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## FEATURE ARTICLE

# Perceptions of Evidence-Based Practice: A Survey Of Australian Occupational Therapists

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*Evidence-based practice (EBP) requires clinicians to access, appraise and integrate research literature with clinical experience and clients' perspectives. Currently, little is known about occupational therapists' attitudes to EBP, their perception of implementation barriers or their educational needs. **Method:** A questionnaire seeking information about these issues was sent to a proportional random sample (by State or Territory) of 1491 members of the national professional occupational therapy association, OT Australia. **Results:** The questionnaire was completed by 649 (44%) participants.*

*Occupational therapists were positive about EBP with most (96%) agreeing that EBP is important to occupational therapy. While 56% used research to make clinical decisions, almost all relied on clinical experience (96%), and the large majority used information from continuing education (82%) and colleagues (80%). Lack of time, evidence and skills were identified as the main barriers to the implementation of EBP. Over half (52%) expressed strong interest in EBP skills training, and most (80%) indicated an interest in the availability of brief summaries of evidence. **Conclusion:** Targeted educational initiatives, resources, and systems are needed to support EBP in occupational therapy.*

Evidence-based practice (EBP) is an approach to decision-making that has permeated all aspects of healthcare. While the concept originated in medicine, it has influenced a wide range of health professions (Trinder & Reynolds, 2000). At the clinical level, EBP emphasises the integration of high quality research evidence with clinical expertise and patients' values (Sackett, Richardson, Rosenberg, Haynes & Straus, 2000). This is a process that requires clinicians to access, appraise and integrate research literature as one source for informing clinical decisions. Evidence based practice has had a significant impact not just in the clinical domain, but also in management, policy and purchasing arenas. It's influence can be seen in many of the major health systems and government health policies across the world.

Discussion of EBP in the occupational therapy literature is gaining momentum. The awareness of its relevance and importance to the occupational therapy profession is indicated by the number of occupational therapy journals devoting special editions to its understanding and debate. These include the British Journal of Occupational Therapy (November, 1997) The Canadian Journal of Occupational Therapy (June, 1998), an ongoing forum in The American Journal of Occupational Therapy, and more recently, the Australian Occupational Therapy Journal (December, 2000). While EBP has been endorsed by many of the major occupational therapy journals, the extent to which occupational therapy clinicians embrace EBP has only recently received attention. In a recent qualitative study, Dubouloz, Egan, Vallerand, and von Zweck (1999) held semi-structured interviews with eight Canadian occupational therapists drawn from different practice settings, to identify their perceptions of EBP. They found therapists held reservations about the relevance and applicability of research evidence to

occupational therapy, and that professional experience, colleagues, and the client were seen as more important to therapists as sources of evidence. The occupational therapists interviewed identified lack of research expertise and potential changes to practice brought about by evidence-based approaches as issues of concern.

To date the clearest indication of occupational therapists' perceptions of evidence based practice comes from surveys completed in the United Kingdom. In a survey of 66 occupational therapists in the acute sector of the National Health Service in the South Thames Region of England, therapists were positive towards the use of research for guiding clinical practice, with 56% reporting that their practice was based on research (Humphris, Littlejohns, Victor, O'Halloran, & Peacock, 2000). However, they identified workload pressures and lack of time for reading as factors inhibiting their use of research evidence. Similarly, a survey of 60 occupational therapists in Wales, found therapists were positive towards EBP but reported a low level of skill in literature searching, appraising and interpreting research (Upton, 1999). These trends were confirmed in a larger survey (published after the completion of the current survey) of approximately 500 occupational therapists who supervised students in the South West and South East of England and the Channel Islands (Curtin and Jaramazovic, 2001). It identified support from managers and colleagues, access to resources, and personal motivation as factors that may enable the implementation of evidence-based practice. Importantly the survey highlighted the need to investigate dissemination strategies to make resources available and to consider methods to deal with the issue of lack of time.

These concerns are also evident in other disciplines. A survey of general practitioners in England, (McColl, Smith, White, & Field, 1998) found that although general

practitioners had a positive attitude towards EBP, their main concern was lack of time to implement it.

These studies provide useful information that can guide our understanding of occupational therapists' perceptions of EBP and the likely concerns they may hold. Most of the surveys, however, were small or used non-random samples confined to specific groups, limiting the extent to which the results can be generalised. Occupational therapy practice is diverse and therapists may have different needs, stemming from variations in clinical settings and levels of experience, that require further investigation. While it is possible that therapists in Australia hold similar views as those expressed in the English survey conducted by Curtin and Jaramazovic (2001), the differences in the healthcare systems, structures and demands may influence the needs and perceptions that occupational therapists hold. A clear understanding of occupational therapists' perceptions of EBP, related resource and training needs and preferences for dissemination of these resources is warranted in order to inform the development of systems to support EBP in occupational therapy.

This study sought to address these issues in a large representative sample of Australian occupational therapists. The specific research questions posed were:

1. What are the attitudes of Australian occupational therapists to EBP?
2. What sources do Australian occupational therapists rely on to inform their clinical decision-making?
3. How confident are Australian occupational therapists in their EBP skills (e.g. searching and critiquing the literature, interpreting study results)?
4. What are Australian occupational therapists' perceptions of their training needs and priorities for EBP?
5. Are there any perceived barriers to the implementation of EBP?

6. Are there any differences in occupational therapists' responses to the above questions based on the geographical location of their practice, years of experience, highest occupational therapy qualification achieved and specific training in EBP?

## **METHODS**

### **Design**

This study used a mailed survey sent to a stratified random sample of 1491 occupational therapists who were members of OT Australia (Australian Association of Occupational Therapists Inc).

### **Survey Sample**

The sampling frame was the database of all occupational therapists working in clinical practice who were members of OT Australia in September 2000. At the time of the survey, the database had 3728 names. Response rates for postal surveys tend to fall between 10% and 50% (Weisberg, Krosnick, & Bowen, 1996), so self-administered questionnaires were sent to 40% of the list (n=1491) to achieve a proposed final sample size of no less than 150. The list was stratified by State/Territory because of the different proportions of occupational therapists in the six Australian States and two Territories, and a proportional random sample selected. A generic reminder letter was sent approximately four weeks after the initial mailout to encourage all participants to return the questionnaire. The sampling and mailout process was administered by staff at OT Australia's national office.

### **Measure**

A questionnaire was adapted for this study from one developed by [McColl et al. \(1998\)](#) regarding the perceptions of general practitioners to evidence-based medicine. It

contained four sections: (1) attitudes to EBP and use of EBP in clinical practice, (2) confidence in EBP skills and perceived barriers to its implementation, (3) training needs in EBP, and (4) a section on participants' demographic information<sup>1</sup>. EBP was defined in this questionnaire as "the conscientious, explicit and judicious use of current best research evidence in making decisions about the care of individual patients (Sackett, Rosenberg, Gray, Haynes & Richardson, 1996, p. 71). Participants were further prompted that EBP is a process that synthesises clinical experience with the strongest and most appropriate evidence available from systematic research and patients' values and expectations.

In section one, participants' attitudes were measured by having them indicate their level of agreement with a series of statements regarding research and EBP on a five-point likert scale. In section two, participants were asked about the sources that underpinned their clinical decision-making, their use of and access to databases and the World Wide Web, their confidence in search and appraisal skills, and perceived barriers to EBP. This information was sought using five-point likert scales and fixed response categories. Participants were also asked to indicate, on a 10cm visual analogue scale with the anchors 0% to 100%, the approximate percentage of time they perceived their clinical-decision making to be based on research evidence.

Section three contained questions that sought participants' interest in EBP skills training, preferred training approaches and their priorities for the development of EBP for occupational therapy using Likert scales. An open-ended question asking their suggestions or comments regarding the development of evidence-based occupational therapy was included in this section also. The questionnaire was piloted on five

occupational therapists who were not members of OT Australia. Based on their feedback, alterations were made to improve the content validity, acceptability and clarity of the questionnaire.

## Data Analyses

Data were analysed using SPSS for Windows. Descriptive statistics and univariate analyses using ANOVA and Chi-square were performed. To account for some small cell numbers and to simplify results, some response categories were collapsed. For example, in section one, responses to the attitude questions were collapsed into three categories 'disagree' (strongly disagree and disagree), 'don't know' and 'agree' (strongly agree and agree). Other responses were dichotomised. For example, the questions on perceived barriers and the usefulness of training formats were collapsed into the categories of 'not at all/ a little' and 'quite/very/ extremely', or 'not at all/a little' and 'quite a bit/often/very often'.

## RESULTS

### Characteristics of participants

Of the 1491 questionnaires distributed, 649 were completed, representing a 44% response rate. The following results show the outcome of the stratification. The proportion of responses returned compared to the original proportion of occupational therapists who were sent the questionnaire in each State/Territory of Australia (in brackets) was as follows: New South Wales, 30.7% (29.9%); Queensland, 23.4% (23.6%); Victoria, 22.0% (26.7%); South Australia, 7.4% (5.8%); Western Australia, 9.4% (8.9%); Tasmania 2.6% (2.3%); Northern Territory, 1.5% (0.8%); and the Australian Capital Territory, 1.2% (2.1%). Twenty-three questionnaires were returned not completed, either because the occupational therapist was no longer practising or was not working in an area

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<sup>1</sup> The first author may be contacted to obtain details of the questionnaire.

directly related to occupational therapy. There was a maximum of 4.5% missing data for any question and 12 of the questions had missing data of between 2% and 4.5%. Data on non-respondents were not able to be collected due to confidentiality practices of OT Australia, so response bias was not able to be determined.

The majority of participants were female (n=622, 96%) and worked in a metropolitan area [population >100,000] (n=459, 71%), with the remainder working in regional/rural [population 10,001-99,000] (n=171, 26%), remote [population <10,000] (n=13, 2%), or other areas (n=5, 0.8%), including statewide and overseas. The majority reported their highest occupational therapy qualification to be a bachelor degree (n=442, 68%), with 159 (25%) holding either a postgraduate coursework or postgraduate research qualification. Two hundred and one (31%) worked in hospital settings, 238 (37%) in the community, 87 (13%) in private practice, 27 (4%) in schools and 43 (7%) worked in a number of settings. The main caseloads of participants were adult physical/geriatric (n=324, 50%), paediatric (n=135, 21%), mental health/intellectual impairment (n=53, 8%), mixed caseloads (n=105, 16%), and other (n=30, 5%) including management or supervisory positions. The mean years of experience as an occupational therapist was 12 (SD=8.4), with a range from less than 1 to

51 years. Two hundred and twenty (34%) indicated that they had received training in EBP.

Analysis of the relationships between the demographic characteristics revealed a clear pattern in the survey population, which needs to be considered when interpreting the results. Participants working in metropolitan settings were more likely to have higher level of qualifications ( $p<.05$ ) and to have been trained in EBP ( $p<.01$ ) than those working in regional or rural locations. Overall, the longer a therapist had been working the higher the level of qualifications they had achieved ( $p<.001$ ). The exception was that therapists who had worked for more than 20 years predominantly had diplomas, the occupational therapy qualification available in Australia at that time.

### Attitudes to EBP

Table 1 summarises the attitudes of participants to EBP. High percentages of participants agreed or strongly agreed that EBP is important to occupational therapy (95.7%), that it improves client care (88.1%), and that research findings are useful in the day to day management of clients (86.3%).

**Table 1: Attitudes of participants to research and EBP**

Statements	% Strongly Disagree/Disagree	% Don't Know	% Agree/Strongly Agree
Current research findings are useful in the day to day management of my clients.	7.3	6.5	86.0
The adoption of evidence-based practice, however worthwhile as an ideal, places too many demands on my workload.	44.5	23.7	31.3
Evidence-based practice improves client care.	1.4	10.1	88.2
Evidence-based practice is of limited value in occupational therapy because there is not enough research evidence.	53.5	20.8	25.3
Evidence-based practice is client centred.	12.0	30.0	57.5
Evidence-based practice is important to occupational therapy.	0.8	2.6	95.7

\* In some instances percentages do not add up to 100% due to missing responses.

The majority agreed or strongly agreed that EBP is client centred (57.3%), although approximately one third (30.0%) were uncertain about this.

While 23.7% were uncertain about the workload demands related to EBP, 44.5% disagreed or strongly disagreed that it placed too many demands on their workload. When asked whether EBP was of limited value in occupational therapy because there is not enough research evidence, just over half of the participants (53.5%) disagreed or strongly disagreed with this statement.

The most influential demographic characteristic for these questions was whether participants had received prior training in EBP. Those with training were more likely to agree that current research findings were useful ( $p < .01$ ) and that EBP improves client care ( $p < .05$ ) and is client centred ( $p < .01$ ). They were also more likely to disagree that EBP placed too many demands on their workload ( $p < .001$ ) and that it was of limited value in occupational therapy due to a lack of research evidence ( $p < .001$ ). Participants working in regional/rural locations ( $p < .01$ ) were more likely to agree that EBP placed too many demands on their workload.

### Sources relied on in clinical decision-making

The overwhelming majority of participants (96.3%) had relied on clinical experience quite a bit, often or very often in the previous two months when making treatment decisions (see Table 2).

Information from continuing education and colleagues informed clinical decision-making for 81.9% and 79.9% of participants respectively. Current research evidence had been either not relied on or rarely relied on by 39.1% of participants, during the previous two months. The mean percentage of time that clinical decision-making was based on research evidence was estimated to be 42.3% (SD 23.4, range 0-100).

Participants who had fewer years of clinical experience were more likely to rely on information from undergraduate training ( $p < .001$ ) and colleagues ( $p < .001$ ) than those who had spent a longer time in practice.

**Table 2: Sources relied on by participants for clinical decision-making in last 2 months**

Sources	% Not at all/rarely	% Quite a bit/often/very often
Original undergraduate training	44.6	51.8
Colleagues	16.0	79.9
Current research literature	39.2	56.3
Clinical experience	0.9	96.3
Information from continuing education	13.8	81.9
Textbooks	47.1	49.4

\*In some instances percentages do not add up to 100% due to missing responses

Textbooks were relied on more often by those who worked in regional or rural locations ( $p<.001$ ). Having a postgraduate qualification was associated with more use of current research literature ( $p<.001$ ) and use of textbooks ( $p<.05$ ). The percentage of time clinical decision-making was based on research evidence was influenced only by level of qualification ( $p<.05$ ). For example, those with research Masters based more of their clinical decisions on research evidence (51.8%) than those with a coursework Masters (44.6%), Bachelor degree (41.2%) or Diploma (36.6%).

### Confidence in EBP skills

Participants were given a list of skills/activities and asked to rate their confidence in completing these activities. The categories of quite, very and extremely confident were collapsed. Participants were most confident in conducting literature searching (60.7%), yet half expressed low confidence in determining the clinical significance of research results (50.2%). They were less confident in determining study design (38.1%) and validity (37.6%) and in using the Cochrane Library's electronic databases (15.5%) (see Table 3).

Confidence was also related to demographic characteristics. The principal associations were that participants with higher qualifications ( $p<.01$ ) and those with previous EBP training ( $p<.05$ ) were more confident in EBP skills. Those working in metropolitan locations ( $p<.05$ ) and those with fewer years of experience ( $p<.001$ ) were more confident in literature searching ( $p<.05$ ) and for the latter group, in using The Cochrane Library ( $p<.05$ ).

### Perceived barriers to the implementation of EBP

Participants were given a list of factors and asked to indicate how often these factors affected the implementation of EBP in their workplace. The results are presented in Table 4. To simplify the presentation of results, data were dichotomised as 'frequently' (quite a bit, often, very often), and 'infrequently' (a little or not at all). Lack of time was the factor reported by most participants (91.7%) as affecting the implementation of EBP. This was followed by the perception that there was 'not enough evidence' in occupational therapy (63.5%).

Skill	Not at all/ a little confident	Quite/very /extremely confident
Literature searching	39.0	60.8
Determining what the design of a study is	62.1	37.9
Evaluating the validity of a study	61.9	37.6
Determining the clinical significance of a study's results	50.2	49.6
Using the Cochrane Library's electronic databases	81.7	15.7

\*In some instances percentages do not add up to 100% due to missing responses



Approximately half thought that lack of skills in locating research evidence (54.9%), lack of computing resources (52.6%), and lack of access to research literature (49.8%) were factors that frequently affected the implementation of EBP. Although 91.5% could access the Internet at some location, only 52% had access in their occupational therapy practice. Under half indicated that they could access bibliographic databases such as MEDLINE and the Cumulative Index of Nursing and Allied Health Literature (CINAHL) at either their local medical or university library (45.5%) or in their occupational therapy department (35.1%), with 22% indicating they did not have access or did not know where they could access such databases. Approximately one third (34.7%) had not conducted a literature search (or had someone else conduct it for them) using bibliographic databases in the last year. Other participants had conducted searches once or twice a year (32.0%), once every two or three months (20.8%), once a month (8.5%), or once a week or more (3.4%).

Participants who worked in metropolitan locations ( $p<.001$ ), who had received previous training in EBP ( $p<.001$ ), had worked for fewer years ( $p<.001$ ) and had postgraduate qualifications ( $p<.05$ ) were more likely to regularly conduct literature searches using bibliographic databases. Participants with previous training in EBP perceived fewer barriers to EBP than those without training ( $p<.05$ ). Participants with fewer qualifications ( $p<.001$ ) and no previous training in EBP ( $p<.05$ ) were more likely to perceive lack of skills for locating the best evidence as a barrier. Participants with more years of clinical experience were less concerned about time as a barrier ( $p<.05$ ), while those with less experience identified lack of computing resources as a problem ( $p<.05$ ). Those with access to bibliographic databases were more likely to be in metropolitan areas than in regional/rural areas ( $p<.05$ ).

**Table 4: Participants' perceptions of barriers to implementing EBP**

Barrier	Infrequently (not at all/ a little)	Frequently (often or very often)
Lack of time	7.0	91.8
Lack of computing resources	46.2	52.5
Not enough evidence	32.1	63.4
Lack of access to research literature	48.2	49.7
Lack of skills for locating best research evidence	43.7	54.7
Lack of skills for understanding research	52.2	45.4
Lack of incentive for using evidence- based practice	57.4	41.2

\*In some instances percentages do not add up to 100% due to missing responses

## Perceptions of training needs and priorities for EBP

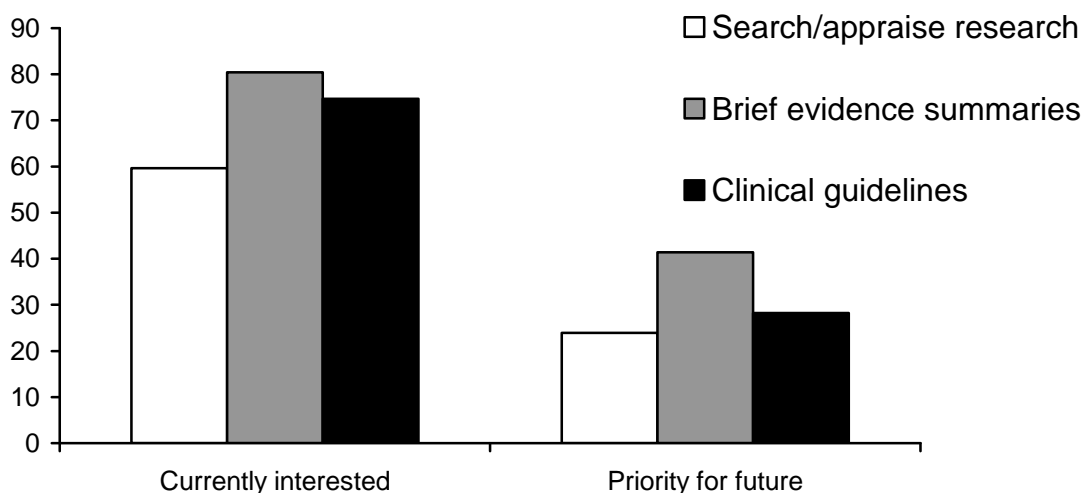
Approximately 34% of participants had already received training in EBP, and 51.8% believed further training in EBP skills such as critical appraisal and literature searching would be very or extremely useful. Around 82% of participants considered that short inservices and workshops would be quite to extremely useful as a format for further training, 79% expressed interest in brief written information and 76% in web-based resources (75.9%).

Participants with higher qualifications were less likely to perceive a need for training in EBP ( $p < .05$ ). Those working in regional or rural locations preferred training to be in the format of brief written information ( $p < .05$ ) and short inservices ( $p < .05$ ). In the space provided for other comments at the end of the questionnaire, therapists from rural or remote locations stated the need for greater access to EBP training through videoconferencing, teleconferencing and interactive web based training.

Three approaches for facilitating the implementation of EBP were presented to participants to consider their current interest in them as well as their perceptions of these as future priorities for the profession. These approaches included learning to search and appraise the primary literature oneself, using brief summaries of occupational therapy clinical research, and using evidence-based occupational therapy practice guidelines or protocols developed by colleagues. Interest was expressed in each of these approaches by over half of the participants, but a higher percentage (80.4%) was interested in using brief summaries of evidence and clinical guidelines (74.7%) than in searching and appraising the literature themselves (59.6%) (see Figure 1).

When asked which of these three methods should be the main priority in the future for occupational therapy, 41.4% of participants chose accessing brief summaries of evidence developed by others. Fewer chose guidelines by occupational therapy colleagues (28.2%) and appraising the literature oneself (23.9%).

**Figure 1: Participants' current interest in three approaches for facilitating the implementation of EBP and their perceptions of these as future priorities for the profession**



## DISCUSSION

This paper reports the results of a survey of the perceptions of 649 Australian occupational therapists about evidence-based practice. The majority worked in metropolitan areas (71%) and practised in either hospital or community settings (68%) in adult physical, geriatric or paediatric caseloads (71%). Those working in metropolitan areas were more likely to have higher qualifications and prior training in EBP. These characteristics of the sample must be considered when interpreting the results.

### Interpretation of results

#### Attitudes and sources for informing clinical decisions

In this survey, occupational therapists had a positive attitude towards EBP, agreeing that it is important to occupational therapy and that it improves client care. More occupational therapists in this survey were positive towards EBP compared with a survey of general practitioners ([McCull et al., 1998](#)). Previous surveys of occupational therapists have also noted positive attitudes towards research ([Humphris et al., 2000](#)) and EBP ([Upton, 1999](#)). Although the majority of therapists in this survey agreed that research findings are useful in the day to day management of clients, in practice, the average time that therapists estimated their clinical decisions were based on research evidence was 42%. This was less than the 56% reported in an earlier survey of occupational therapists ([Humphris et al., 2000](#)). The current survey found clinical experience, continuing education and colleagues were the most common sources underpinning clinical decision-making. Similar views were held by participants in a recent Canadian qualitative study ([Dubouloz et al., 1999](#)). They placed more emphasis on knowledge from clinical experience and

colleagues than on information from research. The fact that almost the entire sample in this current survey reported frequently relying on clinical experience in making clinical decisions is not at odds with the conceptualisation of EBP. While the EBP model highlights the value of research as a source of information which is potentially less biased than other sources for informing practice, it also clearly acknowledges the importance of integrating this research with clinical expertise and clients' perspectives ([Sackett et al., 2000](#)). To date there has been disproportionate attention placed on the role of research evidence in this model, with insufficient consideration of the role of clinical experience and indeed the process by which different sources of information are integrated. How do therapists use their clinical experience to guide decisions and how do they integrate their experience with research and clients views? Clinical reasoning is a potential avenue for providing insight into how therapists integrate these various factors in clinical decision-making. Clinical reasoning has been described as a "process of using thinking, interpersonal and clinical skills and knowledge in order to acquire, evaluate and make sense of the mass of clinical information available to the health carer during interaction with clients" ([Higgs, 1990, p.13](#)). [Taylor \(2001\)](#) proposed that "by adopting a top down (research evidence) approach and bottom up (clinical reasoning and reflection) approach to EBP we can integrate the art and science of therapy practice and become truly evidence based practitioners". Consideration of clinical reasoning, reflective and metacognitive processes may be a fruitful avenue for understanding how research, clinical experience and clients' perspectives may be integrated in clinical decision making. Further incorporation of clinical reasoning processes as part of EBP skills training may enhance therapists' confidence in EBP skills.

## **Confidence in EBP Skills**

Evidence-based practice assumes knowledge of and skills in literature searching, understanding research methodologies, appraisal and interpretation of research. In this study therapists were not very confident in interpreting research, and infrequently used bibliographic databases for locating research evidence. Additionally, lack of skills for EBP was identified as a concern by about half the participants. Lack of confidence in understanding research has also been noted in a number of previous studies ([Dubouloz et al., 1999](#); [Upton, 1999](#)). In this survey, participants with higher qualifications and those with previous EBP training were more confident in the skills required for EBP. This was supported by the finding that the estimated time clinical decision-making was based on research evidence was higher amongst those with postgraduate qualifications. The majority agreed that further training in EBP skills would be useful, with just over half showing strong interest. The implications of these findings is that targeted undergraduate and postgraduate education, as well as continuing education and mentoring is likely to result in more confident and skilled evidence-based practitioners who are more likely to integrate research findings into practice. Universities, professional associations, and clinical managers need to give careful consideration to how such training and support can be provided. Therapists may have a greater appreciation of the relevance of evidence based practice if these skills are used and refined in relation to real clinical issues in the workplace. This may be achieved through educational outreach where training is provided on site using real clinical situations ([Thomson, Oxman, Davis, et al., 1998](#)) or through establishing and participating in journal clubs ([Cusick & McCluskey, 2000](#)). Workshops and inservices are obvious avenues for continuing professional development in this area and participants in this survey were also interested in web and

paper-based educational resources. Particular consideration should be given to improving access to training for those in regional, remote and rural areas. In this survey, participants from these locations stated the need for greater access to EBP training through videoconferencing, teleconferencing and interactive web-based training.

## **Perceived barriers to the implementation of EBP**

Lack of time and lack of evidence were the most commonly reported barriers to the implementation of EBP. There was also concern about lack of access to computing resources and the research literature as well as the lack of EBP skills.

Lack of time has frequently been raised as the major concern to implementing EBP ([Humphris et al., 2000](#); [McColl et al., 1998](#)). Strategies to reduce the time involved in being an evidence-based practitioner therefore require careful attention. Clinical managers need to consider ways to improve access to the resources required and allow clinicians time to locate and use research literature. By investing time to improve EBP skills, individual clinicians can ultimately increase the efficiency with which they can access, interpret, and integrate research.

Although participants in this survey were interested in further EBP skills training, greater interest was shown in the accessing synthesised research. Synthesised and pre-appraised research such as systematic reviews, evidence-based clinical guidelines, evidence-based reports, and critically appraised papers or brief summaries of research evidence have been identified as a way to reduce time constraints and make evidence-based practice more feasible and user friendly ([Bennett & Bennett, 2000](#)). Brief summaries of evidence are increasingly being used by other health professions. Journals that appraise and

provide one-page summaries of clinically relevant research include Evidence-Based Medicine, Evidence-Based Mental Health and the Critically Appraised Papers (CAPs) in the Australian Journal of Physiotherapy. Web-based databases that contain appraised or synthesised research are also available. For example, the Physiotherapy Effectiveness Database (PEDro) is a database of systematic reviews and randomised controlled trials relevant to physiotherapy that are appraised for their validity ([www.pedro.fhs.usyd.edu.au](http://www.pedro.fhs.usyd.edu.au)). Another example are 'banks' of one-page Critically Appraised Topics (CATs) that allow clinicians to search for summarised, appraised evidence from individual research papers or groups of papers. Often these 'CATs' are generated by clinicians based on clinical questions arising during practice, and offer a 'bottom line' about the status of the evidence (<http://www.cebm.net/cats.asp>). Each of these are useful models for the occupational therapy profession to consider to improve access to summarised and appraised research evidence. In the current survey 95% agreed they would find brief summaries of evidence useful and indicated that availability of such resources should be a priority for the profession.

Participants in this study expressed concern about the lack of evidence available to enable the implementation of EBP in occupational therapy. Evidence-based practice requires a substantial research base that is clinically relevant. A coordinated research agenda with infrastructure at both local and national levels that emphasises the need for research of high clinical relevance is one way to approach this issue. [Hayes \(2000\)](#) argued the need for strategic use of resources and research topics which are prioritised, to meet EBP needs. Additionally initiatives that encourage partnerships between clinicians and researchers are likely to foster research that is clinically relevant.

The need to strengthen the clinical relevance of our research base is a principal issue. The concern over lack of evidence however may partly reflect a limited awareness of what research is available. [Hayes \(2000\)](#) suggested that research evidence generated from other disciplines could also inform our practice. Our search strategies may be limiting our access to available and relevant evidence. For example, using the phrase "occupational therapy" when searching bibliographic databases may restrict the ability to find all research that can inform occupational therapy practice. Using the phrase "occupational therapy" to search the Database of Systematic Reviews within the Cochrane Library yields about 35 systematic reviews. A thorough hand search of this database however, indicated that there are approximately 90 systematic reviews relevant to occupational therapy.

*\*See footnote<sup>2</sup>*

Concern expressed by the survey participants about lack of evidence may also reflect the type of research evidence therapists believe can inform practice. There is a strong emphasis on randomised controlled trials (RCTs) or systematic reviews of (RCTs) providing the highest level of evidence to inform practice. While well-performed RCTs can provide evidence about the effectiveness of treatments they are not always feasible, nor appropriate ([Guyatt, Sackett, Taylor, Chong, Roberts, & Pugsley, 1986](#)). The type of research evidence used needs to match the types of question being asked ([Bennett & Bennett, 2000](#); [Bennett & Glasziou, 1997](#)). For example, if we want to know how a client experiences a disease or disability, qualitative research may provide more appropriate evidence. If we want to know the likely course of a disease or disability, cohort or longitudinal studies will provide stronger evidence. In some instances, evidence of effectiveness may best or most feasibly be provided by information from single case experimental design studies

<sup>2</sup>As of April 2006, OTseeker ([www.otseeker.com](http://www.otseeker.com)), listed 912 reviews relevant to occupational therapy.

([Johnston, Ottenbacher & Reichardt, 1995](#)). Some hierarchies of evidence are available which provide a ranking of research methodologies with respect to their ability to provide evidence for different types of questions (Ball, Sackett, Phillips, Haynes, & Straus, 1999), and others that give particular consideration to single system research (Butler, 1999).

There remains however, many clinical issues for which research evidence does not exist, and therapists need to rely solely on their own clinical experience or the experience of others. The heterogeneity in client groups seen by occupational therapists necessitates an individualised approach that cannot be informed by quantitative research alone. A client-centred approach which facilitates collaborative problem solving, through the use of clinical reasoning means therapists need to draw on, and balance, a range of information which may include research evidence, qualitative and quantitative assessment results, contextual factors, motivators, personal experiences and client preferences.

Access to computing resources and lack of skills for locating research was a concern expressed by just over half of the participants in this survey and has also been identified in other surveys. Humphris et al (1998) for example, found that 53% of participants had access to the Internet and 85% had access to bibliographic databases through a librarian. Similarly in the current study, 52% could access the Internet in their occupational therapy practice, although 91.5% had access in some location. Fewer than half of the respondents indicated that they could access bibliographic databases such as MEDLINE or CINAHL at either their local medical or university library (45.5%) or in their occupational therapy department (35.1%). Although relatively few participants could access these databases it is likely that a lack of knowledge and skills contributes to difficulty utilising existing resources. For

example, PubMed is a bibliographic database freely available over the internet and contains MEDLINE as part of its contents

(<http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=PubMed>). Theoretically then 92% of participants have access to at least MEDLINE, depending on their willingness to pursue EBP outside the work environment and the willingness of managers to be flexible with work practices and rosters to provide time for such activities. While the concern about lack of computing resources is an issue that needs to be considered by clinical managers, provision of information about where resources can be accessed is also important.

### **Limitations**

There a number of limitations of this survey that must be acknowledged. Respondents were all members of OT Australia and therefore, the results may not be representative of non-members or occupational therapists in other countries. The majority of respondents worked in metropolitan areas of Australia and this should be taken into account when considering the results. While a response rate of 44% is acceptable given that this was a national postal survey, it is possible that those with skills in and positive attitudes towards EBP may have been more likely to respond. Additionally as this was a self-administered questionnaire, responses may not be an accurate representation of actual practice and the possibility of social desirability bias should be considered.

### **SUMMARY**

Although the majority of occupational therapists in this survey believed that EBP is important, there are still many issues to be resolved regarding the applicability to and feasibility of carrying out EBP in occupational therapy practice. In particular, concern was expressed by participants about



time constraints, lack of evidence and lack of skills necessary for EBP. Participants acknowledged research was important to clinical practice, they relied more heavily on clinical experience, and information from continuing education and colleagues. The need to integrate information from a number of sources suggests that clinical reasoning skills may be an avenue for clarifying and underpinning the process of EBP. A multifaceted approach to the implementation of EBP in occupational therapy appears necessary given the range of issues raised in this study. In particular, strategies to reduce the time involved, strengthening the clinical relevance of our research base, providing training in EBP skills, and developing resources such as summaries of evidence or evidence databases to support evidence-based occupational therapy should be priorities for the occupational therapy profession. The findings of this survey of Australian occupational therapists' perceptions of EBP, were similar to those of previous research in Canada ([Dubouloz, et al., 1999](#)), England ([Humphris, et al., 2000](#)) and Wales ([Upton, 1999](#)), indicating there are similar issues across these countries. Understanding the issues involved in implementing EBP in developing countries is an area that requires further investigation.

Occupational therapy is a diverse profession. The priorities, agendas, and needs of clinicians are different to the priorities, agendas and needs of managers, which in turn may differ from those of researchers. The move towards EBP requires support and encouragement from all sectors of occupational therapy, whether it be universities fostering research, clinical environments implementing strategies to encourage and support EBP, or professional associations taking further steps to provide resources, training and support.

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