroad. A recent report from the United Kingdom estimated that 31% of its doctors and 13% of its nurses are born overseas; in