INFORMED PRACTICE

The evidence funnel: Highlighting the importance of research literacy in the delivery of evidence informed complementary health care

Paul M. Finch, Ph.D., M.Sc., D.Pod.M*

Sutherland-Chan School of Massage Therapy, 330 Dupont Street, Toronto, Ontario, Canada M5R 1V9

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Summary
The intent of this paper is to present a view of evidence informed complementary and alternative health care in which the importance of research literacy is emphasized. To this end, the concept of an evidence funnel is suggested. This funnel helps to demonstrate the crucial role of research literacy in linking a non-hierarchal evidence structure to evidence informed patient care. One of the implications of this perspective is the need for professional programs and schools to plan curricula such that students develop a reasonable understanding of basic research methods. Additionally, students should have sufficient opportunity to evaluate and utilize evidence during, in particular, the clinical component of their education.

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Introduction

The continued professionalization of complementary health disciplines, such as massage therapy, brings with it benefits to the members of the profession and to the public they serve (Finch, 2006). Viewed within an Essentialist Framework, there are a number of traits, or characteristics, that define an occupational group as a profession (Banks, 2004). One of these is the opportunity to develop new knowledge (Freidson, 2001) through research activity, the natural sequel to which is an evidence-base supporting and informing practice.

In an evidence-informed practice model, the clinician bases treatment decisions on a blend of information gleaned from best research evidence, patient values, and clinical expertise, the latter encompassing experience and skills (Sackett et al., 2001). In addition to this, it has been shown that patient and practitioner preference, and peer group advice also influence decision making (Gabbay and LeMay, 2004).

Fundamental to evidence-informed practice is not only the existence of relevant research evidence, but also the ability of practitioners to...
evaluate the literature in an informed and reasonable fashion. This reflects the notion that one of the early steps in developing an evidence-informed approach to practice within a professional group is the creation of a research literate cadre of practitioners, research literacy being defined as understanding research language and its application to practice (Williams et al., 2002).

A key concept underlying evidence based medicine, is the use of a hierarchy of evidence to inform therapeutic decisions. However, a number of authorities have noted that the traditional hierarchy focusing, as it does, on causal research methods prioritizing the randomized controlled trial, is a somewhat narrow view of what constitutes “good” evidence (Jonas, 2001; Jagtenberg et al., 2006; Walach et al., 2006). These authors have argued that this view is not always well aligned with the needs and orientation of complementary and alternative health-care disciplines, which adopt an approach to care that can be described as complex (Walach et al., 2006) holistic or vitalistic (Gordon, 1980; Jagtenberg et al., 2006) wellness oriented (Yates, 2004; Alexander, 2006) or biopsychosocial (Engel, 1977, 1980).

In order to address the concern related to what constitutes good evidence, Jonas (2001) proposed the concept of an Evidence House which is based on an arrangement of non-hierarchical “rooms” which contain different types of information. More recently, Walach et al. (2006) further developed this theme by suggesting a circular evidence structure. These authors noted that different research designs complement each other and that there is no intrinsically superior design. Rather, different designs have equal weight and should be chosen according to their best fit with the research question at issue.

With respect to complimentary and alternative health disciplines, the Evidence House and Circle represent important steps toward a more inclusive perspective of evidence that is well aligned with a holistic orientation to practice. This paper is intended to build on this perspective by emphasizing the importance of research literacy in an evidence informed model of practice based on an inclusive evidence structure.

The evidence funnel

In order to represent the central position and importance of research literacy in evidence informed care, the notion of an Evidence Funnel is proposed (Fig. 1).

The structure of the Evidence Funnel is such that the responsibility of the health-care professional for decision making based on reasonable assessment of the available best evidence, in addition to clinical expertise and patient values, is emphasized. In this model, as in the clinical reality of the practitioner, evidence gained through different research designs and from many different sources flows to the clinician. The contents of the Funnel reflect these different sources, and although not intended to be an exhaustive listing, does reflect the diversity of information sources relevant to patient care.

In the Funnel, information from various sources enters the Relevant Evidence section, after which it is only through assessment by the research literate practitioner that the best, most impact-full evidence will influence therapeutic decisions.

Discussion

In the assessment process alluded to above, the notion of best evidence is important, in that it accommodates the fact that the quality of evidence and the appropriateness of applying it to practice are variable. Importantly, this variability is related not to the category of design per se, but to the fit of the research with the question being asked, the strengths and limitations of the work, and its degree of relevance to the clinical issue confronting the practitioner.

Thus, in evidence informed care, research literacy is arguably as important as any other means of gathering patient related information, including, for example, case history taking and interpretation of physical examination findings. If this is indeed so, professional programs and schools should ensure that their curricula devote adequate attention to preparation of students with respect to research methods, the evaluation of evidence, and its application in the clinical setting. Ideally, this learning should not be compartmentalized. It should permeate the education of students in both didactic and clinical settings, and there are a number of approaches to curriculum design that emphasize the development of both an evidence informed orientation and skills related to research literacy.

Problem-based learning (PBL) is such a curricular approach, and is based on the principles of adult learning as described by Knowles et al. (1998). Although there are variations on the theme of PBL (Barrows, 1986; Charlin et al., 1998; Harden and
Davis, 1988), the student is recognized as a dynamic learner, and the instructional strategy is therefore student centered and self-directed (Barrows, 1983; Coulson, 1983). Although detailed discussion of PBL is beyond the scope of this paper, it should be noted that the student’s learning is driven by a series of cases which are encountered in small PBL tutorial groups.

Embedded in the PBL process is the need for students to independently search for and evaluate literature related to the case before them. The information gathered is then brought back to the tutorial group for presentation and discussion. This process has been shown to stimulate the development of sound research skills (Finch, 1998), which encompasses literature search and evaluation skills, and additionally fosters an ability to make decisions on the basis of the information gathered. This approach to learning is clearly well aligned with the development of research literacy, and might be considered by programs wishing to centralize the development of such skills.

Additionally, PBL is an educational approach that prepares students for an evidence informed approach to practice, in that it requires them to make decisions in the context of information that is gathered, sifted and evaluated in relation to questions or learning issues. This is a process similar to that underlying evidence informed practice: initially a clinical question and a search strategy are developed, after which the literature collected will be sifted and the most relevant evidence prioritized.

In the model represented by the evidence funnel, prioritization will not be based only on the design of the research, but also on the alignment of the design with the question posed. For example, if the clinical question relates to cause and effect, then prioritization will follow the traditional evidence hierarchy, with a focus on quantitative designs such as randomized controlled trials (RCTs). However, if the question is more exploratory, qualitative methods such as case series or case studies may be more appropriate.
as the randomised controlled trial. However, if the question relates to, for example, the experience of women having undergone mastectomy for breast cancer, and how this might influence the interpersonal approach of the therapist, then perhaps qualitative phenomenological designs would be prioritized as the best evidence.

After prioritization on the basis of alignment between question and design, evaluation of the quality of the research within the parameters of its design will occur. Clinical decisions can then be made on the basis of the best evidence most relevant to the question being asked.

Conclusion

In conclusion, it is the central position of research literacy in the evidence informed practice model that the Evidence Funnel is intended to represent. Furthermore, it is through the research literate clinician, in whom a defining characteristic is the ability to reasonably and knowledgably assess the available literature, that the endeavors of the research community can be best leveraged with a view to enhancing treatment outcomes. It therefore becomes incumbent on professional programs and schools to plan curricula such that students develop research literacy skills and have sufficient opportunity to apply research findings in a clinically relevant fashion.

Conflict of interest

The author declares he has no conflict of interest.

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References


