

Under Pressure: Homeopathy UK and Its Detractors

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Key Words

Homeopathy · National Health Service · Randomised controlled trial · Evidence-based medicine · Placebo

Summary

Though homeopathy has been in successful and continuous use for well over 200 years, in the United Kingdom it is under growing pressure, from scientific detractors and sections of the media. As such, homeopathy's free National Health Service provision is threatened because it is derided as 'unproven', 'unscientific', and even 'deadly'. While refuting these and other detractions, this paper considers possible reasons for the current plight of homeopathy UK. Thus, the current attacks against homeopathy should be viewed more in the context of the globalised pharmaceutical industry which is itself in crisis, and a succession of UK governments seemingly supine in the face of legislation originating from the European Union.

Homeopathy in Memoriam?

Since 2005, NHS' spending on homeopathic prescriptions has fallen by almost 50%; from £ 593,000 to £ 321,000 in 2007: the latter representing a mere 0.006% of the total current NHS drug prescribing budget [1]. Meanwhile, one homeopathic hospital has been ear-marked for closure, while another – the NHS flagship Royal London Homeopathic Hospital required an Early Day Motion and a debate in the House of Commons to temporarily guarantee its continued existence [2]. From being part of the NHS since its inception 60 years ago, homeopathy's free availability in the UK now seems threatened. Identifying

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Zusammenfassung

Obwohl die Homöopathie seit weit über 200 Jahren erfolgreich und kontinuierlich eingesetzt wird, gerät sie in Großbritannien sowohl durch wissenschaftliche Kritiker als auch durch Teile der Medien zunehmend unter Druck. Dies führt dazu, dass die Kostenübernahme der Homöopathie durch den National Health Service gefährdet ist, weil Homöopathie als «unbewiesen», «unwissenschaftlich» und sogar «tödlich» abgetan wird. Die vorliegende Arbeit widerlegt diese und andere Kritikpunkte und erörtert mögliche Gründe für die derzeitige Notlage der Homöopathie in Großbritannien. Die gegenwärtigen Angriffe auf die Homöopathie sollten eher im Kontext der globalisierten pharmazeutischen Industrie gesehen werden, die sich selbst in einer Krise befindet, sowie als Ergebnis einer Reihe von britischen Regierungen, die gegenüber der von der EU kommenden Gesetzgebung kraftlos agiert.

reasons why might appear simple. Thus, confusing accusations (e.g., that homeopathic remedies are 'deadly', yet no better than sugar pills) [3–5], are regularly propagated by a group of influential opponents. Notable amongst these is the UK's first professor of complementary and alternative medicine (CAM), Edzard Ernst, whose media-savvy attacks on homeopathy/CAM, and recent collaboration with science writer Simon Singh, have developed a journalistic discourse of detraction [6]. Ernst has also attempted a more intellectual approach, editing a collection of contributions by him and some of his fellow detractors [7].

However, heaping all the blame on Ernst et al. would be un-homeopathic, for it would be akin to treating the symp-

toms of an illness and not its cause. Even the infamous Times letter of May 2007 signed by Ernst and others [8] (which described homeopathy as ‘improbable’ and called on NHS Health Trusts (primary care trusts, PCTs) to withdraw funding and provision of homeopathy), is a dubious reason for homeopathy’s seeming demise, as PCT referrals to homeopathic hospitals had begun to decline some years previously.

There are other contributing factors, Ernst and his colleagues representing the tip of an ice-berg bearing down on homeopathy/CAM. First though, it is instructive to reprise and then refute the accusations often levelled against homeopathy:

- (1) There is *no evidence* – clinical or otherwise – homeopathy works.
- (2) Homeopathy is *deadly* and those who practice it are at best purveyors of a placebo effect, at worst, cynical quacks preying on the fears of a gullible public.
- (3) Any belief in homeopathy, or attempts to explain how it works, are *unscientific*, as apparently homeopathy contradicts the known laws of physics and chemistry.
- (4) Homeopaths are motivated solely by *profit*, and interested only in protecting their ‘highly lucrative’ industry.

Refuting the Case against Homeopathy

The above arguments may be refuted as follows:

(1) *No evidence*. This is not true. Apart from several hundred years of clinical case histories, there are many good quality scientific trials and meta-analyses showing that homeopathy can demonstrate clinically observable effects over and above placebo [9]. Thus, of 134 published randomised controlled trials (RCTs) of homeopathy, 59 (44%) showed a large positive effect beyond placebo; 67 (50%) were neutral or showed a small effect beyond placebo; and 8 (6%) were negative. Out of 23 systematic reviews, 10 indicated a definite positive effect; 8 were inconclusive; and 5 showed little or no evidence for homeopathy beyond placebo [10]. Even a version of Benveniste’s famously controversial work (on basophils responding to ultra-diluted and violently agitated solutions of IgE [11]) has been performed, using potentised histamine [12].

There is however, one frequently cited (in the sceptical literature and the media) Lancet meta-analysis demonstrating homeopathy is no better than placebo [13]. This has been shown to be thoroughly biased [14–17], a view reinforced by two recent studies further demonstrating the Lancet meta-analysis as seriously flawed [18, 19]. In addition, this meta-analysis broke the Lancet’s own stringent guidelines on methodological and publication transparency [20], leading one to question why it ever appeared in such an eminent journal.

(2) *Deadly*. The claim that homeopathy is deadly has never been substantiated, primarily because it cannot be proved anyone has died as a direct result of taking a homeopathic remedy. The claim arises over concerns that those taking homeo-

pathic remedies *might* forgo ‘life-saving’ drugs. This is a false perception: many who come to homeopathy do so only after conventional treatments have failed.

While there is evidence to support homeopathy is more than a placebo response [9, 10], homeopaths like other health practitioners, responsibly encourage expectation of positive outcomes [21].

One of the world’s top-selling drugs, the anti-depressant Prozac, was recently shown to be no better than placebo [22]. Yet, with an effect size of only $d \sim 0.3$ (the National Institute for Health and Clinical Excellence – NICE – recommends $d = 0.5$ for clinical efficacy), there are no urgent calls for Prozac’s withdrawal through ‘lack of efficacy’.

Those who denounce homeopathy as ‘deadly’ should consider conventional medicine’s safety record; something recently scrutinised by the UK’s House of Commons Public Accounts Committee [23]. Including fatalities, this committee found that in 2006 alone, *at least 2.68 million people* were harmed by conventional medical interventions; representing 4.5% of the UK population.

(3) *Unscientific*. Because in many homeopathic remedies, the original substance has been diluted out of molecular existence, detractors claim belief in homeopathy has no basis in science as ‘nothing cannot do something’.

There is, however, an increasing body of evidence from materials science [24, 25] and physical chemistry [26–30] suggesting that homeopathy’s method of remedy preparation leads to modifications in the dynamic long-range supra-molecular ordering of solvent molecules; an effect called the ‘memory of water’ (MoW) [31].

Just as two physically contrasting substances, such as diamond and graphite, are composed of exactly the same carbon atoms arranged into different molecular structures, so it is not the *composition* of an ultra-diluted homeopathically-prepared solution that is different from plain diluted solvent, but its dynamic supra-molecular *structure* [24, 25].

Far from violating scientific laws in particular, those of thermodynamics (indeed, some dynamic supra-molecular ordering in water is favoured because it leads to a small decrease in the overall energy of the system, via the disorder created in the rest of the solvent) [31, 32], or requiring textbooks of physics and chemistry to be rewritten, MoW could deliver fresh insights into the workings of biochemistry at the cellular level [33].

(4) *Profit Motive*. The depiction of homeopaths as interested only in profit is disingenuous and false; as is the claim that homeopathic remedies are expensive.

Though homeopathic remedy manufacture might be an industry currently worth multi-*millions*, this bears no relation to the actual earnings of individual homeopaths; or the multi-*billion* annual turnover of the globalised pharmaceutical industry. Thus, it is worth noting the cost of a homeopathic remedy, which in the UK is around £ 4.20, compared to that of an NHS prescription for the Prozac which is more than three times the price, at £ 14.21.

The sole purpose of any pharmaceutical company is to make profits for its shareholders, and in itself, there is nothing wrong with that. The problems arise however when research into new potentially life-saving drugs is impeded by the profit motive (e.g., new antibiotics and anti-malaria agents) [34]; drug trial results are ‘distorted’ in order to protect a pharmaceutical company’s share price and investors, as a Google research with ‘Zolofit; trials questioned’ reveals; new diseases are ‘invented’ in order to justify the manufacture, long-term use of, and ultimately profits from the drugs deemed necessary to treat them (known as ‘disease-mongering’) [36].

Remedy manufacturers have been criticised for not funding homeopathic research [37, 38] as, for example, the globalised pharmaceutical industry finances research and development (R and D) into new drugs. Again, this is a false perception perpetrated by homeopathy’s critics: Bio-medical research is expensive, and manufacturers of homeopathic remedies are not globalised conglomerates. Nevertheless, Heel in Germany [39] and Guna in Italy [40] regularly conduct and publish trials into the efficacy of their products for specific conditions. As patents expire, or dangerous side-effects lead to high-profile drug withdrawals, many large pharmaceutical companies find maintaining experimental R and D facilities too expensive. It is cheaper to buy in research from smaller independent concerns, or take over companies with pre-existing drug pipe-lines.

The Detractors’ Style of Discourse

Such arguments supporting homeopathy/CAM are rarely reported or even heard. Ernst’s latest book [7], which contains a chapter contributed by pharmacologist Professor David Colquhoun, may help explain why. Colquhoun does not believe a course of under-graduate study in CAM at a UK university warrants the award of a BSc degree [41], and in his latest contribution, Colquhoun derides the work of David Holmes, a Canadian professor of nursing. Thus, Holmes has recently delivered a thought-provoking post-modern deconstruction of evidence-based medicine (EBM) [42], concluding that it has become intolerant of therapeutic pluralism (e.g., the use of homeopathy/CAM) in healthcare systems.

Colquhoun does not attempt to refute or engage with Holmes’ arguments. Instead, he derides postmodernism as ‘pseudo-science’, something whose definition has yet to be agreed upon even among philosophers of science [43]. Its use in this context, as a term of abuse, exemplifies Colquhoun’s and other detractors’ derisive and dismissive style of discourse, which confirms geneticist and science populariser Professor Steve Jones’ recent criticism of contemporary science as, ‘... a broad church full of narrow minds trained to know even more about even less’ [44]. In any case, Colquhoun and Ernst et al.’s reasoning against homeopathy/CAM is essentially positivist, even though EBM is methodologically and statistically Popperian in its attempts at falsification of hypotheses,

‘If Gold Ruste, What Shall Iren Do?’ [45]

Thus, detractors rarely attempt critical appraisal of what the evidence for or against homeopathy/CAM actually means. Negative results obtained from double-blind RCTs (DBRCTs, the ‘gold standard’ for testing any therapeutic procedure), are taken as indisputable ‘facts’: positive results are dismissed. However, objections are being raised to the DBRCT as a gold standard, primarily because it is fundamentally flawed or totally inappropriate, not only for testing homeopathy/CAM but also in conventional medicine [46, 47]. Indeed, the DBRCT’s limitations were enunciated by the Chair of NICE, Sir Michael Rawlins, during his Harveian Oration to the Royal College of Physicians [48]: ‘RCTs, long regarded as the ‘gold standard’ of evidence, have been put on an undeserved pedestal. Their appearance at the top of hierarchies of evidence is inappropriate; and hierarchies are illusory tools for assessing evidence. They should be replaced by a diversity of approaches that involve analysing the totality of the evidence base.’ Indeed, for complex interventions like homeopathy/CAM, circular, as opposed to an evidence hierarchy has been proposed [49].

The DBRCT also makes the implicit assumption that blinding and randomisation ensure the observed specific effects of a therapy and the non-specific effects of the therapeutic context are separable into discreet quantifiable elements. Thus, applied to homeopathy, the remedy as an agent of therapeutic effect, is considered completely separate from case-taking, which provides context [50]. Only then can the results obtained from DBRCTs be statistically ‘significant’, which justifies separating therapy from context in the first place [51]. But what if they are so intimately correlated with each other, any attempt at separation disturbs the therapeutic effect, making the results of such trials meaningless? For in ‘real life’, no therapeutic procedure is ever practiced according to the therapy-context separation required by the DBRCT protocol. The implicit separation interferes fundamentally with the therapeutic process under investigation [51].

Thus, during DBRCTs of individualised homeopathy [52–55], practitioners were required to ignore that blinding and randomisation had occurred. Then they were instructed to attribute any lack of patient response as due to a wrong choice of remedy; not to the more obvious reason that blinding and randomisation meant the practitioner was totally unaware whether the patient had received verum or placebo! As Weatherley-Jones et al. have pointed out [50], this apparent ‘collusion’ with the randomisation protocol so impedes a practitioner’s therapeutic abilities, it could virtually guarantee a negative trial result for homeopathy or any complex intervention. Perhaps a better way of gauging the efficacy and importantly the safety of a therapeutic modality might be to use long-term outcomes measurements (as has recently been done for homeopathy [56]), and more pragmatic trials that compare whole systems of care.

For a DBRCT can only ever answer one question: «What is the efficacy of one therapeutic intervention compared to another?» The real question however, is much larger and includes the whole context in which an intervention is given. As a result, bizarre paradoxes arise. Thus, in a recent acupuncture study, control acupuncture was nearly twice as effective as the best conventional medicine could offer [57]. So rigorous application of the DBRCT protocol delivered a result that conventional medicine is less effective than an acupuncture placebo!

It has been argued that without the separation of therapy and context on which the DBRCT protocol depends, the placebo concept could evolve into something altogether more complex [51] than its currently ascribed pejorative connotation. Apart from pharmacological efficacy, this new concept would include less quantifiable (and from an EBM perspective, more contentious) ‘observables’ such as belief, e.g., of the patient in the practitioner and the therapy, and the practitioner in his/her abilities, etc. Such a collection of semi-quantitative and qualitative [58] observables would constitute the ‘therapeutic state’, generated by an ‘entangled’ correlation of patient, practitioner, and therapeutic modality. Though difficult, concrete steps towards theoretically [59] and experimentally [60] ascertaining this state, have recently been taken.

Bias, Scientism, and Philosophy

The detractors’ dismissal of any evidence for homeopathy’s efficacy was summed up recently in the following statement issued by Professors Ernst and Baum [61]: ‘All serious thinkers should have a closed mind on the subject of homeopathy: it is anti-scientific and simply does not work.’ Besides being biased and unscientific, this attitude is *scientistic* [62]; i.e., the belief that science has authority over every other branch of knowledge and interpretation of life, be it philosophical, religious, mythical, spiritual, or humanistic, etc. Even if the detractors were right, and there was no evidence for homeopathy, they forget that *absence of evidence is not evidence of absence* [63]. In particular, the detractors assume implicitly that the positivist model of science is superior to any other, a view considered fundamentally problematic by other philosophers and interpretations of science [64, 65] e.g., Popper, Kuhn, and postmodernism. It might be comforting to think that this could of itself explain why the detractors’ denunciation of homeopathy/CAM has become bellicose. Nothing could be further from the truth.

The detractors are merely the tip of an ice-berg threatening not only homeopathy, but any therapeutic intervention or holistic practice that cannot be readily explained within the pharmacological model; and as with all ice-bergs, what lies beneath is more insidious. This includes: the globalised pharmaceutical industry, also known as Big Pharma; a media whose hostility has increased as it has acquired apparent scientific literacy; an increasingly interfering EU, plus a series of supine

UK governments convinced that quantitative measurements are the only source of evidence: in the name of health this results ultimately in basic human rights traditionally protected by UK Common Law being threatened.

High-profile and costly drug withdrawals, plus Big Pharma’s other previously mentioned shortcomings [34–36] have demonstrated how easily the industry can be ‘economical with the truth’ concerning the safety of its products. In addition, official drug ‘watchdogs’ are failing to protect the public, by being too ready to trust the industry to police itself [66]. Interestingly, this echoes the public’s mistrust of the stance of government agencies during recent debates over the safety of genetically-modified crops [67]. Not surprisingly, Big Pharma considers itself unappreciated and in crisis. High-profile detractors attacking homeopathy/CAM therefore, must represent a welcome distraction.

The Role of the Media

Many of these attacks originate from or are transmitted via the media. It is interesting to examine why. Over the last couple of decades, more science graduates and post-graduates, many with biomedical sciences training, have made careers for themselves as science journalists and writers [68]. Indeed, some universities now offer postgraduate conversion courses in science communication. In addition, scientists perceive themselves as increasingly misunderstood by the public who, through their taxes, pay for state-sponsored scientific research. This has led to a growing ‘industry’ in the public understanding of science, and a felt need for more and better science communication. But science has to compete in an increasingly crowded, commercialized media ‘marketplace’, leading inevitably to oversimplification of complex scientific issues.

Though criticised by Popper [69], Kuhn [70], and various post-modernist philosophers and thinkers [43, 71–73], logical positivism (the current interpretative basis of EBM, which is itself increasingly in doubt) [74], has the advantage of perhaps being a more readily accessible and media-friendly interpretation of science. Thus, in trying to improve rational discourse about medicine and health, the recruitment of more bio-medically trained journalists and writers into the media helps propagate an increasingly narrow scientific secularism [75]. Elsewhere, I have referred to this as a new fundamentalism [76], attempting to eradicate any vision of the human condition, other than the materialistic. As such, it dismisses out of hand any therapeutic procedure not based in the scientific materialism of logical positivism. By default, or perhaps by design, it promotes the use of toxic pharmaceuticals with all their attendant side-effects, as the only route to health and disease prevention.

Homeopathy/CAM make an ideal media ‘target’ because they cannot be explained within the dominant EBM discourse – so cannot ‘work’ – and there are plenty of eminent people prepared to go on public record to say so. Thus, homeopathy/

CAM (indeed, anything else that deviates from the medical/scientific orthodoxy [77]) generate ‘good’ i.e., controversial, news copy; something aptly named ‘junk journalism’ [78]. So, in most cases, stories ‘de-bunking’ homeopathy go unchallenged, mainly because attempts to correct their inaccuracies and bias [14–17] are blocked by the very media that originally published them.

Thus the message goes out virtually unopposed that therapies deemed by their detractors as ‘useless’ should be banned, especially if practiced by the non-medically trained, who are branded ‘unskilled’ and ‘unscrupulous’ [79]. State regulation of all CAM therapies is now being suggested and enthusiastically promoted by the EU whose most powerful lobby groups are made up of Big Pharma and the European medical ‘cartel’ [10]. The EU’s legal system is codified and for all intents and purposes Napoleonic. Yet, since the time of Henry VIII the practice of ‘alternative’ (to the current orthodoxy) forms of medicine, and people’s democratic right to avail themselves of them, have been ‘enshrined’ in UK Common Law (essentially constituting a non-Codex Britannica) [80].

Partly as a result of this but also because of its centuries-old successful track record, homeopathy was included within the world’s first state-funded health service, when the NHS was launched 60 years ago. People’s democratic right to receive homeopathic treatment on the NHS is now under pressure in the UK via a combination of:

- proposed EU legislation that arguably benefits mainly big business and globalised interests like Big Pharma (which is itself in crisis);
- a UK government that seems – careless of centuries-old non-codified UK Common Law, and its gradual encroachment by EU dictat; increasingly paranoid about its own performance; obsessed with an evidence discourse narrowly focused on quantitative measurements and statistics;

- a medical profession increasingly in thrall to Big Pharma and the tenets of EBM (whose scientific credibility is itself in question), which dismiss homeopathy as anti-scientific;
- a media whose largely logical positivist scientific outlook makes it *scientistic* and hostile to homeopathy.

Conclusion

Ever since Hahnemann first formulated homeopathy’s principles, it has had its detractors. However, the current clamour against homeopathy is louder now than ever, fuelled by a largely biased and hostile media, a globalised pharmaceutical industry that is itself in crisis, and the threat of increasingly interfering legislation from the EU. Though homeopathy’s efficacy is demonstrable, and the case against it refutable, as indeed it has been against other CAM approaches [35, 81], this is ‘drowned out’ by proliferating and well-coordinated attacks from the detractors. Unfortunately, homeopaths, who for whatever reasons eschew science, inadvertently assist this process, as do their perennial in-fighting and chronic inability to organise in order to defend homeopathy in conjunction other CAM therapies.

If homeopathy UK is to survive, homeopaths and their professional bodies (whose defence of homeopathy is woefully inadequate) need to be heard. First, they should unite in common purpose. Then, they should familiarise themselves with homeopathy’s developing evidence base (especially from the physical sciences) and sophisticated arguments (e.g., from the philosophy of science) in order to very publicly refute the detractors’ claims, and safeguard their profession for the future. For if homeopathy’s free NHS provision in the UK is extinguished, then its fate elsewhere in the rest of the world, will look equally bleak.

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