

## Examining reasons for divergence in interpretation of the evidence base for homeopathy

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Synopsis of **'Plausibility and evidence: the case of homeopathy'**. Rutten L, Mathie RT, Fisher P, Goossens M, van Wassenhoven M. *Med Health Care Philos.* 2013, 16(3): 525-32.

This paper is not just an overview of the systematic reviews, meta-analyses and other reports on homeopathy; rather it directly addresses the disagreement around interpretation of the results of these studies. Rutten and his co-authors are doctors and scientists with an interest in homeopathy, committed to scientific method in researching and practising it. All are qualified in medicine and science and started practising these in conventional contexts, gradually becoming convinced that homeopathy is an effective option, supplementary to rather than conflicting with conventional medicine.

The article provides a discussion of the role of prior beliefs and plausibility bias in the divergent interpretation of the reviews reported to date. The argument is made that holding a prior belief that any mechanism of action for homeopathy is implausible, influences perception of the evidence. In particular, this article strongly contests Hansen and Kappel's 2012 statement that members of the 'homeopathic community' hold beliefs which "while sincerely held with strong conviction, simply reject major parts of the naturalistic outlook". Offered here is the suggestion that to reconcile the enduring stand-off and advance the debate, there must be due consideration of the evidence thus far and application of authentic scientific method to future research.

Rutten et al demonstrate this commitment to the scientific method by initially exploring the current high quality evidence for homeopathy and outlining the case for why three meta-analyses by Kleijnen, Linde and Cucherat published from 1991-2000 reached positive conclusions, while a single review by Shang in 2005 reached negative conclusions. It argues strongly that this shift in conclusions is not accounted for by the impact of more recently published RCTs; rather it delivers a stinging deconstruction of the Shang article and the interpretations that stemmed from it. The authors highlight the fact that embedded within the Shang article is the most robust evidence yet that homeopathy works i.e. high quality evidence for the effectiveness of homeopathy for upper respiratory tract infections. The paper also explores the substantive evidence for homeopathy from basic science, describing positive findings from various laboratory experiments investigating the action of ultra-high dilutions, similar to homeopathic medicines.

The authors reveal the landscape of high quality studies into homeopathy and in doing so create a strong case to refute the notion that their prior beliefs about homeopathy originate from some theoretical concept such as the 'memory of water'; they state that they developed from '...personal clinical observations, supported by quality observational and cohort studies and reinforced by the results of RCTs and in vitro experiments'.

Some have pronounced that to make claims of effectiveness for homeopathy is to “wreck the whole edifice of chemistry and physics” or “stand in clear opposition to conventional science”, but the authors reject such statements as unscientific in themselves.

This paper seeks to take us beyond the current impasse where those ‘for’ homeopathy cite Linde and those ‘against’ homeopathy cite Shang. It maps a path forward advocating further research using dispassionate, authentic scientific method, taking into account plausibility bias. The argument is made that by ensuring a genuine level playing field and focusing research efforts on investigating ultra-high dilutions in vitro, the diverging views about homeopathy may begin to converge.