

The Use of Evidence in Acupuncture Clinical Practice

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This paper reports on a qualitative study of beginner acupuncture clinicians' experiences of clinical practice. An analysis of the 42 interview transcripts revealed that these practitioners relied primarily upon traditional, experiential and reflexive knowledge in clinical decision-making. None of the practitioners interviewed used evidence arising from formal research in clinical practice decision-making. A subsequent review of acupuncture research reports showed that most acupuncture research had been undertaken to prove the therapeutic efficacy of acupuncture rather than generate knowledge that could be used to inform clinical decision-making. This paper suggests that the dominant acupuncture research emphasis of proving therapeutic efficacy, compounded with a paucity of research-generated knowledge relevant to acupuncture clinical decision-making, has been detrimental to the development of evidence-based acupuncture practice. The paper proposes that partnerships between researchers and practitioners are essential in developing research that informs practice, improves the quality of practice and leads to the heightened use of evidence in acupuncture clinical decision-making.

KEYWORDS acupuncture, evidence-based practice, clinical practice, research.

Background

In Australia there is a high level of community acceptance of complementary health modalities¹ and most private health funds provide member rebates for services from accredited complementary medicine practitioners. A representative population survey of over 3000 persons in South Australia found that 52% of participants used at least one form of complementary medicine.² Acupuncture is one of the most broadly accepted and widely practised forms of complementary medicine in Australia. Four universities offer undergraduate acupuncture programs with course structure and content closely aligned with the curriculum of Chinese medicine education in China. Practitioner comments and clinical reports indicate that many acupuncturists in Australia view 'best practice' as the replication of extensively used, yet under-researched, traditional acupuncture knowledge and skills. This paper reports on a qualitative study of university-trained non-medical acupuncturists' experiences of clinical practice.³ In particular, the paper examines practitioners' use of knowledge in clinical practice.

Method

As a second-order study that sought understanding of phenomena from the standpoint of participants and their experiences, phenomenography was selected as the preferred research method.^{4,5} The study was not undertaken with any a priori set of themes or perspectives that would be applied and tested; instead the research sought understanding through a process of discovery. Semi-structured interviews ($n = 42$) focused on uncovering participants' experiences of clinical practice, as distinct from what the participants or experts believed 'should' occur in the clinical encounter. Each interview lasted approximately 45 minutes, with these being audio-taped and later transcribed for analysis.

An iterative process of reading and re-reading of the interview transcripts was employed in analysing the data to identify the major styles of practice and the types of knowledge that participants drew upon in clinical decision-making. This paper reports upon the types of knowledge that participants used in clinical practice and explores the implications of

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these knowledge categories with respect to informed clinical decision-making. In analysing the interview data, no attempt was made to categorise individual participants as pertaining to one or more approach to knowledge usage, because the study assumed that each practitioner might draw upon a range of knowledge categories in clinical decision-making.

Results

In addition to identifying distinct modes of practice and the modus operandi of each, the study provided insight into the types of knowledge that practitioners drew upon to inform practice. The knowledge categories were differentiated on the basis of the qualitatively different types of knowledge that practitioners drew upon in practice. Three major knowledge categories were identified. The analysis did not sub-divide these into smaller categories relative to the various ways in which knowledge was acquired and/or used, although it is acknowledged that such analysis could be useful in discussions about learning strategies. The study identified three knowledge categories: Traditional Knowledge, Experiential Knowledge and Reflexive Knowledge.

A. TRADITIONAL KNOWLEDGE

This represented the commonly accepted theories and skills of Chinese medicine contained in major textbooks and the undergraduate curricula of university acupuncture programs. Participants appeared to view this knowledge as 'factual' and therefore saw 'good practice' as the correct application of the traditional knowledge rather than the adaptation or reinterpretation of the traditional knowledge within a contemporary Western health context.

B. EXPERIENTIAL KNOWLEDGE

This category of knowledge represented the collection of views and skills that practitioners had tried and found to be effective in clinical practice. It comprised traditional knowledge and practices that had been tried by the individual practitioner and found to be therapeutically useful. It omitted theories and skills that had been found to be ineffective and those that had not been tested in practice. This category represented pragmatically based, largely unreflected knowledge that was accorded value because individuals found it worked. From this perspective 'good practice' was primarily concerned with 'getting results', and if results were not forthcoming, then clinical strategies were changed.

C. REFLEXIVE KNOWLEDGE

This category contained knowledge that arose from reflection. It included practitioners' reflections on their own clinical experiences, insights from other practitioners and reinterpretations of Chinese medical theories by contemporary Western authors. Some participants mentioned the writings of

Leon Hammer and Loni Jarrett as examples of valued reflexive knowledge. From this perspective 'good practice' required the adaptation of traditional knowledge to contemporary health issues. In reflecting on experiences, some participants reported that they consulted with their peers or other colleagues to discuss, reflect and gain insight in the diagnosis and treatment of clinical presentations.

A comparison of these findings with those from Hsu's ethnographic study of Chinese medicine practice in China,⁶ revealed that Category A, Traditional Knowledge, was similar to what Hsu identified as 'Standardised Knowledge'. This body of knowledge is the collective historical experience of Chinese medicine expressed in theories, historical writings and modern textbooks. Even though this body of knowledge is grounded in Chinese socio-cultural views of health and disease, and expressed in theories that remain largely un-researched, it is arguably the dominant knowledge category in contemporary acupuncture practice in both Asia and the West.

Parallels between Category B, Experiential Knowledge, and Hsu's category of 'Personal Knowledge' exist with respect to the fact that they are both highly subjective, practitioner-centred, un-researched sources of information. Experiential Knowledge represents a highly pragmatic non-reflexive approach to the use of knowledge in clinical practice wherein practitioners reapply that which has worked in previous clinical contexts. A major limitation of this non-reflexive approach is that it assumes a subjective stance to understanding therapeutic effectiveness and providing best-practice treatments.

Hsu's category of 'Secret Knowledge' was not significantly present in the data of the Australian study; however, this author acknowledges that some practitioners place high credence upon personal knowledge gained from senior master practitioners. Socio-cultural differences between the cohorts in the respective Australian and Chinese studies^{3,6} may account for the presence of a 'Secret Knowledge' category in Hsu's China-based study and its absence in this author's Australia-based study.

Reflexive Knowledge, with its emphasis upon reinterpreting Chinese medical knowledge in the contemporary Western health setting, highlights a significant issue for practitioners in the West. The Reflexive Knowledge category recognises that theory, practice and one's understanding of these are highly 'culture bound'.⁷ Reflection, especially when undertaken in conjunction with colleagues, arguably improves the quality and relevance of practice knowledge.

Absent from the practitioner interview transcripts was any reliance upon research-based knowledge in clinical decision-making. This omission, combined with a heavy reliance upon traditional under-researched knowledge, is a matter of concern

in a world in which health professionals are required to justify their diagnoses and treatments.

In view of this finding the author conducted a number of discussions with practitioner colleagues to explore the use/non-use of research-based knowledge in clinical decision-making. These discussions confirmed the finding of the study that 'research-generated knowledge' is not commonly referenced in acupuncture clinical decision-making. Three reasons are advanced in explanation of this trend:

1. Difficulty in accessing acupuncture research;
2. Difficulty in understanding the research and/or being able to evaluate the quality of the research study outcomes;
3. Reservations about the relevance of acupuncture research to clinical practice.

1. DIFFICULTY IN ACCESSING THE RESEARCH

In Australia, the considerable level of practitioner interest in 'new knowledge' is evident in the high proportion of practitioners who attend both national and international acupuncture conferences. In addition, there is an increasing number of practitioners who, after some years in practice, report their clinical insights at national conferences. This author suggests that these trends are indicative of a maturing profession, eager for information that will enhance the quality of clinical practice.

However, for many practitioners in the West, locating quality information is a complex enterprise. There are very few online journals with free-of-charge article abstract summaries. Furthermore, much research undertaken in China is not reported in English journals and very few Chinese medicine journals are subsumed within electronic medical databases such as Medline or PubMed. The compounding effect of these limitations is that practitioner information searches occur in a somewhat hit-or-miss fashion.

Even in disciplines where practitioners have ready access to research-generated knowledge, speed of information transfer from 'that which is known' to 'that which is used in practice' is a substantial issue. In North America, it is estimated that there is a seventeen-year time lag from when clinically relevant biomedical information is generated to when the same research knowledge is broadly applied in clinical practice.⁸ This time lag in biomedical knowledge transfer has substantial implications for the quality of patient care and Grof⁹ has estimated that 30% to 40% of patients receive biomedical treatments that have not been proven to be effective. McGlynn et al.¹⁰ have estimated that 20% to 25% of patients receiving biomedical care are given treatments that are either unnecessary or potentially harmful.

In Australia, the Commonwealth Government has established the National Institute of Clinical Studies to address the time lag in 'knowledge uptake' in biomedical practice by identifying the critical gaps in evidence uptake and implementing strategies to redress these throughout the health care system.¹¹ While no comparable organisation exists to address the issue in complementary medicine, one can surmise that poor access to current knowledge has a negative effect on the quality of clinical practice.

2. DIFFICULTY IN UNDERSTANDING THE RESEARCH

Familiarity with research terminology and methodologies is critical to understanding and evaluating research reports. The apparent need for practitioner up-skilling in this area suggests needed changes in university acupuncture curricula and practitioner professional development programs.

Undergraduate and postgraduate university programs in Chinese medicine tend to incorporate subjects on research methods and designs. In such subjects students achieve a basic understanding of research planning, ethical issues, research methodologies and analytical procedures, especially with respect to Chinese medicine. While critique of current research is also included in these subjects, greater attention may need to be given to assisting students in evaluating research articles and exploring ways in which research knowledge can enhance the quality of clinical practice. Such a strategy would go some way towards enhancing the scope and depth of knowledge that practitioners draw upon in clinical decision-making and assist in lessening the gap between 'that which is known' and 'that which is applied'.

3. RESERVATIONS ABOUT THE RELEVANCE OF RESEARCH

A review of peer-reviewed acupuncture journals available in English revealed that many articles report and discuss acupuncture research. It is also apparent that major acupuncture conferences have a high emphasis upon reporting the findings of laboratory and clinical studies in acupuncture. A more detailed examination of the focus of this research reveals that most acupuncture research has been undertaken for the purpose of 'proving' that acupuncture is effective in the treatment of specific medical conditions (usually defined in biomedical parameters) or exploring the biomedical basis of the 'acupuncture effect'.

The outcomes of such research are of notable interest to acupuncture practitioners as these studies help validate acupuncture. However, knowing that needling certain acupuncture points produces measurable neurological or biochemical effects is of limited benefit in improving the quality of clinical decision-making in acupuncture practice. A detailed

review of peer-reviewed journals shows that there are very few studies undertaken for the purpose of exploring clinical practice issues. Moreover, very few articles explore the clinical application of research findings and Claraco et al.¹² suggest that researchers need to be more sensitive to 'practitioner needs' and provide summaries of research undertakings in succinct form.

Critique of prevailing acupuncture research agenda was evident at the 2004 World Federation of Acupuncture-Moxibustion Societies (WFAS) 6th World Conference on Acupuncture. At that conference McDonald¹³ suggested that the designs of many acupuncture randomised clinical trials (RCTs) were flawed because the RCT did not reflect the manner in which acupuncture was practised. Similarly, Janz¹⁴ suggested that inconclusive results in RCTs that measured the effectiveness of acupuncture in relieving lower-back pain was indicative of poor RCT design. Inconsistencies between the outcomes of RCTs and well established clinical experience, as in the case of lower-back pain studies, is possibly one reason for practitioner dissatisfaction with some RCT acupuncture research. The RCT use of selective homogeneous populations and clinical procedures that only vaguely replicate the clinical practice environment may also be a source of discrepancies between RCTs and practitioner experiences.

With respect to acupuncture research, there are also questions about the clinical relevance of the findings from many RCTs. For example, even if RCTs proved that acupuncture was highly effective in treating lower-back pain, it is unlikely that such results would change the way practitioners treat lower-back pain. If on the other hand there were studies that explored the relative effectiveness of various acupuncture points on different types of lower-back pain, then such research would have significant relevance for clinical practice.

While research that proves therapeutic efficacy of acupuncture has helped establish its credibility amongst the biomedical profession, health policy-makers and the community at large, it appears to have had little impact upon improving the depth and quality of knowledge applied in clinical decision-making. This author suggests that in order to broaden the acupuncture research agenda to incorporate practitioner research interests, practitioners and researchers will need to build research partnerships.

Key points

- Practitioners rely primarily upon traditional knowledge, clinical experience and reflexive knowledge in clinical practice.
- This paper does not suggest that the collective body of traditional knowledge and practitioner experience is unimportant or invalid, but raises concerns about

acupuncturists' reliance upon under-researched knowledge in clinical decision-making.

- This study explored the types of knowledge that informed practitioners' clinical practice and raised concerns about the lack of research-generated knowledge in clinical decision-making.
- The paper suggests that one major reason for this phenomenon is that, because acupuncture research has focused upon proving clinical efficacy, there is a considerable lack of research-generated knowledge that can be applied in clinical decision-making.
- Partnerships between practitioners and researchers are necessary in developing clinically relevant acupuncture research.

Conclusion

This paper has reported some of the findings of a qualitative study of acupuncturists' experiences of clinical practice. Participants reported that they rely upon traditional knowledge, experiential knowledge and reflexive knowledge in diagnosis and treatment. The study found that there was a low use of research-based knowledge in clinical decision-making.

This paper has highlighted some of the obstacles practitioners face in accessing and understanding acupuncture research, and commented upon the lack of clinically relevant acupuncture research. While the research focus upon proving clinical efficacy and exploring the scientific basis of the acupuncture effect has been important in ensuring the acceptance of acupuncture in the West, this paper suggests that the research agenda need expansion to include clinical practice issues and generate knowledge that will improve the quality of information that practitioners draw upon in clinical decision-making.

Acknowledgments

This study was conducted with the approval of the Victoria University Human Research Ethics Committee.

References

1. Coulter I, Willis E. The rise and rise of complementary and alternative medicine: a sociological perspective. *Med J Aust* 2004;180(11):587-9.
2. MacLennan A, Wilson D, Taylor A. The escalating cost and prevalence of alternative medicine. *Prev Med* 2002;35:166-73.
3. Ryan D. A phenomenographic study of beginner acupuncture clinicians' conceptions of practice and learning [PhD thesis]. Melbourne, Vic.: Victoria University; 2003.
4. Marton F, Booth S. Learning and awareness. Mahwah, NJ: Lawrence Erlbaum; 1997.
5. Svensson L. Theoretical foundations of phenomenography. *Higher Education Research and Development*. 1997;16(2):159-72.

6. Hsu E. The transmission of Chinese medicine. Cambridge, UK: Cambridge University Press; 1999.
 7. Brown J, Collins A, Duguid P. Situated cognition and the culture of learning. *Educational Researcher* 1989 Jan–Feb; 32–42.
 8. Institute of Medicine. Crossing the quality chasm: a new health system for the 21st century. Washington, DC: National Academy Press; 2001.
 9. Grol R. Successes and failures in the implementation of evidence-based guidelines for clinical practice. *Med Care* 2001;8 Suppl 2:1146–54.
 10. McGlynn EA, Asch SM, Adams J, Keesey J, Hicks J, DeCristofaro A et al. The quality of health care delivered to adults in the United States. *N Engl J Med*. 2003;348:2635–45.
 11. National Institute of Clinical Studies [Online]. 2003 [cited 22 Aug 2006]. Available from: <http://www.nicsl.com.au>.
 12. Claraco AE, Fargas-Babjak A, Hanna SE. The reporting of clinical acupuncture research: what do clinicians need to know? *J Altern Complement Med* 2003;9(1):143–9.
 13. McDonald J. The blind leading the blind: why double-blinding is inappropriate for acupuncture research. WFAS 6th World Conference on Acupuncture; 29–31 Oct 2004; Gold Coast, Australia.
 14. Janz S. Evidence-based practice: destroying the art of acupuncture. WFAS 6th World Conference on Acupuncture; 29–31 Oct 2004; Gold Coast, Australia.
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