

CONFERENCE REPORT

HRI Barcelona 2013: inaugural conference brings homeopathy research into the spotlight

Barcelona, 31st May–2nd June, was the setting for the Homeopathy Research Institute's first research conference – 'Cutting Edge Research in Homeopathy'. Attended by 180 people from 33 countries, this event brought together researchers from around the world to present and discuss their latest findings. With 36 oral presentations from leaders in the field, the scientific quality of the programme was high and the content diverse. This report summarises some of the key findings reported during the conference, which demonstrated the sound progress being made in the field.

Following the success of Barcelona 2013, the HRI intends to hold similar conferences, dedicated solely to homeopathy research, on a bi-annual basis, furthering the generation of new high quality research through ever stronger international collaborations.
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Gathering together the best researchers worldwide

The priority for the first Homeopathy Research Institute's conference was to create a high quality and diverse scientific programme, reflecting the quality and breadth of work being carried out in the field. The exceptional response from the research community meant that over 150 abstracts were submitted. From these, the best were selected through peer review by the HRI Scientific Advisory Committee and external colleagues. This enabled an excellent program to be constructed consisting of 36 oral presentations and 25 posters running over two and a half days, with two parallel sessions.

An afternoon of relaxed pre-conference workshops on 'Research Skills for Beginners' was followed by the main conference which took a more formal scientific style (keynote presentations lasting 30 min and oral presentations lasting 15 min). A plenary session comprising multiple 7 min 'poster talks' was a popular addition to the already intensive program; this gave six authors the opportunity to highlight their work immediately prior to the more traditional poster session.

The conference was opened by Dr Josep Davins, Director General of Health Services, representing the Ministry of Health, Catalunya. Dr Davins spoke of his experiences in considering various forms of Complementary Medicine for inclusion in the public health service and the great need for robust research in these areas to inform such decision-making.

The conference proper opened with keynote lectures from Drs Peter Fisher (UK) and Stephan Baumgartner (Switzerland). Under the title 'Cutting edge to clinical effectiveness', Fisher attempted a sweeping overview of the homeopathic research scene. Starting with concept of vital reaction and its modern incarnations of hormesis, paradoxical and rebound pharmacological effects, he whisked through the 'Benveniste Affair' and its happy ending in the work of Jean Sainte Laudy and others. He then discussed recent work on nanoparticles in homeopathic dilutions several workers have reported nanoparticles of original substance, silica or gas nanobubbles or in homeopathic high dilutions. He moved over to clinical research including the Swiss Federal Government sponsored Health Technology Assessment of homeopathy for upper respiratory tract infections and allergies and the French EPI-3 study of comparative effectiveness of homeopathy musculoskeletal disease. He wrapped up with a discussion of experiment proposed by Beauvais to detect the involvement of macroscopic quantum entanglement in homeopathic treatment.

Baumgartner summarised the state of play in basic research in homeopathy, and ways forward for this field. His presentation set the scene, giving context to the following basic science presentations from which two remarkable recent developments emerged.

Cutting edge basic research

First, the introduction of new models and assays that transcend the usual approach of measuring simple phenomenological effects such as enhancing or inhibiting growth, or

other simple functions of the model organism under investigation (e.g. plant systems such as wheat and duckweed or animal systems). Examples are the use of state-of-the-art techniques like microarrays or quantitative real-time PCR in order to reveal effects of a homeopathic treatment on gene expression level (abstracts (see pp. 62–80) by: Alsaleh *et al.*; Dinelli *et al.*; Oliosio *et al.*). Another interesting complementary approach is the use of methods with multiple outcome measures, like droplet residue formation (Kokornaczyk *et al.*) or biocrystallograms that result in complex two-dimensional ‘pictures’. Such methods appear to be well-suited to mapping the multifaceted effects of homeopathic remedies (as observed in clinical practice or drug provings) to preclinical systems. Modern image analysis tools were used to provide objective measures (e.g. fractal dimension, texture and structure analysis) of the complex patterns formed during the biocrystallisation process.

Second, there are new approaches to tackle the unsolved problem of the mode of action of homeopathic remedies. This applies to low potencies as well as to high (ultramolecular) potency levels. For low potencies (with still measurable quantities of diluted compounds) the hypothesis of nanoparticle formation during succussion or trituration is an interesting approach to investigate the relevance of homeopathic pharmaceutical procedures: is there any difference in biological effectiveness between a pure dilution (e.g. 1:10,000) or a homeopathic potentiation (e.g. 4x or 2c) of a given substance? Potentiation involves successive steps of dilution and intense mixing or grinding processes that might lead to nanoparticle formation, which in turn might imply pharmacological effects that are different from pure dilutions of a given substance.

For high (ultramolecular) potencies with dilution factors beyond Avogadro’s number, there are first empirical pre-clinical observations that might point to a force- or field-like action of homeopathic preparations. Several different researchers reported observations of homeopathic preparations having this ‘cross talk’ or ‘field effect’ *i.e.* exerting an effect on plants, animals or placebo samples at a (short) distance, without direct physical contact. Dr Baumgartner has observed this field effect on plants, where applying a homeopathic substance to one plant alters the growth rate of other plants nearby as well as the treated plant itself; Dr Gustavo Bracho described properties of the homeopathic test substance in a vial being transferred into the blank placebo vial being prepared nearby, and Dr Chris Endler has reported homeopathic preparations in a sealed glass vial held in a water bath affecting amphibians within the surrounding water. Although this ‘field effect’ remains to be fully investigated, preliminary indications are that this field is a local field with characteristics similar to those of an electromagnetic field.

Prof Iris Bell, joining the conference live online from the US, shared her perspectives on the theory that nanoparticles play a key role in the mechanism of action of homeopathic preparations – an appealing hypothesis as it potentially brings homeopathy into the realms of conventional nanopharmacology. Dr Alexander Tournier pre-

sented a theory of mechanism of action based on quantum coherence domains, which is consistent with the ‘field effect’ observations.

Although promising, these ideas – for low as well as high potencies – remain working hypotheses until further confirmation can be achieved through solid experimental validation. Considering the potential impact of scientifically demonstrating the existence of a mechanism of action for homeopathic dilutions, further research along these lines seems to be well worth the effort.

The programme included a variety of experimental models demonstrating biological effects with either low potency or ultramolecular potentised dilutions. Dr Christian Endler, whose team tested homeopathically prepared dilutions on highland amphibians for over 20 years,

A personal perspective – Dr Elizabeth Thompson

Attending and presenting at the Barcelona HRI inaugural conference was a highlight of the academic year. With a dynamic and beautiful city and beach nearby plus a warm and welcoming hotel with a fantastic array of high quality researchers and presenters in the field of homeopathy, it was hard to beat. From the pre-conference workshops onwards, we knew we were in for insightful and detailed presentations with hot debate in a mixed audience of homeopaths and researchers from across the world.

The first session of the official conference programme kicked off with Dr Peter Fisher and Dr Stephan Baumgartner who woke us up to some of the evidence which is out there, but can be lost in the media matrix that negates much of the scientific work being undertaken into homeopathic medicines. A highlight for me was the rigour with which Stephan and his colleagues have approached research into ultramolecular dilutions and the sense that in a few years they may have a working model for how homeopathic dilutions might elicit their biological effects. Another highlight was the presentation via Skype delivered by Iris Bell. As she spoke we had a sense of how the different strands of current thinking might eventually come together in a coherent understanding of the action of the homeopathic medicine within the complex system of the human body.

The proceedings were peppered with lovely trials such as the amelioration of pain and distress in the ringed tailed lambs (Eyles), matched by another trial describing reduction in cortisol using *Aconite* in stressed individuals (Jurcau *et al.*) and observational work around the clinical use of homeopathy for prophylaxis of urinary tract infections (Pannek *et al.*). The only downside is having to wait until 2015 for the next conference!

announced an independent meta-analysis of this work. This new study concluded that in 22 experiments homeopathically prepared thyroxine (*Thyroxine* 30x) was found to produce a clear trend of inhibiting amphibian metamorphosis. In terms of assessing whether a false result could be responsible, this effect was observed by 7 researchers from Austria, Germany, Switzerland and the Netherlands. Similarly, it was fascinating to hear Dr Yakov Freed reporting that treatment with *Cocculus* 30c improved the behavioural and hormonal changes caused by sleep deprivation in rats, and Prof Leoni Villano Bonamin revealing her findings that *Thymulin* 5CH can modulate the inflammatory response in mice.

Cutting edge clinical research

Dr Peter Fisher began the clinical research plenary presentations with an exploration of the profoundly relevant issue of antibiotic resistance and demonstrated that with sound homeopathic intervention, a health and cost burden could be lifted from the bottom line of healthcare budgets.

The realities of delivering homeopathy within public health systems were a strong theme in the talks which followed. Dr Elizabeth Thompson presented an economic evaluation of the Bristol Homeopathic Hospital which suggested that their homeopathic packages of care may have an impact on patients' quality of life and wellbeing – a particularly interesting finding at a time when provision of homeopathy within the National Health Service is in decline. Dr Elio Rossi discussed findings from observational studies carried out at Lucca Hospital, demonstrating positive clinical outcomes and cost benefits from integration of homeopathy within the public health system of Tuscany from 1998 to 2011.

Dr Gustavo Bracho proposed a scheme to integrate homeopathy into hospital care during epidemics, as an additional measure to the first line defence provided by homeoprophylaxis. He suggested that using homeopathy with all patients on admission to hospital could both shorten their stay and reduce the risks of further contamination. Considering the apparently successful management of a *Leptospirosis* epidemic in Cuba using homeopathic medicines in 2007, this next step by the same team will be followed with interest.

Different styles of homeopathic prescribing were covered within the broad range of clinical presentations. Clinical studies testing homeopathic products for specific named conditions were presented by several European research teams e.g. teething in children (Jong) and nervous complaints and exhaustion (Klement *et al.*), as well as trials investigating the effectiveness of individualised homeopathic prescribing for PMS (Klein-Laansma *et al.*) and ADHD (Brule *et al.*; Fibert).

The underpinnings of the repertorisation method were revisited in the light of modern statistical methods (Rutten). This new statistical approach to repertorisation was put in practice to check the symptomatology of the common remedy *Lycopodium* in the Argentinian population (Eizayaga).

A personal perspective – Dr Clare Relton

“The latest findings in the field of homeopathic medicine were brought together under one roof in this fantastic conference in Barcelona and the standard of research presented was very high. One of the interesting things I noted was the diverse range of health and academic settings worldwide where homeopathy research was being undertaken. There were also plenty of opportunities to exchange ideas and discuss future plans with other researchers, something that will help make homeopathy research stronger and more coherent worldwide. I look forward to the next conference being of equal breadth and depth and being of the same high calibre.”

Clinical research methods applied to homeopathy were critically evaluated and the best ways forward for future studies were discussed. Dr Robert Mathie discussed the importance of assessing ‘model validity’ when determining the quality of a randomised controlled trial – *i.e.* how good was the homeopathic treatment delivered within the research study, and was the main outcome relevant and optimally timed?

Homeopathic pathogenetic trials (provings) also came under the spotlight, focusing on two aspects: their potential to challenge the placebo hypothesis by demonstrating that ultramolecular homeopathic medicines can produce specific sets of symptoms (Sherr), plus the issue of poor methodological quality in the past and ways to ensure that future provings are carried out in accordance with modern scientific standards (Gray).

Barcelona success marks a new era in homeopathy research

The HRI's first International Homeopathy Research Conference drew many homeopathy-focused researchers together in a way that has seldom – if ever – been seen before. As well as having most of the main international homeopathy research community in attendance, there were many new faces too, with some novel and interesting presentations. With such a high standard of both oral and poster presentations, publication of many robust peer-reviewed papers is eagerly anticipated.

Homeopathy research has had its detractors in recent years but this conference demonstrated that such opposition has failed to quell the efforts of those who are committed to this field of scientific enquiry. When one considers the scope and quality of research presented at

Barcelona, together with the dedication and enthusiasm shown by the participants, this can only augur well for research development in homeopathy.

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