Evidence-based practice (EBP) is the product of combining research evidence with clinical knowledge and reasoning to evaluate, select, and implement therapeutic techniques appropriate for specific patients (Law & Baum, 1998). Although such practice is seen as essential to quality patient care, several barriers exist to its application. First and foremost, occupational therapists lack time to search, read, and synthesize research reports (Craik, Austin, & Schell, 1999; Taylor, 1997). Second, they may not have access to such reports (Barta, 1995; Haynes, 1993). Third, relevant research may be of poor quality (Bannigan, 1997; Ottenbacher & Maas, 1999) or nonexistent (Hayes & McGrath, 1998).

In situations where relevant, good quality research exists, systematic reviews can be an excellent resource (Law & Baum, 1998; Tickle-Degnen, 2000). Because these reviews contain literature that already has been searched, obtained, reviewed, and synthesized, they offer therapists a tremendous savings in time. The Cochrane Database (The Cochrane Library, 2001) is an electronic publication that provides access to hundreds of systematic reviews. Anyone with Internet access can browse or search the titles and abstracts at www.cochranelibrary.com. Nonregistered users can obtain full copies of reviews for a fee ($15 U.S.). Access to full reviews also may be obtained through organizations that are registered users (e.g., university libraries, teaching hospitals). Generally, each systematic review consists of a background to a clinical problem, objectives of the review, criteria used to determine which studies will be included, a search strategy, review methods, results, a discussion, conclusions, a summary of the studies included, a table of comparisons, and a reference list. In the table of comparisons, the studies reviewed are grouped by the specific results examined and the comparisons made. The outcomes of the studies are displayed graphically so that the size of treatment effects for the various treatments compared can be scanned quickly.

The Cochrane Collaboration has received much praise from occupational therapists. Therapists can trust in the conclusions because rigorous methodology is used to identify and evaluate relevant studies (Taylor, 1997). Evidence is summarized and presented in an understandable format (Lloyd-Smith, 1997), and therapists can use such reviews to update their knowledge base (Hayes & McGrath, 1998). For example, evidence from Cochrane reviews regarding the effectiveness of interventions for persons with schizophrenia have led to changes in occupational therapy practice (The Cochrane Library, 1999). As well, on a stroke unit of a Canadian health care facility, a Cochrane review on the effectiveness of a multidisciplinary stroke unit led to the modification of a planned cut in occupational therapy staffing (Miller & Willis, 2000). Despite widespread support for the use of Cochrane reviews, few reports have been published on their usefulness for practicing therapists. We therefore set out to provide a preliminary exploration of the application of a Cochrane review to an occupational therapy problem. As a final year synthesis project in the occupational therapy program at the University of Ottawa, the first three authors asked three occupational therapists to read a Cochrane review relevant to their work and to comment on its usefulness for their practice. The three were experienced therapists who worked with adults in local hospitals.

The Cochrane review, “ Beds, Mattresses and Cushions for Pressure Sore Prevention and Treatment” (Cullum, Deeks, Sheldon, Song, & Fletcher, 2000) was printed and given to the therapists. The 53 pages included descriptions and evaluations of 29 studies of modalities for pressure sore prevention, 6 for pressure sore treatment, and 2 for both prevention and treatment. Three studies considered wheelchair cushions, and the remainder looked at mattresses. The main conclusions were the following: (a) Compared with standard foam mattresses, higher specification foam mattresses prevent and reduce pressure sores in persons at high risk; (b) alternating-pressure mattresses may prevent pressure sores better than constant low-pressure mattresses; (c) pressure relief in the operating room reduces postoperative pressure sores; (d) air-fluidized and low-air-loss beds may provide better prevention and treatment of pressure sores than standard mattresses; and (e) the findings of studies on wheelchair cushions were inconclusive. Different types of wheelchair cushions for prevention of pressure sores were compared in two of the

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developed fewer than with the Pegasus Pro-Active 2, but this difference was not statistically significant. The effectiveness of specialized cushions in the treatment of pressure sores was examined in only one study. More pressures sores were completely healed with the Roho dry flotation cushion2 than with the Pegasus Pro-Active 2 alternating-pressure cushion,3 but this difference was not statistically significant.

The therapists were asked to read the review and, if possible, apply it in their clinical settings. Four weeks later, the student authors interviewed them to learn about their experience with and impressions of the review.

Therapist 1

Providing EBP in prevention and treatment of pressure sores was already a priority established by the administration in the first participant’s workplace. Therapist 1 had previously reviewed a number of relevant studies that had been obtained, on her direction, by a fieldwork student. Given this context, the therapist was able to allot work time to reading the Cochrane review.

Therapist 1 found that the Cochrane review reinforced her basic knowledge of pressure sore treatment with specialized mattresses. She also thought it gave good support for her intervention choices when speaking with other health care practitioners.

Her problems with the review were threefold. First, she did not understand the graphics in the table of comparisons. Second, the review did not provide an adequate description of some of the equipment to allow for generalization to other, similar products. For example, although the brand names of mattresses studied were given, more information about foam density and other materials could have assisted with generalizing the results to similar products. Third, she anticipated from the title that the review would include more information on cushions when, in fact, only a small number of the studies were on cushions.

Therapist 1’s perception of the review was that it would assist in the promotion of further research in this field because more research was clearly needed. On the other hand, it was unhelpful in answering her precise clinical questions about mattresses, cushions, and pressure sores. According to the Therapist 1, “I did not find it gave much useful information in terms of applying it for the practice... I was hoping for more... it really doesn’t say much.” What she really wanted was a comparison of the relative effectiveness of the specialized mattresses. Because of the lack of research in this field, the review was not able to provide this type of information. As a result, the main use of this review for the occupational therapist in her clinical setting was to support her pressure sore interventions with specialized cushions and mattresses. It reinforced her basic ideas about such interventions but did not change her present practice because it was “obvious information”; the “ideas... were already established.” These ideas had been established through courses, readings, and clinical experiences with various products.

Although this occupational therapist had heard of the Cochrane Database before this project, she really did not know what it was. She expressed satisfaction about having learned what the Cochrane database actually was. However, Therapist 1 stated that she is unlikely to use this type of database for future issues because she does not have access to the database via the Internet at her hospital.

Therapist 2

Hours after receiving the article, the second therapist contacted the student authors to report that she “obviously [had not] a high enough IQ to determine where to look for the [Cochrane review] recommendations.” She described that she found the review “not very user-friendly.” After 4 weeks, she reported that she had not had time to read the review. She stated that time was a limiting factor in everything she did: “In the field I’m in, I have to be very practical. I want quick information.”

Therapist 2 found the review very confusing; this experience actually decreased her confidence in her ability to read the literature. She believed that the review had been written for other researchers rather than clinicians: “It was too ivory tower... Is there a conclusion in here somewhere? If so, I didn’t find it.” In addition, she did not recognize all the brand names of the products compared in the studies and found this frustrating.

The therapist liked the idea of having a synthesis of available research because she wanted to be accountable. In her institution, staff members are “working hard to be up to date,” and she finds that “patients are more sophisticated and want to know what is being done to them.”

When Therapist 2 clearly indicated that she had not had time to read the review, the student authors wrote a 2-page summary for her. She found the summary useful and easy to refer to, although she was unfamiliar with certain brand names and words used to describe equipment. She appreciated that the conclusions were laid out clearly and that the meanings of both clinical and statistical significance were outlined. As a result of reading the summary, Therapist 2’s way of thinking about the problem and potential solutions had changed in the following ways. The summary had alerted her that occupational therapists should be more aware of the existence of various types of equipment and their relative merits. She said that she would be more careful in considering the available choices, but the lack of financial resources where she worked remained an issue. She became aware of brand names and ways of describing equipment used outside of Canada for cushions and equipment that were unknown to her. Therapist 2 now understands that more research on pressure relief is needed and is happy that it is being undertaken. In the future, she would not consult another Cochrane review, but she would be happy to read another summary. She found the summary to be much simpler than the Cochrane review, and it did not make her feel stupid.

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2Roho Incorporated, 100 N. Florida Avenue, Belleville, Illinois 62221-5429.
3GerroMed GmbH, Fandieckstraße 75b, 22547 Hamburg, Germany.

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Therapist 3

The third therapist read the Cochrane review on her own time and after three attempts. She explained that the review was too difficult to read at work because it demanded much time and concentration. She stated, "J'ai trouvé ça compliqué et...lourd [I found it complicated and heavy]," which she attributed especially to the tables and abbreviations. Therapist 3 found the conclusions to be mostly a review of information she knew before reading the review. As well, she stated that she was not familiar with all of the specific brands of equipment discussed.

Therapist 3 also reported that she liked the first part of the article, the conclusion, the discussion, and the characteristics of the different studies reviewed. These parts of the review enabled her to compare the different studies and their results. From the studies’ results, she was able to conclude that to prevent pressure sores, it is better to use some type of overlay on a standard mattress than nothing at all. She said, "Il y a des choses qui peuvent être fait à un coût pas trop élevé [There are things that can be done at not too high a cost]."

All in all, Therapist 3 explained that this information would not really lead to a change in her clinical interventions because she is consulted mostly for the treatment of pressure sores rather than for their prevention, which was the issue most of the reviewed studies addressed. The review led her to believe that it might be a good idea for nursing staff to consult occupational therapists for both prevention and treatment of pressure sores.

As for using a Cochrane review in the future, Therapist 3 admitted, "je n’aurais pas le temps [I would not have the time]" because of inaccessibility of computers (none exist in her department) and because someone in her facility is in charge of research. She stated that for research information, she tends to rely more on student presentations and in-services, although both occur rarely. She believes that she must devote her limited time to her patients rather than spend it on reviewing research information.

Discussion

This study reports on the experience of three occupational therapists with one Cochrane review. Given the limited scope of this project, we do not believe that it can be generalized to all occupational therapists or all reviews. However, because the systematic review’s topic of pressure relief interventions is one that relates to occupational therapists in many practice areas, this project illustrates an EBP activity that many occupational therapists might realistically undertake.

The experience of these therapists contrasted strongly with the literature’s affirmations about the usefulness of Cochrane reviews for occupational therapists. Participants did not find the review easy to understand (Law & Baum, 1998). Although reading the review would require less time than acquiring and reviewing all of the articles contained in it (Lloyd-Smith, 1997), the time involved in this reading was more than two of the therapists believed they could spare. Notably, the therapist whose employer had established EBP as a priority in the prevention and treatment of pressure sores believed that she could and should devote work time to reading the review.

Additionally, in contrast to statements in the literature, the participants did not believe that reading the review increased their knowledge (Hayes & McGrath, 1998) regarding the use of cushions and mattresses for the prevention and treatment of pressure sores. Through their clinical observations, they had already come to many of the conclusions described in the review. They did not find the research support for these conclusions to be important additional information. Furthermore, although it is documented that the use of Cochrane reviews have enabled therapists to influence practice in their clinical settings positively (Miller & Willis, 2000; The Cochrane Library, 1999), the participants did not see this particular review as helpful in promoting change. These last two issues are more the product of the lack of relevant research in this area rather than a problem with the review itself.

It appears then that therapists wishing to use Cochrane reviews face many of the same obstacles as those attempting to increase their use of EBP through their own reviews of the literature. Specifically, finding time to read the reviews may be difficult (Barta, 1995; Funk, Champagne, Tornquist, & Wiese, 1995; Haynes, 1993). Certainly, administrative support was helpful, and the shared responsibility of administration in enabling EBP has been previously noted (Canadian Association of Occupational Therapists, 1999). As well, just as therapists often find occupational therapy research difficult to read, they may find the methodology and results of Cochrane reviews challenging to interpret (Dubouloz, Egan, Vallerand, & von Zweck, 1999; Eakin, 1997; Minns, 1996). Leaders in the field of EBP have stated that when professional programs attempt to teach students how to do research rather than how to interpret research, students do not learn how to carry out EBP (Sackett, Strauss, Richardson, Rosenberg, & Haynes, 2000). Occupational therapy programs may need to place more emphasis on reading and interpreting research in general and systematic reviews specifically if therapists are to overcome this obstacle.

Therapist 2, who was offered a 2-page summary of the review, responded quite positively. Such summaries may effectively overcome barriers to both time and interpretation of individual research reports and systematic reviews. Many of the Cochrane reviews contain an abstract. These abstracts may be an adequate summary for practicing occupational therapists, or more tailor-made summaries may be optimal.

Conclusion

The findings of this preliminary exploration indicate that Cochrane reviews may have limited usefulness for practicing therapists. We recommend further study of the use of systematic reviews in occupational therapy, including investigations of the impact of specific training in reading systematic reviews and the provision of summaries. ▲

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