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# Exploring evidence-based occupational therapy

***This paper will explore how the concept of EBP has evolved and how it might be translated into evidence-based occupational therapy (EBOT).***

By Clare Taylor

## The evolution of evidence-based practice into evidence-based occupational therapy

EBP began in Canada where medical students were taught how to find and appraise relevant research papers within a problem-based educational curriculum. From these beginnings the concept of evidence-based medicine (EBM) was born, and was defined by Dave Sackett as: *The conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients* (Sackett et al, 1996: 71).

This definition, however, whilst acknowledging that EBP is about how we make decisions about interventions, it does not clearly explain what the «evidence» to be used in decision-making actually consists of.

Muir Gray's subsequent exploration of EBP in the wider context of health care in general gives more clues about the potential nature of «evidence» within EBP: *An approach to decision-making in which the clinicians uses the best evidence available, in consultation with the patient, to decide upon the option that suits the patient best* (Gray, 2001: 17).

This definition seems to sit better with an OT client-centred perspective, as it acknowledges that the patient might have a part to play in the decision-making process and also hints, as Sackett did with his use of the word judicious, that whilst the evidence may point to a particular intervention, that may not be the best action for any specific patient.

However, both Sackett's and Muir Gray's concepts of EBP are firmly rooted in *health* care and particularly in medical practice, where interventions can be seen as relatively straightforward. The worlds of OT and of *social* care is much more complex and needs a broader understanding of how evidence might be used within the decision-making process.

## Evidence-informed practice

Some 10 years after EBP had begun to influence health-care practice, the world of social care began to acknowledge the need for a more rigorous approach to intervention decision-making and the notion of evidence-informed practice entered the EBP lexicon. Evidence-informed practice has been defined as: *The practice of a range of professionals whose decisions are grounded in a sound knowledge of the needs of service users. This knowledge is informed by the best available evidence of what is effective, the practice wisdom of professionals and the experience and views of service users* (Research in Practice, 2005: 14).

Here we have a much wider and all encompassing approach to the notion of «evidence», or knowledge as the definition terms it. Not only is research evidence into effectiveness needed but also evidence from the service user and, perhaps most importantly, the experiential evidence of the professional is acknowledged as being a vital component of the decision-making process. Here, in evidence-informed practice, we begin to see something that might fit better with the philosophy and practice of OT than the apparently very rigid and mechanistic approach of EBM.

## Evidence-inspired practice

However, just as the picture of EBP was beginning to become clearer, another term entered the lexicon, that of evidence-inspired practice. This term was coined by health psychologists Michie and Abraham (2004) in their critique of the evidence that is often cited to support a variety of interventions used to change health behaviours, such as smoking cessation and safer sexual behaviours. Whilst these are not areas, perhaps, that might have direct relevance to OT their critique does offer us food for thought in our exploration of the nature of EBM and how it might be usefully understood and applied within OT.

They suggest that any research into the effectiveness of an intervention

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**Abstract**

Evidence-based practice (EBP) was the buzzword and trend of the 1990s. However, unlike other trends, EBP hasn't faded away. EBP has evolved into EB occupational therapy (EBOT), EB nursing and EB everything else, expanding from its beginnings in medical practice to encompass health and social care contexts. The lexicon of evidence-based terminology has been expanded to include concepts such as evidence-informed and evidence-inspired practice. In 1992, there was one citation for evidence-based medicine on Medline (Strauss 2004, p353): there are now more than 59,000 references to EBP and 81 references specifically to EBOT on CINAHL.

This paper will explore the evolving nature of EBP and will debate the meaning and implications that the newer concepts of evidence-informed and evidence-inspired practice have for EBOT. The definitions of 'evidence' within EBP have also evolved and developed as EBP has broadened into the social care arena, and the paper will explore the nature of evidence within EBOT.

Whilst EBOT is comparatively well-known and well established in English-speaking countries, such as Australia, the UK, Canada and the United States, it is, however, less well established in many non-English speaking countries, partly because the majority of the literature is published in English. This paper will explore the challenges facing non-English speaking occupational therapists wanting to become evidence-based practitioners and will outline ways that these challenges might be overcome.

Evidence-based practice (EBP) is a term that has been used in health care settings for the past 15 years. However, whilst it is a commonly used term, how well is it really understood and how does EBP fit into the context of occupational therapy (OT)? This paper will explore how the concept of EBP has evolved and how it might be translated into evidence-based occupational therapy (EBOT). It will also discuss how the concepts of evidence-informed and evidence-inspired practice might help develop a clearer notion of how EBOT might truly relate to clinical practice. EBP developed in English-speaking countries, how well can this Anglo-centric concept be applied in Norway?

should be able to answer three questions about the intervention:
*Does it work?*
*How well does it work?*
*How does it work*?

Whilst the first two questions are probably familiar to anyone who has attempted to appraise any intervention study, either a randomised controlled trial or a systematic review, and are relatively straight forward the final question will be less familiar.

By looking at the analysis of any RCT or systematic review we can see whether the researchers have shown that the group receiving the intervention being investigated did, in fact, do better than the control group. Therefore answering the question, «does it work». Slightly more thorough reading of the results should also allow us to assess whether the people in the intervention group did a «lot better» or only a «bit better» than those in the control group. In other words, how well the intervention worked. Always assuming that the RCT or systematic review was a well designed study in the first place and the results are valid and not based on poor research design.

The third question, «how does it work», is the interesting and more complex question. This question explores the theoretical underpinnings of the research and also the fine details of what exactly the intervention consisted of. Michie & Abraham argue that if an intervention study lacks theoretical rigour as well as precise definition then any future interventions based on that research will be evidence-*inspired* rather than evidence-*based* or evidence-*informed*. For OT this is something that needs to be explored and debated further. Because of the complexity of may OT interventions many RCTs adopt a pragmatic approach, where the intervention is tailored to the specific needs of the individual patient. This often means that the intricacies of the intervention are not explored or outlined when the findings are published and so as practitioners reading the research paper, we do not have a clear idea of what the intervention was or how it might work successfully. Thus it might be argued that many interventions that are assumed to be evidence-*based* are in fact just evidence-*inspired*, because the detailed knowledge and evidence is missing.

## Evidence-based occupational therapy

As EBM evolved into EBP and professional groups beyond medicine became involved in the EBP movement, they all felt the need to make EBP their own. This involved re-defining EBP into evidence-based nursing, evidence-based physiotherapy etc. OT was, therefore, not alone in redefining EBP into something that was much more closely aligned to the philosophy and practice of OT. Thus EBOT was born: *Client-centred enablement of occupation based on client information and a critical review of relevant research, expert consensus and past experience* (CAOT, ACOTUP, ACOTRO, & PAC, 1999).

Here decision-making is based not only on research evidence but also information from the client and from the practitioner's experiential knowledge. The definition also acknowledges that, whilst there is research evidence to support some interventions in OT, for many interventions there is little sound research evidence and so in these cases we must rely on what the experts deem to be the most effective interventions.

These definitions are useful in introducing us to the notion of EBP and EBOT, but they do not really tell us what EBOT is and how to be an evidence-based occupational therapist. However, Gray's notion of «doing the right things right» (Gray, 2001:20) and Cusick's idea of «asking the right questions» (Cusick, 2001: 104) help us to understand that EBOT is about constantly questioning our practice to ensure that the actions we are taking are the most effective and that they are being carried out in the a rigorous and efficient manner. As well as making sure that any decision is underpinned by sound evidence.

Asking the «right» questions means constantly asking ourselves: «am I the right person, doing the right intervention, with the right person, in the right place at the right time and at the right phase of the person's illness». This could mean questioning whether the action is OT specific, if it is appropriate to see the client in hospital or at home, should interventions happen every day or just once a week, and is it important how quickly the patient is seen after the onset of their illness.

## The notion of «evidence» in EBOT

Throughout this discussion of EBOT we have mentioned the notion of «evidence» and begun to hint and what this thing called evidence might consist of. It is important to explore this notion further and to see how evidence is viewed within EBOT.

Earlier the concepts of evidence-*based* and evidence-*informed* practice were outlined. Because these two concepts come from different perspectives in the health and social care arena they have differing approaches to the nature and value of evidence within

*Evidence-based practice comes from the healthcare arena, where interventions are relatively simple and straightforward. Decisions about whether drug A is more effective and appropriate than drug B.* *Foto: Hengfen Li*

decision-making.

Evidence-based practice comes from the healthcare arena, where interventions are relatively simple and straightforward. Decisions about whether drug A is more effective and appropriate than drug B. Because of this the approach to evidence is straightforward, with systematic reviews and randomised controlled trials (RCTs) being seen as the best evidence to demonstrate the effectiveness of an intervention. It is also possible to develop a clear hierarchy of the best and most appropriate evidence for EBP:

- Guidelines
- Systematic reviews
- RCTs
- Other experiments
- Descriptive
- Expert consensus
- Respected opinion.

Evidence-informed practice, on the other hand, has its roots firmly in social care, where the service user/consumer perspective is as important as the research evidence and where policy is seen to have a powerful impact on the nature of interventions. The interventions of social care are also more complex and multi-faceted. Because of these different perspectives and drivers the notion of evidence within evidence-informed practice and the EBP of social care is much broader and all evidence is seen as equally important, rather than having a defined hierarchy. The evidence of evidence-informed practice includes:

- Organisational knowledge
- Practitioner knowledge
- User knowledge
- Research knowledge
- Policy knowledge.

This perspective on evidence has much more resonance with EBOT that the rigid hierarchical view of EBP. It must, however, be acknowledged that different evidence-based questions require different types of evidence and that all evidence must be reviewed and thoroughly appraised before it is applied to practice. Thus a question about what is the best intervention for improving occupational performance in someone who has recently had a stroke will need to include evidence from systematic reviews and RCTs, whilst an exploration of MS-related fatigue in order to guide the development of a fatigue management programme will need to focus on qualitative research into the experiences of people who are living with MS-related fatigue.

### EBOT in Norwegian?

EBP was developed in English-speaking countries, notably Canada, Australia and the UK. It is widely acknowledged that the majority of research evidence is published in English and that it is more difficult for non-native English speakers to adopt an EBOT approach (Ilott et al, 2006). How, then might EBOT in Norwegian be fostered and developed? Perhaps some insights from research with Italian OTs might be valuable.

Working with Italian OTs the following barriers to the development and implementation of EBOT were identified:

- Lack of appraisal skills
- EBP is a low departmental priority
- Limited management support

- Lack of time
- Limited awareness of and access to research
- Isolation from likeminded colleagues
- How to apply evidence in practice?

These barriers were also found when EBP and EBOT were beginning to become established in the UK (Upton, 1999a, 1999b). It is reassuring to note that in the last 10 years these barriers have, for the most part been overcome. Potential solutions to these barriers can be in the identification of EBOT «champions», people who are prepared to develop high level EBOT skills and who will lead the development of EBOT locally and nationally. The next level will be the «early adopters», people who are keen to become actively involved in EBOT and who will also need education and support to develop local EBOT initiatives.

Published research is not always easy to access, either physically or in terms of understanding. Two ways of developing more accessible information are to translating the research into CAPS and CATs. CAPs are Critically Appraised Papers, which consist of two parts, the first part is a detailed summary of the research paper and the second (more critical part) is a commentary on the rigour and usefulness of the research for practice, usually written by an experienced clinician. Examples of OT CAPS can be found in the Australian Journal of Occupational Therapy. CATs are Critically Appraised Topics, these are similar in structure and process to systematic reviews although less rigorous. A CAT focuses on a clear clinical question and presents an overview of the search strategy as well as a summary of the evidence that was found and concludes with a statement in terms of the best evidence for the topics (e.g. There is evidence from one RCT that an energy conservation course run by an occupational therapist decreased the impact of fatigue by seven percent in persons with multiple sclerosis, www.otcats.com-/topics/CAT - Tammy Filby 12 Nov.html (accessed 23/10/09). A variety of OT relevant CATs can be found online at otcats.com.

***Evidence-informed practice has its roots firmly in social care, where the service user/consumer perspective is as important as the research evidence and where policy is seen to have a powerful impact on the nature of interventions.***
***Foto: Anita Patterson Pepper***

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| EBOT strategy & mission statement<br>■ Give people time<br>SWOT analysis<br>■ Identify EBOT knowledge & skills, & any gaps<br>■ Workshops to develop specific EBP skills, e.g.:<br>■ searching<br>■ appraisal | • Journal clubs<br>• EB reflection & supervision<br>• Action learning sets<br>• Developing EB case studies<br>• EB audit<br>• Developing an EB resource file/library<br>• Developing or using EB guidelines |

***Table 1: Developing an evidence-based culture***

## EBOT and me

On an individual basis, how can practitioners become more involved in EBOT?

By becoming a critical consumer of the research evidence. By reading research papers and using this information to inform practice. By developing evidence-based questions and searching for, and reviewing, the evidence to answer those questions and by looking critically at current practice to ensure that there is evidence for the effectiveness of that practice.

It is also important to develop an evidence-based culture within any practice setting. This is a culture where the questioning approach to practice and the use of evidence to underpin practice is supported and encouraged. Table 1 outlines ways of developing an evidence-based culture within practice settings and includes activities that will support an evidence-based culture.

However, before an evidence-based culture can be developed it is important not only to identify the skills level but also the receptivity levels for the change to an evidence-based culture. Here Prochaska and DiClemente's (1982, Prochaska et al, 1992) work on the stages of change (outlined in Table 2) can help us to identify how receptive we, and our colleagues, might be to becoming evidence-based

occupational therapists.

***Table 2: Stages of change***

- Pre-contemplation
  - No plans to change
- Contemplation
  - Thinking about change
- Preparation
  - Seeking information
- Action
  - Process of learning & change
- Maintenance
  - Permanent change

This concept is developed further in Taylor (2007). However, it is also worth bearing in mind what Rogers (1983) identified about the ways different individuals might approach change, and how this can be harnessed in the development of an evidence-based culture. Rogers (1983) identified four difference approaches to change:

- innovators: who are constantly looking for ways to improve and develop practice, who will be prepared to drive the development of EBOT forward;
- early adopters: who will be the next to take up the EBOT challenge and who will be enthusiastic for change and development;
- early majority: who will tend to want to stay with the status quo and will be somewhat sceptical of the change to EBOT but will support the change, once they have confidence in the value of EBOT and perceive that change is inevitable;
- late majority: who are reluctant to change;
- laggards: who have change forced upon them.

It is important to identify where individuals are in their approaches to change and to work with them wherever they are in the process of change. The innovators and the early adopters will be valuable in getting EBOT started, but the early majority will need to be convinced of the value of EBOT if any changes are to be maintained. The late majority and, particularly, the laggards will need much more direct intervention and guidance to encourage their acceptance of EBOT; this may have to be linked to appraisal and the establishing of learning contracts to encourage the development of EBOT skills.

## Concluding thoughts

Perhaps it is worth concluding with Muir Gray's (2001: 13) formula for becoming and evidence-based practitioner. He proposed that there is an interaction between motivation to become an evidence-based practitioner with competence in EBP skills, but that these will be impeded by the barriers to developing EBP. His formula states that:

$$P = \frac{M \times C}{B}$$

P = performance
M = motivation
C = competence
B = barriers.

I hope that this exploration of EBOT has given you both food for thought and inspiration for the development of EBOT locally, nationally and possibly even internationally. ❑

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