

Perceptions of evidence-based medicine: traditional acupuncturists in the UK and resistance to biomedical modes of evaluation

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Abstract Acupuncture and other types of 'complementary and alternative medicine' (CAM) are proving increasingly popular in the UK. As attempts to incorporate acupuncture into allopathic medicine have grown in number, the issue of assessing its effectiveness in ways consistent with the concept of evidence-based medicine has become more urgent. The nature, relevance and applicability of such assessments remain controversial however. This paper reports a qualitative study of acupuncturists' own perceptions of evidence and evidence-based medicine in relation to their therapeutic interventions. The material is presented in two main sections: explaining how acupuncture works, and resisting evidence-based medicine. The interviews reveal a great deal of scepticism and ambivalence and a deep questioning of the salience of conventional (biomedical) modes of evaluation of interventions.

Keywords: acupuncture, evidence, evidence-based practice, co-optation, paradigmatic rivalry

Introduction

The use of the term 'complementary and alternative medicine' (CAM) is inherently problematic (Cassidy 2001). What is complementary and alternative can only be defined within a particular social and historical context, an observation reflected in the definition of CAM given by the Cochrane Collaboration in the UK, namely, 'a broad domain of healing resources that encompasses all health systems, modalities, and practices and their accompanying theories and beliefs, other than those intrinsic to the politically dominant health systems of a particular society or culture in a given historical period' (quoted in the House of Lords Report 2000, section 1.12). The availability of research findings supporting the effectiveness of CAM is seen as central to the credibility and 'integration' of what are in the UK emerging professions. The House of Lords report recommended that 'CAM practitioners and researchers should attempt to build up an evidence base with the same rigour as is required of conventional medicine, using both Randomised Controlled Trials (RCTs) and other research designs' (2000: para. 7.26). Although the Report contained some discussion about the applicability of conventional research methods to CAM, it concluded that 'although the design of RCTs for CAM therapies may require very careful attention this is rarely impossible' (2000: para. 7.26).

The principal aim of the study reported here was to examine the salience and impact of the emphasis on evidence-based medicine on practitioners of one CAM, traditional acupuncture. We were interested in practitioners' understandings of the concept of evidence and of their judgements of its relevance for legitimating traditional acupuncture. In the opening section of the paper we briefly chart the history of evidence-based medicine, noting also some key criticisms; we consider the particular case of acupuncture; and outline the theoretical framework within which the study was cast and to which we return later in the paper when discussing the findings.

Background

The rise of evidence-based medicine

The concept of evidence-based medicine (EBM) has a relatively short history. In the 1970s, against the background of an uncertain economic climate triggered by oil price rises and growing public expenditure on biomedical interventions, writers like Illich (1976) and McKeown (1976) questioned the efficacy of biomedicine, with Illich arguing that modern medicine resulted in clinical, social and cultural iatrogenesis, and McKeown refuting any central role for biomedicine in the decline of infectious disease in the 20th century. Cochrane (1972) went further and questioned whether many clinical interventions, despite being used for many years, were either effective or efficient. He insisted that treatment should not be based on 'medical opinion' but on 'scientific fact'. Cochrane's commendation has been formalised into a hierarchy of evidence graded according to how 'compelling' or influential it is (Muir Gray 2001). Thus Level 1 evidence, considered the most compelling, is that accruing from 'one or more systematic reviews of high quality RCTs', whilst Level 5 comprises expert opinions, case studies or reports and is said to be the least compelling. EBM has been defined as 'the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients' (Sackett *et al.* 1996). The rise of EBM has placed the production of evidence, in particular the 'gold standard of RCTs', at the heart of clinical practice, which 'restructures the way in which we think about clinical problems' (Richards and Lawrence 1995).

The production of evidence of effectiveness, particularly Level 1 evidence, is therefore seen as central to CAM gaining acceptance (predominantly, acceptance by the state and biomedicine). EBM is constructed as a 'neutral ground', a level playing field where different therapies, regardless of their social status, theoretical underpinning, mode of employment or context of use, can be conclusively shown either to work or not to work. Vickers (2001) presents this as an opportunity for CAM practitioners: 'by placing CAM on an equal footing with conventional medicine – what matters for both is evidence of effectiveness – EBM provides an opportunity for CAM to find an appropriate and just place in health care' (2001: 1).

EBM is not without its critics however. Barry (2003) has referred to the current preoccupation with 'evidence' as 'rhetoric', citing three main reasons. First, 'compelling' evidence does not exist for many treatments in biomedicine, and where it does its quality may be questionable; secondly, the data are often difficult to translate clinically into the treatment of actual patients; and thirdly, the rhetoric of evidence competes with other and conflicting paradigms, such as patient centred healthcare or patient involvement in healthcare decisions. It has been estimated that only about 15 per cent of (bio)medical interventions are supported by solid scientific evidence, partly because only one per cent of articles are scientifically sound and partly because many treatments have never been assessed at all (Smith 1991). In a recent article by *proponents of EBM*, purporting to show that inpatient

general medicine in a university medical centre *is* evidence-based, out of 109 patients studied, 53 per cent of the primary treatments were supported by data from RCTs and 29 per cent of treatments were based on 'convincing non-experimental evidence'; in other words, nearly half of all primary treatments, even in an academic hospital setting, were *not* supported by Level 1 or 2 evidence (Ellis *et al.* 1995).

Gupta (2003) has challenged the premise that RCTs provide objective data by identifying three potential sources of bias. First, there may be bias in the funding of research, with interventions likely to have commercial value both more likely to be funded and more likely to demonstrate the effectiveness of the intervention (in addition, the funding bodies are likely to be dominated by biomedical practitioners and scientists). Secondly, technical bias favours certain types of data and research methodologies, so those phenomena not amenable to investigation by these methodologies may be neglected. And thirdly, there is publication bias, whereby 'positive', statistically significant studies are more likely to be published. Norman (2003) also points out the paradox that we have no direct evidence to show that EBM is a pathway to truth. Many RCTs show conflicting results, and the systematic review has developed to try to formulate a 'truth' out of many different results. Spiegelhalter and colleagues (2003) have also shown how statistical 'illusions' can arise from even large-scale RCTs, such as in 1995 when a trial showed that newer lower-dose contraceptive pills doubled the risk of venous thrombosis, causing many women to stop taking them, leading to a 16 per cent rise in pregnancy terminations. When which factor in past experience applied, was re-examined, using Bayesian techniques, the extra risk was shown to be a 'statistical illusion'.

It has also been argued, protests notwithstanding, that theory *does* matter for acceptance of a treatment method. Many biomedical practitioners, for example, are scornful of the notion of 'Qi' or the existence of meridians in Chinese medical theory, despite clinical studies showing effectiveness. It was only when *neurophysiological* effects of acupuncture were demonstrated that it began to gain acceptance (Cheng and Pomeranz 1979).

The particular case of acupuncture

A revival of the practice of acupuncture began in the UK in the 1960s and '70s. The process since then has been one of systematisation, with the amalgamation of the main professional bodies to form the British Acupuncture Council in 1995, with the British Acupuncture Accreditation Board (BAAB) accrediting acupuncture training courses, nearly all of which now have degree status. In 2000, a House of Lords Select Committee report recommended the statutory regulation of both acupuncture and herbalism, with the consultation process currently underway.

Already in its encounter with the West, acupuncture has undergone transformation, particularly in the construction and development of 'medical acupuncture', mainly practised by doctors and physiotherapists who decline to base their treatment on Chinese medical theory. For 'traditional' acupuncturists, who diagnose and practise according to principles of Chinese medicine (often combined with Chinese herbal medicine) and practise largely outside the National Health Service and mainstream healthcare structures, this encounter with Western culture becomes particularly problematic as the paradigms are radically different from biomedicine (more so, it could be argued, than any of the other main forms of CAM), having developed in different cultural contexts over thousands of years.

A theoretical framework

Medicine as an expert culture in modern Western societies has in large part been founded on and justified and legitimated in terms of what Freidson (1986) calls 'formal knowledge'. This, he affirms, is the 'higher knowledge' of modern culture, esoteric and opaque to

outsiders. Freidson identifies Weber's *Zweckrationalitat*, or means-ends rationality, as best characterising formal knowledge. It is associated with the rapid rise of modern science and the application of scientific methods to technical and social problems. The use of formal knowledge to order human affairs, Freidson argues, constitutes an exercise of power, 'an act of domination over those who are the object' (1986: 6–7).

This argument links with Habermas's (1971) contention that the growth of formal knowledge and its insinuation in expert cultures has often served to pre-empt political decision-making and democratic participation. Science and technology, Habermas argues, only threaten democracy when deployed inappropriately, as 'ideology', to address problems or justify decisions which are not scientific or technical, that is, do not answer to the professional competence of specialists (1971: 61). When they are used inappropriately they may provide an unwarranted but nevertheless politically effective legitimation for the undemocratic exercise of power. Thus Freidson writes: 'under such circumstances political decisions are not subject to popular debate because they are presented as "technical" decisions. People are not allowed to choose among a variety of alternatives because the issue is presented as a technical one that involves the necessary use of the "one best method"' (1986: 8).

Within this framework it has been suggested that biomedicine has come to comprise just such an expert culture, claiming proprietorship over, and purporting to offer scientific or technical solutions to, problems often beyond its professional competence. In this context EBM might be said to epitomise the 'one best method' that must be extended to CAMs as pretender paradigms. Biomedicine's finite but state-sanctioned authority can be described as a form of lifeworld colonisation to the extent that it renders medical practice unaccountable to citizens/clients/consumers; and in the face of such colonising processes it becomes appropriate to debate avenues of resistance (Habermas 1984, Scambler and Kelleher in press). These issues resonate through the results section and we return to them in the discussion.

Aims and methods

The focus of the study reported here was in exploring in detail how traditional acupuncturists, currently practising in the UK, negotiated the cross-cultural divide, and how the demand to become more 'research-minded' and the rise of EBM affected acupuncturists' practice, as well as what, for them, constituted 'evidence'. Since the need was for 'information-rich cases for in-depth study', it was judged that a non-probability sample, part convenience and part purposive, was in order (Patton 1990: 182).

Three postcode areas of London were selected for recruitment of acupuncturists who had current practice addresses in those areas registered with the British Acupuncture Council. Ethical approval was granted, as was access to the British Acupuncture Council Register of Practitioner Members, 1 August 2003 edition. Initial contact was by letter, inviting members to be interviewed for this study, which was followed up by one phone call for non-respondents. In total, 24 acupuncturists were contacted in this way. In addition, purposive sampling was used outside these selected postcodes, but still in the London area, to include acupuncturists from a diverse range of backgrounds and those who have been involved in CAM research, either currently or in the past.

Ten acupuncturists were eventually interviewed, all of whom were members of the British Acupuncture Council. Recorded interviews took place between August and November 2003. Of the 10, four had been recruited through purposive sampling and six from those contacted via practice addresses in the British Acupuncture Council Register. Although there were more potential interviewees from those contacted by postcode selection, it was

decided to stop recruitment after the 10th interview and focus on analysis of this sample. The material collected was considerable and, given the focused nature of the study, extremely detailed. Moreover, a high degree of consensus had begun to emerge among those interviewed, and while it is always difficult to judge at what point ‘theoretical saturation’ has been reached, or how many interviews would be required to uncover exception(s), it was felt the number was sufficient to satisfy the aims of this small in-depth investigation (Strauss and Corbin 1990). All interviews were recorded and later transcribed. A semi-structured format was used, with a proposed schedule of questions and areas, but diversions from this were permitted to allow free discussion and to pursue potentially fruitful topics. Interviews lasted between 45 minutes and one-and-a-half hours. Areas covered included practitioner training; understandings of how acupuncture works; criteria for treatment decisions; understandings and attitudes towards RCTs; and concepts of evidence and perspectives on EBM. The transcribed interviews were coded, and summaries of key points recorded onto Excel spreadsheets. This enabled key themes to be identified across the interviews.

All of the interviews were conducted by SJ, who had briefly been a medical student before switching careers and training in ‘traditional’ acupuncture (TCM and Five Elements). There are advantages and disadvantages associated with ‘insider research’ (Robson 2002). It was apparent that SJ’s insider knowledge was invaluable in sample design and construction and in establishing trust and rapport with respondents, all of whom were guaranteed confidentiality (see Tierney 1994). Since SJ had no personal or vested interest in any findings, there were no obvious disadvantages. As a check against the possibility of ‘bias’, the authors examined transcripts of the interviews independently and were satisfied that SJ’s training had not distorted the results.

Of the practitioners interviewed, five were male and five female. The number of years in practice ranged from two to 25 years. In terms of initial training, all the practitioners had trained in the UK. They all practised privately and all practised ‘traditional acupuncture’ – that is, based on oriental medical theory – with particular styles largely reflecting their initial training, ranging from mostly Five Element, Five Element combined with Traditional Chinese Medicine (TCM), mostly TCM and, in addition, Japanese acupuncture (which is not taught specifically at any one College, but done post-qualification).

Results

For the purposes of this paper we present the interview material under two principal headings: ‘explaining how acupuncture works’ and ‘resisting evidence-based medicine’. In many ways this division represented the key tension in practitioner accounts. On the one hand, practitioners were able to articulate why they felt confident that acupuncture was a healing force, most drawing on longstanding Chinese or Oriental paradigms. On the other hand, they were at best ambivalent concerning the relevance to acupuncture of the concept of evidence espoused by advocates of evidence-based medicine: most, for example, expressed profound philosophical and political suspicions of RCTs.

Explaining how acupuncture works

All practitioners expressed an understanding of how acupuncture worked, based on traditional Chinese (or Oriental) notions of regulating Qi in the body or addressing energetic

imbalances through the Five Elements. Only one practitioner, initially trained in Western herbal medicine, said her primary diagnosis would be Western but that she then would go on to incorporate TCM pulse and tongue diagnosis. Many practitioners, however, said they didn't really know how acupuncture worked: it was fundamentally mysterious, though they were quite happy to work within the traditional models they had been taught, which were largely incompatible with a Western scientific understanding:

Well, I mean, I've been taught in the same way as everybody else – all the traditional stuff about Qi and the Five Elements and all of that stuff with traditional Chinese medicine, but in terms of how it really affects the regulatory system and all the rest of it, we don't know – who does know? You know, you just judge by effects, don't you? (1).

This negotiation of terms and concepts, not widely accepted or understood within a context dominated by biomedicine, could sometimes cause conflict:

. . . I think it would be nice if there was a translation between the two models – (laughs) – but I don't think it exists. And so I go through phases. Up until recently I have been very apologetic about my view of how Chinese medicine works, now I am quite stropky about it. . . . (laughs) – because this is the first thing, when you meet a medic, the first thing they say to you is, 'how do you think it works' – or 'how does it work?' – and I have just started saying, 'well I am traditionally trained – I work to that model, I am quite happy to accept that model' (2).

All practitioners believed that acupuncture *did* work, in the sense of having a therapeutic effect, although some expressed some caution about making claims for its efficacy, which was the difference between the theory and reality of practising. The reasons practitioners gave, when asked what evidence they had that acupuncture worked, fell into three categories: evidence of effectiveness through the long history of acupuncture, evidence from the personal experience of treating patients, and evidence based on acupuncture's rationality.

(A) Evidence based on tradition

Seven practitioners specifically mentioned the long history of Chinese medicine as evidence of its effectiveness:

. . . I have always thought that when people say 'does it work?' – I think it is insulting to say that Chinese people would carry on with some sort of mystical belief when it didn't. My understanding is that they are a very pragmatic people and if something doesn't work, they give it up and if something does work, they bolt it on to whatever else has worked and they come up with a whole load of, for the Westerner, conflicting messages, conflicting ideas – but it doesn't seem to worry them – hey, just throw it into the mish-mash of everything else. So I think there is an enormous body of evidence there – the fact that it has stood the test of time for so long. They wouldn't carry on doing it if it didn't work (10).

Well, you know – acupuncture is one of those amazing things. I mean it has been around for several thousand years . . . there is a huge amount of validity to what it represents, and there has to be – or it wouldn't have survived such a long time (6).

This long history was seen as giving respectability to acupuncture, which differentiated it from other forms of alternative medicine and provided the impetus to train.

(B) Evidence based on experience, and the theme of charismatic healing

All the practitioners cited their own clinical experience of treating patients as evidence that acupuncture 'worked'. This was the primary evidence, superseding other forms of evidence, especially that of research trials. Practitioners often recalled specific cases they had seen which were so dramatic and made such an impression on them at the time that the experience had remained with them through their subsequent years of practice.

Practitioner 6 described one patient he had treated while studying acupuncture in China. The patient had come into the clinic bent double with back pain, barely able to walk and in tears with the pain. After a short consultation, one needle was inserted at Du 26, with instructions to go and walk around for 20 minutes or so. After half an hour the man returned, smiling, walking upright saying he was 80 per cent better. Practitioner 6 commented:

Now you tell me, you know – what is that? Does it work or doesn't it work? I can't prove anything in a scientific way about acupuncture because I am not a scientist, I am not a Western medical doctor, but if you ask me does acupuncture work? Hell it does! It's an awesome thing, when you see that kind of a transformation in someone, it really makes you go Woh! What I am doing here really does work, and it *can* work.

The experience of clinical practice was for another practitioner akin to a religious conversion:

Because to some extent I am one of those doubting Thomases myself – I am deeply sceptical about all sorts of things. When you first start getting good clinical results by using it, you stop being quite so cynical and start becoming a believer – and I am using that religious terminology deliberately, it is a little bit like that. You start saying 'my God, there is something here' (10).

This comment is suggestive of a certain charisma attaching to the practitioner as healer, resonating with Weber's idea of charismatic authority. It was a recurring theme in the interviews.

For practitioner 9, the evidence of effectiveness lay entirely with the patient:

The evidence, as far as I am concerned, is entirely devolved to the patient. I told the guy I am relying on the words you use to express how you feel and your feedback is vital, because we are working on your case together.

Clinical experience over 20 years had convinced him that there was a real intervention with the insertion of acupuncture needles that changed the energy of a patient. When asked why he felt that, he replied:

Because I am convinced! (laughs) – I've got no proof! Except a backlog of 20 years of practice. I have got a folio of letters saying '(name), you're wonderful' – but you know, the fact that a patient would more often than not refer someone else – someone close like a friend or a member of the family and the fact that the practice has built up over years is proof enough that something is offered that is effective and helpful.

One practitioner described how a year into his acupuncture studies he developed symptoms of a stomach ulcer which wasn't getting better with Western medicine. A biopsy was suggested, at which point he thought:

'hang on a minute – before you start taking little bits off me, I think I might see if acupuncture works' – and over a period of three months – you know, it was a gradual process – but over a period of three months – the symptoms disappeared and I haven't really had any return of that, so that's been good. It was a good experience for myself (1).

Another practitioner, when asked whether he thought acupuncture worked replied emphatically 'Without a doubt, the answer is yes. If I didn't believe it, I wouldn't do it, simple as that' (6). To back this up he described having injured his back while studying abroad and over the next two years had tried 'everything' which did not improve his back. Finally, after starting studying acupuncture, he had acupuncture treatment and:

After a month of treatment, my back was completely better. Now I had spent two years trying to figure something out. So from a personal perspective I was a little bit surprised – OK, so it works, you hear things (6).

(C) Evidence based on rationality

Alongside the appeal to history, tradition and personal and sometimes charismatic experience to legitimise Chinese medicine, practitioners were also keen to stress the rational, logical nature of Chinese medicine. This was emphasised when they were specifically asked whether they thought Chinese medicine was 'scientific'. One practitioner replied with an emphatic 'yes, yes I do' when asked this question:

It is very scientific because all the findings are based on trial and error, together with entire philosophy. Points wouldn't be used if they weren't empirically proven. The fact that it works along different philosophical rules and different philosophical concepts does not diminish the fact that it is very scientific. Again – you say is it scientific? Define for me what is scientific for you. And if science means you have a thesis and then you go on to prove it or disprove it by theoretical thinking, or by empirical proof or by experiments – that's acupuncture for you. In every single case that I look at, I try to use scientific principle (7).

Some were unsure what 'scientific' actually meant. For example, one practitioner, when asked whether acupuncture was scientific, replied:

Do I think it is scientific? Well I don't know what scientific is!
 . . . Well I don't, actually. I never was any kind of scientist at school. Certainly in the way that I practise, I set out with clear objectives and document those and will be getting regular feedback, and evaluating what is happening – which I think is scientific – you've got a hypothesis, and you test it as far as you are able, with one patient, but beyond that – is it scientific? To be honest, I don't know.

But a little later she went on to say:

It is difficult, because I couldn't give you the dictionary definition of scientific – I think it is quite rigorous and I am wary of terms like 'intuitive'. It is a discipline, and I am very

nervous about people who say, 'Oh, I was just drawn to treat this!' – which is what you get a lot in shiatsu. I think there is a solid basis for the way that we treat in acupuncture, but I couldn't tell you how much that conforms to the definition of scientific (8).

Other practitioners, though stressing the logical basis for Chinese medicine, also tried to dissociate it from any connection with Western medical science.

For some, Chinese medicine was seen as scientific because it was based on a distinct knowledge base:

You know – the word 'science' means knowledge doesn't it? I mean yes, the whole idea of acupuncture and using acupuncture is certainly based on knowledge – a huge wealth of knowledge that has grown up over the years. . . .

. . . Do I have confidence in the knowledge base that underpins the whole idea of practising traditional acupuncture? – I would say yes, I do – because my experience is that these channels do follow the pathways . . . and you can create needling sensations along channels, you can needle points that are on the point and get quite a different experience from the patient than when you are needling off the point – so these points do exist, there is a real body of knowledge there and the map that Chinese energetics purports is one that rings true – it is an ordered, harmonious picture of an energy world that makes sense. So yes, I do think it is scientific – is the short answer (1).

One practitioner had changed his style of practice to one based on Japanese methodologies specifically because he found that style more scientific in the sense of being more reliable and more reproducible:

A lot of stuff I learned – totally not scientific. See for me, whatever scientific . . . and it must be evidence based, but that means maybe some stuff that passes for science isn't very scientific. Cos often if something is not accepted, if it doesn't fit into the paradigm – but what you should do is look at the evidence, and if it stands up for itself, you should change the paradigm. I think again – which was why I shifted into the Japanese methodologies, because I find them more scientific, in the sense that they are more reliable, they are more reproducible (5).

He describes practising the Toyo Hari style of Japanese acupuncture, where there is continuous feedback by feeling for pulse changes as points are located and needled.

For practitioner 6, acupuncture was now really benefiting from Western medical knowledge that gave support or validity to what practitioners of Chinese medicine had already learned through practice:

We knew it worked and we have been using it for thousands of years, but we never really understood – but now with the advent of science, and being able to dissect bodies and know what nerves and muscles and all this kind of thing, we know that, wow! – we were doing exactly the right sort of thing for 2000 years, but not really knowing why. But now we know, this is a particular nerve that is very effective for treating whatever problem that is. So in that sense, I found that Western medical science is almost, sort of, for acupuncturists, they go, wow! – there is so much more that is opened up to us, just from that kind of understanding (6).

For another practitioner, however, there was a note of caution, inferring coherence and rationality in Chinese medicine, particularly in the way it has been translated in the West. In response to the same question, whether acupuncture is scientific:

In a Western scientific sense – no. I think that it has a logic to it. I also think that – and this is partly from my reading – that to benefit, the way it is taught in the West has been simplified and that aspect of it has been emphasised because we want to see things in scientific terms. So actually there is more mystery, doubt and conflicting evidence and so on when you look at the classic texts. . . . So I think that aspect of it – that quasi-scientific aspect to it is quite possibly a false one (3).

But for practitioner 10, the fact that there were paradoxes in Chinese medicine meant that acupuncture was based on more up-to-date notions of science, incorporating 20th century developments in quantum theory, than outdated views of science on which Western medicine was based:

Well it is empirical isn't it – so to some extent it is. It depends what you mean by 'science'. The Greek derivation is 'To Know' isn't it? – of 'Sci' or something, I think? It's about knowledge anyway. It is empirical observation about what works and what doesn't work, among different clinicians – so to some extent it is scientific, but not in this narrow Victorian view of what science is – science has moved on in the last hundred years, it just seems that the way people are using evidence-based medicine is very much to do with something that is out of date now. All the paradoxes you get in quantum physics – the idea that you can change the results of an experiment by the fact that you are observing it, I mean – that sounds a bit like 'Yi' again, to me (10).

Resisting evidence-based medicine

Practitioners expressed considerable doubt about the salience of EBM for acupuncture, many maintaining that acupuncture's healing potential could not be grasped by means of Western notions of rationalisation. The need for trials and evidence was interpreted as playing the game by biomedicine's rules. References were commonly made to the importance of intuition, one informant referring to 'informed intuition':

I would like to call it 'informed intuition'. You have to have a knowledge of acupuncture to then be able to intuit effectively, if you like. So there are times when I'll suddenly know which point it is I'll need to. . . . this point will work for them – this is not coming from nowhere, this is coming from what I have already learned about acupuncture and what the various points can do – and it might be a point I have never used before, but somewhere I – you know I heard about or read about or whatever and I'll suddenly think 'ah – I wonder about this one' – then maybe I'll look it up, or whatever – it can sometimes work like that (3).

In this sense, acupuncture was seen as an art and not scientific.

For another practitioner, acupuncture contained an element of 'magic' that could not be measured:

But at a certain level, there is an element of complementary therapy that can't be measured and just has to be sort of accepted. There is something just a little bit magical about acupuncture, I think – I really do (6).

We discuss practitioner resistance here in terms of their general attitudes and fears of reductionism and appropriation by biomedicine.

(A) General attitudes to acupuncture research

We were particularly interested in how much research into the effectiveness of acupuncture would influence the practice of individual practitioners, that is, how much it would affect practice 'on the ground'. To explore this, the following question was posed: if a randomised controlled trial was done for a particular (usually biomedically defined) condition (such as tinnitus, or IBS), where the type of acupuncture practised was acceptable (*i.e.* based on a traditional oriental individualised model), and the trial showed acupuncture to be no more effective than placebo for this condition, would that affect whether they treated that condition once they were aware of the research? All practitioners doubted that this would influence their practice much, though some were more cautious than others.

The response of practitioner 6 was quite categorical:

You know what? I have two ideas about that. One is 'I don't really care'. Because the fact is that if I have treated people successfully and either – cured is a really strong word, OK – but basically fixed their problem, if I have successfully – let's say I am an average acupuncturist, and I get a 50 per cent result rate. That is still 50 per cent greater than whatever they are doing – with whatever approach they have.

Many felt that trials could not encapsulate the holistic nature and individual focus of acupuncture treatment and would inevitably be focused on (biomedically defined) symptom reduction instead of broader effects of acupuncture. For example, for practitioner 9, research was of little interest in general. Asked whether an RCT would affect whether or not he treated a condition:

I don't think it would. Because the parameters of my work are so all-encompassing that – I feel that I don't need the back up of research to substantiate what I am doing – I really do feel that way.

Three of the practitioners initially expressed more caution, concerned about the ethical implications of carrying on treating a particular condition when there was this trial evidence showing acupuncture not to be effective. However, all three went on to say that this would not stop them from treating, which was justified in terms of the holistic nature of acupuncture treatment, where treatment may not necessarily be directed at the symptoms, but more at treating the person. This was described by practitioner 1 as dependent on the nature of the contract with the patient – whether you were purporting to treat their IBS (or tinnitus, or whatever) or whether you were offering something wider:

So it depends in a sense on what the contract is with the patient . . . are they agreeing to come and have their IBS fixed or are they agreeing to derive what they can from energy-based medicine that is seeking to bring about the best possible rebalancing and return to harmony as a whole with repercussions from that that may or may not produce an improvement in their symptoms.

For these practitioners, the narrow definitions of successful acupuncture treatment as being reduction in symptoms negated any useful value such trials might have for their practice.

Another common theme of suspicion towards research trials of acupuncture expressed was what might be termed the ‘disembodied’ nature of the trials. For traditional acupuncturists, treatment involves interaction between a particular practitioner, using a particular type of acupuncture (Japanese, TCM, Worsley-style Five Element, or others), and an individual patient. The treatment is therefore situated within a particular context, with no two patients quite alike. This, for many practitioners, was the core of their suspicion of ‘evidence’ constituted by trials:

And the other thing is of course with acupuncture – the idea is that it is finding the right key for the right lock – so the individual is more important than the condition (5).

RCTs had no relevance unless they took into account all the myriad of factors that might affect a person’s health, which in practice was impossible to do. Moreover (Western medical) researchers using such techniques were often seen as having an agenda to discredit acupuncture, based on flawed research:

I think as soon as you start accepting the paradigm of another sort of medicine, you are inevitably going to start compromising what you are doing to fit in with their constructs, their paradigm, if you like. So I think it is very naive to say that, to think that, it will ever be a level playing field (10).

Acupuncture for practitioner 10 was seen as more like a surgical intervention, and not as repeatable as a pharmaceutical intervention. Whereas there is a great deal of skill required from the individual practitioner in a surgical intervention, there was not in just putting a pill in someone’s mouth – so, ‘are they using the right tool to measure the efficacy of these things?’ (10).

Western medical paradigms were also seen as inadequate in relation to the paradigms in Chinese medicine:

I don’t think Western medicine is capable yet of dealing with Chinese medicine – there is not the subtlety yet, there aren’t the concepts and the understandings (3).

This attitude, however, was not consistently applied to research that showed a *positive* benefit for acupuncture treatment, over and above any ‘placebo’ effects. When this issue came up with four of the practitioners, all admitted that they would be more likely to share this information with patients, as ‘for most people that would reassure them’ (1). This difference in attitude was related to the ‘lack of a level playing field’ by practitioner 8, and the marginalisation of acupuncture within the dominance of biomedicine:

I think the thing is we are not starting from level ground, and there is a definite political agenda there – I think people believe that the medical establishment is not well-disposed towards traditional acupuncture and that therefore there may be a political impetus to say, yes – fantastic, it does everything. But if the playing field were level, I think practitioners of traditional acupuncture would welcome the kind of research that says, well acupuncture is fantastic for these conditions, but if somebody comes with this – it is best to refer them to somebody else. So maybe at present, people are reacting to that and trying to carve out a place and some acceptance by serving up huge amounts of positive outcomes (8).

(B) Fears of reductionism, restriction of practice and appropriation by biomedicine

We explored with each practitioner whether they thought that the current move towards EBM had the potential to be useful to the development of acupuncture in the UK and its incorporation into mainstream healthcare, or whether it should be seen as a threat. Nearly all the practitioners saw it as more threat than opportunity, most emphasising the related threats of reductionism, restriction of practice and appropriation by biomedicine.

Reductionism was one of the main concerns raised, stemming from perceptions of the nature of the research done to 'test' the effectiveness of acupuncture in relation to biomedically defined conditions, which would deny the holistic nature of traditional acupuncture.

I think there is a reductionist's plan here, which could narrow down to specific conditions – indeed like they are offering acupuncture in hospitals now – there are migraine clinics and arthritis clinics – and that is denying a lot of the scope, especially on the mental/emotional level, and indeed the spiritual level as well. It is a reduction of the scope of the work. And that is not nice (9).

So acupuncturists would be accepted, but only on the basis of treating certain conditions. Practitioner 5 compared this to what he had seen happening in other countries:

And probably that will be the same here if maybe we take sciatica, for example. Then people will think – OK acupuncture is good for sciatica, I'll go for that, and in the end you end up treating nothing but sciatica. I think that is not great for acupuncture at all really and I think one of the things that the Acupuncture Council needs to do is to try to resist that as much as possible (5).

For practitioner 10, the drive towards insisting on more and more research was seen as a 'pseudo-rational process', which wasn't something that traditional acupuncture was meant to be:

the whole drive towards insisting on more and more research – it is making the whole thing into a pseudo-rational process, leading us away from the art of acupuncture and leading us into something that isn't what traditional acupuncture means to me. I mean acupuncture and herbalism, moxa and everything has survived almost 2,000 years without this huge drive towards evidence-based medicine (10).

There were concerns also that increasing regulation would entail restriction in how acupuncturists could practice. For practitioner 10 this was related to the 'tick-box mentality' where everything has to be prescribed, in the name of 'patient safety', which was seen as stopping people from doing things, rather than enabling them to explore and be creative.

For practitioner 9 this was related to increasing regulation, which would make acupuncturists dependent on the medical profession:

I can't predict how it is going to go, but the fact that the EC laws are likely to govern the status of acupuncturists and make them dependent on the medical profession, as they are in France and other countries in Europe, is worrying because then you would have to work under the umbrella of a GP. And I am sure there are – I know there are enlightened GPs who would happily have an acupuncturist in their practice, but it is a kind of restriction of freedom of practising acupuncture. And that is worrying, yes (9).

Finally, three of the practitioners specifically mentioned appropriation by biomedicine as a concern. For example:

I think there is a huge danger of Western medicine trying to reduce, trying to extract what they think of as the goodness out of each treatment and turn it into a formula of points to use, and then the GPs will learn how to – the Western acupuncturists will learn how to do that, but again that will not allow acupuncture to work in the way that it can, which is not just a symptom treating medicine, but as a much broader, deeper approach to healthcare (3).

In this sense, acupuncture was seen as an art and not scientific.

Discussion

As intimated earlier, current debates around the production of evidence can be characterised as debates around strategies of legitimation. Weber defined three ideal types of authority: rational/legal authority, traditional authority and charismatic authority (Weber 1947). Biomedicine has traditionally legitimised its practices through a discourse of scientific rationality anchored in formal knowledge, of which the evidence-based medicine movement is a logical progression, even though biomedicine's status as a science has always been challenged (from those who argue that clinical medicine and interaction with patients who present with complex, multicausal problems is an art, not a science). Scheid (1993) argues that there are at least three interdependent reasons for this need for biomedicine to gain scientific status. First, it establishes legitimacy in a society which gives scientific discourse privileged social status. Secondly, as guardians of this scientific rationality, biomedical practitioners can claim expert status as arbiters of what constitutes 'true' medical knowledge and hence acceptable medical practice. And thirdly, dissent within the (bio)medical profession can always be portrayed as temporary, about to be resolved by future research. Medical research can be seen as an important element in maintaining biomedical dominance. If challenges from outside biomedicine can be effectively integrated into biomedicine's existing structures and mechanisms of arbitration between rival knowledge claims, then the values of these structures are reinforced.

To establish itself in the West, however, Chinese medicine has mainly appealed to a discourse of traditional authority to gain legitimacy. This was seen among all the practitioners interviewed, for whom the long history of the practice of acupuncture and Chinese medicine gave it an authority not accorded to either biomedicine (seen as having a relatively short history) or other systems of medicine. Many practitioners were keen to dissociate their practice of traditional acupuncture from other forms of CAM, the (politically motivated) umbrella term under which acupuncture is often grouped.

Yet, alongside this was a strong appeal from practitioners to rational authority in Chinese medicine, and an emphasis on its logical nature. This was important in gaining legitimacy in Western culture, particularly when practising a system of medicine based on concepts poorly understood in Western culture such as 'Qi' or 'Yin/Yang', often pejoratively portrayed as 'magico-mystical' concepts. Direct appeal to Western science could be made: '– it can be, and it is scientific. Well, it is already – they found out about the endorphins – that's scientific isn't it?' (4). Acupuncture was described by some as 'scientific, with its own terms of reference, yes, absolutely' (9) and Chinese medicine characterised as 'an ordered, harmonious picture of an energy world that makes sense' (1).

Again, following Weber's typology, appeal was also made to charismatic authority. Among traditional acupuncturists in the UK, charismatic figures include JR Worsley and Dick van Buren, who established the first acupuncture colleges in the UK in the 1960s, academics such as Giovanni Maciocia, who has written the key TCM textbooks used by many colleges in the UK, as well as other well-known speakers and workshop leaders in specialist areas like Peter Firebrace and Elizabeth Rochat de la Vallee teaching on Taoism and Chinese philosophy. JR Worsley was once described by Ted Kaptchuk (a pioneer of traditional Chinese medicine acupuncture in the US) as the 'greatest shamanic healer' he had ever seen.

As Scheid (1993) has noted, however, Chinese medicine in the West has also allied itself with and drawn support from wider new social movements established since the 1960s, drawing on discourses of holism, transcendental psychology and self-actualisation and emancipatory ideals of creating new forms of social order. Chinese medicine and acupuncture practice in the West, therefore, can be seen to be as much a social construct as 'traditional Chinese medicine' is often said to be in contemporary China. Its popularity and legitimacy among both acupuncture patients and practitioners is precisely because it is *not* part of the scientific rational discourse of biomedicine.

One motivation for people seeking acupuncture treatment (or those training as acupuncturists) might therefore be precisely *because* it is part of the 'lifeworld' rather than the 'system-world', giving a voice to those needs not met by a technocratic biomedical discourse. The theme of rationality and rationalisation is most closely associated with the work of Weber, who argued that scientific and technological decision-making has replaced that previously based on tradition (Giddens 1971, cited by Higgs and Jones 2001). The resulting 'iron cage' of rationality has led to an inevitable limiting of human activity in modern life. Habermas also noted this hyper-rationalisation of modernity, where the exercise of political power becomes increasingly transformed into technocratic decision-making; but unlike Weber he saw a way out of this 'iron-cage' by means of 'communicative action' based on shared values as a way of giving 'voice' to the lifeworld.

The extension of the rhetoric of evidence-based medicine and its proposed role in incorporating and legitimising other systems of medicine (CAM) can be seen as an extension of the rationalising process, transforming essentially political decisions into purely technical questions, colonising the lifeworld and de-legitimising alternative forms of rationality. Indeed this was experienced as a fundamental tension by many of the acupuncturists interviewed, whose practice cannot be firmly located as either the 'voice of medicine' or the 'voice of the lifeworld' (Mishler 1984). Practitioners had to individually negotiate these different discourses.

So, for one practitioner, his focus was entirely on the patient, giving voice to the lifeworld. For another (8), research could be potentially useful in differentiating between those conditions traditional acupuncture is effective in treating and those it is not. But, for many, the tension was clear, with concerns about the ethics of treating if there was evidence that acupuncture didn't work for that condition. One way of negotiating this was to alter or redefine the basis for treating – so that the rational basis for acupuncture treatment was not just treatment of a specific symptom, but a broad range of life issues.

This tension between system-world and lifeworld was also inscribed in definitions of acupuncture. One practitioner described herself as 'very apologetic about my view of how Chinese medicine works' (2), aware of its potential disempowerment in a culture dominated by biomedicine where to accept terms such as 'Yin, Yang, Qi, Blood' could be seen as upholding irrational beliefs. Only after some internal negotiation was she able to say to doctors, 'well, I am traditionally trained – I work to that model, I am quite happy to accept that model'.

Another context of negotiation to legitimise the concepts of Chinese medicine was to see Western medical science as discovering truths that had always been present in Chinese medicine. Nearly all the practitioners, however, saw the use of evidence-based medicine as threatening a potential colonisation of their lifeworld by biomedicine, leading to reductionist acupuncture, denying the holistic nature of traditional acupuncture, restricting their practice and leading to appropriation (and transformation) of acupuncture practice by biomedical practitioners.

Williams and Popay (2001) have focused on 'lay' knowledge, that is, local knowledge comprising the subjective views of lay people (as opposed to expert knowledge) as a way of giving voice to lifeworld concerns often squeezed out by system imperatives. This kind of knowledge, based on the particular – the particular locality, biography and body – is described as material knowledge that is *emplaced* (Curry 1996). Williams and Popay argue that this kind of knowledge, formed reflexively by human agents who are knowledgeable about their society and capable of acting on it, is a form of resistance to the colonisation of the lifeworld. Barry (2003), in her research on homeopathy in South London, has described a similar notion of 'embodiment' used by users and lay homeopaths in assessing efficacy of treatment. This was also embedded in developing a new set of beliefs about health and illness separate from biomedical notions, where efficacy was evaluated according to much broader criteria than reduction of symptoms, encompassing emotions and connections with others.

Among the traditional acupuncturists interviewed, a similar kind of 'embodied' evidence for efficacy could be seen. All practitioners cited their own clinical experience as primary evidence that acupuncture 'worked', with none specifically referring to any research or trials of acupuncture. For many, one or two 'miraculous' cases they had treated or seen was like a 'conversion' experience enabling them to believe in Chinese medicine. For others, evaluation of the success of acupuncture, because of the holistic nature of treatment, encompassed changes in all areas of a patient's life. Trials of acupuncture could never fully encapsulate this myriad of ways in which acupuncture might affect the patient: the treatment necessarily involved a particular practitioner interacting with a particular patient, using points selected (from a particular style of acupuncture) that would suit that patient at that particular time. As Williams and Popay point out, this kind of embedded, local knowledge is sometimes seen as a failed or flawed form of scientific knowledge, or as something other than knowledge altogether, but can also be seen as a mode of lifeworld resistance to system colonisation and a 'way of knowing' about health alternative to expert knowledge.

Scheid (1993) has also commented on the different forms of knowledge creation characterising biomedicine and Chinese medicine, whereby biomedicine is defined by its high degree of professionalisation, high resource concentration and collegiate structure. This fits with a system of medicine focused on body parts and an emphasis on 'facts'. Chinese medicine, by contrast, has traditionally had a loose professional organisation and is more accurately characterised as a 'conversational' field, with many different schools co-existing, where personal experience is valued (rather than laboratory science) and even fundamental aspects of theory continually debated amongst practitioners. In this manner, different 'ways of knowing' are characteristic of the different systems of medicine.

This small study shows the complexity of the responses of traditional acupuncturists to the growth of evidence-based medicine. Whilst, on the whole, rejecting the tools of biomedicine to evaluate traditional acupuncture, there was a desire nonetheless to construct traditional acupuncture as a rational, scientific system of medicine, but *in its own way*, thus using rationality as a legitimising tool, whilst maintaining a distinction and resisting colonisation from biomedicine. Habermas's distinction between 'system' and 'lifeworld'

provides a useful framework, but requires elaboration for the range of strategies seen. Two of the practitioners interviewed had taken part in or conducted research studies in collaboration with doctors, although both expressed doubts about the validity or potential generalisation of such trials: for all practitioners, their own clinical experience was primary in assessing the effectiveness of acupuncture treatment. This 'embodied' evidence, encompassing a wide range of treatment outcomes, was for all practitioners the most compelling, but the subjective nature of this knowledge meant it was difficult to use as a legitimising and professionalising strategy, the more so in a context that emphasises and values systematisation and rationalisation.

The reflexive nature of modern Western societies means that this UK study is a small 'snapshot' set in a particular historical context of an emerging acupuncture profession. The views expressed by the practitioners must therefore be seen as contingent and subject to change as acupuncturists reflexively engage with the current regulation process, and traditional acupuncture practice in the West grows and is transformed by its encounter with late-modern capitalism. Whether a new and genuinely different discourse can emerge from the encounter remains to be seen.

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