

NARRATIVE

Background: a critical time for homeopathy

Public perceptions of homeopathy continue to be tainted by accusations that 'there is no evidence that homeopathy works'. This anti-homeopathy mantra has managed to gain traction, in spite of the fact that it is patently not true. Of the randomised controlled trials (RCTs) into homeopathy's efficacy that are conclusive, 85% show that homeopathy is more effective than placebo.

Ironically, many of those who are attacking homeopathy as 'unscientific' are doing so in a very unscientific way themselves. Clinical evidence clearly reflects that homeopathy works for many people in treating certain chronic conditions. Rather than hide behind blanket rejection of homeopathy as 'implausible', one might think that their scientific curiosity would be sparked.

The questions that the scientific community should be asking itself are, '*How* and *why* does homeopathy work? Clearly, *something* interesting is going on there, and I want to know exactly what it is!'

This is clearly a critical time for homeopathy. High quality research in homeopathy is still relatively new, so there are many important, unanswered questions. But against the backdrop of intense criticism from anti-homeopathy groups, the homeopathic profession is striving to build a scientific evidence base, despite restrictions imposed by the limited funds available.

Barcelona Conference: a defining moment in homeopathic science

That background helps to illustrate why HRI's upcoming conference in Barcelona (30 May to 2 June 2013) is so important. It is the most significant gathering of researchers in homeopathy for a decade.

The Barcelona conference is bringing together an unprecedented mix of experts in clinical, laboratory and theoretical disciplines, who will be delivering evidence for homeopathy's effectiveness in treating specific conditions, as well as demonstrating the scientific basis for some of the fundamental principles underlying homeopathy.

Indeed, researchers are better understanding homeopathy from all angles. They are now using the same cutting edge genetic analysis techniques that are being used to assess conventional medicines. They are applying the latest mainstream theories in quantum and nanoparticle science to homeopathy. They are drilling down on specific questions by studying effects on laboratory animals. And they are reporting on clinical trials and observations involving thousands of people receiving homeopathic treatment alongside conventional medicine.

In short, they are putting homeopathy through its paces to answer a lot of questions!

Genetics: what is going on in the body when we use homeopathy?

The field of epigenetics is at the forefront of conventional medical research. Scientists are discovering that the genome - the code that dictates how every individual's body works - is not as static as we once thought. In disease conditions, genes are turned on or off. And those switches provide a likely explanation for many chronic conditions we see today.

What makes that genetic switch turn on or off? Huge amounts of money are being poured into efforts to understand this and to develop treatments that can effect change at the genetic level, with Genentech being known as one of the world leaders in this area. But to date, no conventional treatment has been brought to market.

Interestingly, research to be discussed in Barcelona is showing that homeopathy can have effects at this genetic level, which may explain why we have been seeing for so long that homeopathy is so effective at treating chronic conditions.

Dr Debora Oliosio will talk about her laboratory work showing how homeopathy changes the gene-expression pattern of human cells. Dr Giovanni Dinelli will report on his laboratory work demonstrating homeopathy's effect on gene expression in plants. And Dr Ghada Alsaleh will reveal a clinical study in which inflammatory chemicals in homeopathic form were used to treat rheumatoid arthritis, with the effect being demonstrated using gene-expression techniques.

Quantum and nano physics: *how* does homeopathy work?

Homeopathy researchers and practitioners are familiar with the common assertion that homeopathy couldn't possibly work because it is...well, 'implausible'. Indeed, it is hard to deny that homeopathy's efficacy is remarkable – unusual, some may say, or even surprising. Still, the principle on which it is based, that 'like cures like', has a compelling logic. The human body is a complicated thing, with remarkable powers to heal itself if the right sort of triggers are pulled.

That said, we still do not know how exactly homeopathic medicines work. The *effect* on a genetic level can be measured, and therefore there is proof that they are doing something. But we need to go deeper. Interestingly, new theories of quantum and nanoparticle science can help us understand more.

It is well known that the study of nanoparticles is of intense interest to manufacturers and scientists, especially with respect to how they affect the human body. Nanoparticles, which exhibit qualities vastly different from the same material in its ordinary state, could very well be involved in the mechanism underlying homeopathy's effects, and in particular can explain how medicines retain information after dilution.

At the Barcelona conference, Dr Iris Bell and Dr Alexander Tournier will provide briefings on how current work in quantum and nano physics can explain the mechanisms underlying homeopathy, thus demonstrating how **one doesn't have to reinvent the laws of science in order to explain homeopathy; one just has to draw from the latest and most adventurous thinking.**

Veterinary medicine: how can homeopathy be placebo if it works on creatures who don't know they're taking medicine?

Farmers and vets have been struggling with the challenge of ensuring animal health while reducing the use of antibiotics and hormones in the food chain. And for many farmers, homeopathy is the ideal solution. Through its many success stories, veterinary use provides some of the most compelling evidence for the effectiveness of homeopathy.

At the Barcelona conference, a remarkable study by Dr David Eyles will show how homeopathy has been used to treat tail-ringed lambs, reducing their pain and distress.

Interestingly, farmers can reap the benefits of homeopathy in their crops as well as animals. Dr Grazia Trebbi will reveal results of how homeopathy was used in farming strawberries, in which some homeopathic products decreased the level of fungal infection and improved strawberry production.

Pathogenic trials: if homeopathic remedies are 'just sugar pills', why can they be shown to invoke symptoms in healthy people?

Against the backdrop of anti-homeopathy campaigners staging publicity stunts such as mass 'overdosing', there is actually serious work being done that illustrates - under scientific experimental parameters - how homeopathic medicines can produce symptoms in otherwise healthy people.

These pathogenic trials - also referred to as 'provings' in homeopathic literature - demonstrate that homeopathy has specific and consistent effects that are quite distinct from any effects that a placebo can induce.

In Barcelona, Jeremy Sherr will report on a very promising study in this area, and Alastair Gray will present guidance on how to design double blind pathogenetic trials in order to produce clear, statistically significant results.

Big challenges: why is homeopathy so hard to study?

It is very difficult to prove homeopathy works because of the complex nature of the homeopathic methodology. First of all, homeopathy is rarely used on its own, independently of conventional medicine. It is a *complementary* medicine, often prescribed by GPs. In fact, 40% of GPs in France and more than 400 GPs in the UK practice homeopathy, and it is an accepted part of patient choice in countries such as Italy and Germany. And secondly, homeopathy treats the whole person, not just individual symptoms. Homeopathy recognises - and embraces - the human body's inherent complexities. In that context, to design the sort of narrowly-focused scientific studies that many people expect as conventional 'evidence' is in many ways contrary to the ethos of the practice.



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Nonetheless, practitioners and researchers in homeopathy are realistic. They know that the discipline is under attack and that the paucity of RCTs and definitive laboratory studies is an issue. They are able to point to a few studies in which the sheer number of patients involved carries significant weight. In fact, one of the largest studies ever will be presented by Dr Laurence Terzan at the Barcelona conference. Dr Terzan will report on the EPI3 study in France, which involved 8,000 patients and demonstrated homeopathy's effectiveness working alongside conventional medicine in treating sleep, anxiety and depressive disorders. And Dr Elia Rossi will speak on how homeopathy has been used in a public hospital in Italy over a period of twelve years, with positive results.

But realistically, more evidence is needed. Which is why the Barcelona conference is such a major event. It brings together narrowly focused scientific explorations with broader clinical surveys in order to advance the body of evidence across the board, taking significant steps towards answering just a few of the many unanswered questions and making a strong statement in defence against the organised campaigns against homeopathy.