

Improvements seen in independent reproducibility of homeopathic basic research results

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Synopsis of '**Repetitions of fundamental research models for homeopathically prepared dilutions beyond 10^{-23} : A bibliometric study.**' Endler PC, Thieves K, Reich C, Matthiessen P, Bonamin L, Scherr C, Baumgartner S. *Homeopathy*, 2010; 99: 25-36

The repeatability of experimental designs used in biochemical and biological studies of serially-succussed ultrahigh dilutions is an ongoing challenge.

The authors identified 107 studies involving 24 different research models. 30 initial studies had been replicated internally by the same research team, by co-ordinated teams at different locations (multicentre trials) or by separate independent researchers; the review examines the results from these replicated studies.

Single homeopathically-prepared substances have been found to produce opposite effects in different experiments e.g. stimulating and inhibiting growth. The authors take this into account by including "statistically significant but different" results, as well as studies producing "comparable" results; these are contrasted with replications showing zero effect.

In total 60% of repeat studies showed effects comparable to the original study, 10% showed different effects and 21% found no effect. Of the independently replicated studies, 44% found comparable effects, 17% found different effects and 39% found no effect. Multi-centre studies yielded results comparable to internal repetitions. The authors point out that independent replication might be hindered by poor transfer of the required methodological know-how.

22 of the 24 different research models used produced comparable results when the experiments were replicated. Nine different animal models were examined, five of which produced comparable or different effects in every replication, with no zero effect outcomes.

A review published in 1999 found no independent repetitions producing comparable results¹, yet seven new models developed since then have been successfully replicated by independent researchers. This represents a significant advance in research methodology.

The authors call for more replication studies to be conducted and for increased methodological precision in these repetitions. They conclude that "**independent reproduction in homeopathic basic research has considerably improved**".

1. Vickers AJ. Independent replication of pre-clinical research in homoeopathy: a systematic review. *Res Compl Med/Forsch Komplementärmed* 1999; 6: 311-320