

## Research Report

# The barriers perceived to prevent the successful implementation of evidence-based practice by speech and language therapists

Siobhan O'Connor and Catharine M. Pettigrew

Speech & Hearing Sciences, University College Cork, Cork, Ireland

(Received 18 November 2008; accepted 27 October 2008)

### Abstract

*Background:* There is currently a paucity of research investigating what speech and language therapists, in particular, perceive are the greatest barriers to implementing evidence-based practice.

*Aims:* The purpose of this study was to investigate the perceived barriers that are faced by speech and language therapists in southern Ireland when attempting to implement evidence-based practice.

*Methods & Procedures:* A 34-item questionnaire was sent to 39 therapists working in several counties in southern Ireland. The survey received an 82.1% ( $n=32$ ) response rate.

*Outcomes & Results:* The results of the study indicated that certain barriers are perceived to prevent evidence-based practice being implemented successfully. The most significant barrier affecting evidence-based practice implementation was reported to be a lack of time to read research (71.9%). Additional barriers that were found to be the most significant were the research having methodological inadequacies (62.5%) and insufficient time to implement new ideas (59.4%). Other important factors identified as being significant barriers to the implementation of evidence-based practice were those associated with the quality and presentation of the research, workplace setting, and lack of skills of the therapist. Associations between specific barriers and workplace setting or grade were also investigated. Some possible reasons for these barriers and the implications for clinical practice are also discussed.

*Conclusions & Implications:* This small study suggests that therapists agreed that evidence-based practice is essential to the practice of speech and language therapy. There are, however, barriers in place that are perceived to prevent its successful implementation. It is hoped that because these barriers have been identified, individual clinicians and organizations can be proactive in aiming to provide an evidence-based service to their clients.

Address correspondence to: Catharine M. Pettigrew, Department of Speech & Hearing Sciences, Brookfield Health Sciences Complex, University College Cork, College Road, Cork, Ireland; e-mail: C.Pettigrew@ucc.ie

*Keywords:* Barriers, evidence-based practice (EBP), speech and language therapy.

### **What this paper adds**

#### *What is already known on this subject*

There is currently a paucity of research regarding what speech and language therapists perceive are the greatest barriers to evidence-based practice. The most significant barriers identified in previous literature are a lack of time, a culture of using traditional intervention methods over evidence-based approaches, a lack of appropriate skills, and a lack of research in the field of communication disorders.

#### *What this study adds*

This study highlights the perceived barriers preventing Irish speech and language therapists from implementing evidence-based practice. The most significant perceived barrier was found to be 'the therapist does not have time to read research'. Possible factors that may contribute to these barriers are discussed. In addition, some solutions to overcome these barriers are put forward.

## **Introduction**

Evidence-based practice (EBP) can be described as:

the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients ... [and] means integrating individual clinical expertise with the best available external clinical evidence from systematic research.

(Sackett *et al.* 1996: 1)

EBP may contribute to an improvement in clinical services, make clinicians more accountable, decrease the gap between research and practice, and reduce the variation of services provided to clients (Schlosser 2003). The importance of EBP has been recognized in the field of communication disorders and professionals have been striving to implement EBP successfully into their practice of speech and language therapy. For example, the Royal College of Speech and Language Therapists (RCSLT) has outlined in its professional standards and guidelines document that it is essential for each clinical team to:

establish an evidence-based resource as the basis for provision of clinical care, organisation of services and service development.

(Royal College of Speech and Language Therapists (RCSLT) 2006: 116)

### *Perceived barriers to EBP*

Many studies have been undertaken in the field of healthcare in order to determine the greatest barriers faced by professionals when implementing EBP (Dunn *et al.* 1998, Newman *et al.* 1998, Metcalfe *et al.* 2001). It has been suggested that these barriers are in place as a result of a complex interaction of social, organizational, political, economic, and cultural factors (Newman *et al.* 1998). There is currently a

paucity of research regarding what speech and language therapists, in particular, perceive are the barriers to implementing EBP. Interestingly, the studies that have been conducted in the UK have revealed mixed results. Metcalfe *et al.* (2001) report that, although there is an overwhelming agreement on the importance of research for professional practice, many barriers are in place which prevent professionals from successfully transferring the evidence to clinical practice. The single most significant barrier preventing the successful implementation of EBP has been identified in the literature as being lack of time, for both reading and implementing the research. This has been highlighted by many authors (Dunn *et al.* 1998, Newman *et al.* 1998, Metcalfe *et al.* 2001). A study conducted by Closs and Lewin (1998) surveyed a total of 103 rehabilitation therapists, including 15 speech and language therapists and found that 81% of the sample had insufficient time to implement new ideas. Furthermore, 68.9% of therapists reported that they did not have enough time to read the research. Interestingly, Metcalfe *et al.* (2001) also found that speech and language therapists perceived more barriers than either occupational therapists or physiotherapists.

#### *Culture of using traditional methods*

Another important barrier identified in the literature is the culture of using traditional intervention methods over evidence-based approaches. Professionals often emphasize hands on treatment of the patient and inhibit the questioning of practice. Reilly *et al.* (2004) reported that a tradition of trial and error problem solving is present in the field of speech and language therapy and this contributes to poor implementation of EBP. It is also apparent that, when faced with a clinical question, many professionals do not consult the current literature. Rather, they are more likely to guide their decision-making with clinical experience, rely on the opinions of professional colleagues, refer to old texts or consult generalized websites (Bernstein Ratner 2006). According to Ross (2006), this culture is often resistant to change and therapists must embrace EBP before it will be implemented.

#### *Lack of skills*

In addition to a culture of resistance to change in the field of communication disorders, it has been determined that speech and language therapists often lack the appropriate skills to implement EBP. Firstly, Rappolt and Tassone (2002) found that therapists rarely or never use computerized databases, with one of the reasons being lack of skills to perform computerized searches. An additional obstacle which clinicians face is determining the quality of the research. Clinicians sometimes feel that they do not possess the necessary skills needed to determine the quality of the evidence, which can affect the implementation of EBP (Kamhi 2006). A key skill which professionals may lack is the ability to analyse the research and see its importance to clinical practice. For example, Metcalfe *et al.* (2001) reported that among the 508 therapists surveyed, the greatest barrier reported in implementing EBP was difficulty in correctly understanding statistical analyses presented in research papers (78.1%). Other barriers for therapists implementing EBP that are reported in the literature include clinicians' reluctance to follow guidelines that are inconsistent with their own (Cicerone 2005), lack of meaningful results for clinical practice and difficulty translating results from studies into practice (Meline and Paradiso 2003).

*Workplace setting*

As well as the barriers highlighted above, the setting in which the professional is working can also impose barriers and limitations that can hinder the implementation of EBP. In the majority of settings where this is the case, EBP is seen as a low management priority (Newman *et al.* 1998). Closs and Lewin (1998) determined that 66% of the 103 rehabilitation therapists they surveyed reported that the organizations where participants were employed often lacked the proper facilities and resources necessary for professional management and development, which are essential to ensure the proper implementation of EBP. One of the greatest barriers which professionals face in implementing EBP is accessing the relevant literature. Access to the most current literature is essential to ensure EBP is implemented (Zipoli and Kennedy 2005). Bernstein Ratner (2006) report that many professionals and speech and language therapy departments have limited access to research studies and unless they are affiliated with well funded university libraries, they will find accessing the most current information difficult. The purchase of these articles can then be costly, requiring database or per-print subscriptions. Once the research has been accessed, it can then be difficult to implement the evidence into practice. According to Closs and Lewin (1998), many have reported that their organizations provide little support when attempting to implement EBP. Many co-workers are unsupportive of EBP and are unwilling to work as a team, with 40.8% of the professionals surveyed citing this as an important barrier affecting EBP implementation.

*Lack of research in the area of speech and language therapy*

The lack of research in some areas of speech and language therapy may have led to practice which is not evidence-based. Plante (2004) states that currently the evidence base for clinical practices does not approach the breadth of practices within the field of communication disorders. As a result of the lack of research in some areas of speech and language therapy, clinicians have come to rely on trial and error problem solving when evidence is not available (Kamhi 2006). In areas where limited evidence is available, the principles of EBP are not easy to apply due to the limited evidence available to support decisions.

*Associations between grade/experience and barriers to EBP implementation*

Many authors in the area of health sciences have studied the possible associations between grade/experience and barriers to EBP implementation (Metcalf *et al.* 2001, Dysart and Tomlin 2002, Jette *et al.* 2003). These authors report that training, familiarity with and confidence in search strategies, use of databases, and critical appraisal tended to be associated with individuals with less than five years of experience. However, these studies have also found that a greater proportion with bachelor degrees felt less confident using electronic databases than those respondents with masters or doctorate degrees.

As a result of these findings, we can see that the literature has identified several potential barriers to EBP in speech and language therapy. Factors such as lack of time, research findings not easily being accessible and difficulties understanding

statistical analysis have been reported to be the greatest barriers faced by speech and language therapists in implementing EBP in the UK. Organizational barriers, such as poor access to journals, and lack of skills of the therapist have also been identified as important barriers. According to Bernstein Ratner (2006), it is essential that barriers to the implementation of EBP are identified in order to establish a culture which fosters EBP, and as a result, bridge the gap between research evidence and clinical practice. The current dearth of information in this area within the field of speech and language therapy, especially in Ireland, necessitates the need for further investigation.

The primary aim of this study is to identify the barriers faced by speech and language therapists in southern Ireland so that, once identified, individual clinicians and organizations can be proactive in aiming to provide a high-quality, evidence-based service to their clients.

It is also aimed to identify if grade and/or years of experience can be associated with perceived barriers to EBP. According to Dysart and Tomlin (2002) and Jette *et al.* (2003), grade/years of experience may be associated with lack of research skills (for example, the ability to understand statistical results) and also with how therapists perceive the importance of research for practice. It is hoped that this study will identify if similar barriers are perceived by therapists working in Ireland by determining if level of experience can be associated with perceiving less or more barriers to EBP.

An additional aim of the study is to investigate the association between perceived barriers and workplace settings. Thus, determining whether therapists working within a particular workplace setting perceive some factors to be barriers while those working in other settings do not. Finally, the access which speech and language therapists have to journals will be investigated. Speech and language therapy is a relatively new profession in Ireland and has experienced rapid growth within recent years. As a result, it is possible that therapists may have difficulty accessing literature due to lack of published literature and resources. These objectives will be achieved by addressing the following research questions:

- What are the greatest barriers faced by speech and language therapists working in southern Ireland when attempting to implement EBP?
- Is there an association between grade and/or years of experience and perceived barriers?
- Is there an association between specific perceived barriers and workplace setting?
- What access do speech and language therapists have to professional journals?

## Method

### *Participants*

Speech and language therapists from counties Cork, Kerry, Tipperary, and Waterford in southern Ireland were selected as the participants in this study. Speech and language therapy managers from Cork, Kerry, Tipperary, and Waterford were contacted by e-mail. This e-mail outlined the purpose of the study and asked permission for speech and language therapists working in their departments to participate in the research project. The speech and language therapists that

consented to participate in the study were posted a cover letter, questionnaire and a stamped self-addressed envelope. The cover letter outlined the purpose of the study, made a statement of informed consent, explained that all information disclosed would be confidential and provided instructions on how to complete and return the questionnaires. The response rate was 82.1%, with 32 respondents out of 39 speech and language therapists returning completed questionnaires by post.

### *Questionnaire*

The data-collection instrument used in this study was a 34 item questionnaire (see the Appendix). The first section obtained background information, including years of experience, work setting, grade, county of employment and if the participant subscribed or had access to journals.

The second section included a 29 item BARRIERS scale. This scale was developed by Funk *et al.* (1991) and measures the barriers to research utilization. Permission to use the BARRIERS scale was obtained from the original authors prior to the study being conducted. This scale was initially developed in the United States in order to study nurses' opinions regarding the barriers they faced in implementing EBP. The face and content validity of the scale were established by a panel of judges and the scale was originally tested on a random sample of 5000 USA nurses with a 40% response rate (Funk *et al.* 1991). This scale is transferable to therapists and has been done so in the past. For example, this scale was used by Closs and Lewin (1998) to examine rehabilitation therapists' perceptions of barriers to research utilization. In the current study, some minor adjustments were made to make the scale more suitable for an Irish setting ('doctors' substituted for 'physicians'). Cronbach's alpha coefficients for the scale in the current study ( $n=32$  therapists) were; factor 1=0.602; factor 2=0.637; factor 3=0.668; and factor 4=0.727; indicating moderate internal consistency.

The scale required the participants to rate the extent to which they consider each of the 29 items as a barrier to the implementation of EBP. For each of the 29 items, a five-point Likert scale was used whereby the participants circled the option that was most relevant to their situation:

- The item is a barrier to no extent.
- The item is a barrier to little extent.
- The item is a barrier to moderate extent.
- The item is a barrier to great extent.
- No opinion on the item.

A third optional section was included at the end of the questionnaire to allow the participants to include any additional information which was relevant to the study.

### *Analysis*

Data were entered into the computer software statistical package SPSS (Windows Version 12.0.2) for analysis. Descriptive statistics were used in order to summarize the background and employment details (for example, workplace setting and years of experience) of the respondents and also to determine the number of respondents that had access to journals.

The degree to which each item presented as a barrier to EBP implementation was also determined by the use of descriptive statistics. For analysis purposes, ratings 1 and 2 (barrier to no extent; and barrier to little extent) were grouped together and also ratings 3 and 4 (barrier to moderate extent; and barrier to great extent). If more than one response was circled from the scale or if the respondent did not circle a rating, the response to that item was not included in the data. The percentage of respondents agreeing that an item was a barrier was then determined for each item. The degree to which each item was classified as a barrier was determined as follows: highly consistent barrier, more than 70% of respondents rating this item as a barrier to moderate/great extent; moderately consistent barrier, more than 50% of respondents rating this item as a barrier to a moderate/great extent; less consistent barrier, less than 50% of respondents rating this item as a barrier to a moderate/great extent.

Further in-depth analysis of the data involved examination of the responses to each item for a high frequency of barrier ratings from specific groups of therapists (groups based on workplace setting, grade/years of experience). Chi-square analysis was then used to investigate significant associations between specific barriers and workplace setting or grade/years of experience.

Finally, the responses to Section 3 of the questionnaire were investigated to determine any additional barriers not addressed by the questionnaire. These comments were grouped together depending on the common themes that they addressed.

## Results

### *Background and employment details*

All participants of this study were employed in southern Ireland with 62.5% employed in Cork, 21.9% in Kerry, 12.5% in Waterford, and 3.1% in Tipperary. Half of the respondents (50%) had one to five years of experience as speech and language therapists. The participants were employed in the areas of acute care (37.5%), community care (34.4%), and voluntary agencies providing services to individuals with intellectual disability and autistic spectrum disorder (ASD) (28.1%). Table 1 summarizes the main employment details of the participants.

### *Perceived barriers to implementation of evidence-based practice*

The top three barriers identified by the participants were: the 'therapist does not have time to read research' (71.9%; highly consistent barrier); the 'research has methodological inadequacies' (62.5%; moderately consistent barrier) and there is 'insufficient time to implement new ideas' (59.4%; moderately consistent). The three least identified perceived barriers were: 'does not see the value of research for practice' (6.3%); 'sees little benefit for self' (3.1%) and 'unwilling to change/try new ideas' (3.1%). Two of the 32 respondents failed to circle a rating clearly in response to the statement 'the facilities are inadequate for implementation'. These responses are not included in the results. Table 2 presents the responses to each individual item in rank order of per cent agreement.

**Table 1. Demographic and employment details of the participants (n=32)**

Therapist details	Number	%
<i>County of employment</i>		
Cork	20	62.5
Kerry	7	21.9
Waterford	4	12.5
Tipperary	1	3.1
<i>Setting of employment</i>		
Acute care	12	37.5
Community care	11	34.4
Voluntary agency (intellectual disability and autistic spectrum disorder (ASD))	9	28.1
<i>Grade</i>		
Manager	3	9.4
Senior	18	56.2
Basic	11	34.4
<i>Years working as a speech and language therapist (SLT)</i>		
Less than 5	16	50.0
5–10	10	31.3
11–20	4	12.5
21–30	1	3.1
More than 30	1	3.1

*Associations between grade/experience and perceived barriers to evidence-based practice implementation*

This current study also investigated the potential associations between grade/years of experience and the perceived barriers to EBP implementation, as previous literature has indicated that grade/years of experience may be associated with lack of research skills (for example, the ability to understand statistical results) and also with how therapists perceive the importance of research for practice (Dysart and Tomlin 2002, Jette *et al.* 2003). In the current study, these associations were investigated by entering the data into  $2 \times 2$  contingency tables and Chi-square analysis was performed. Firstly, the association between grade and the perceived value of research for practice was investigated. No associations were determined ( $p > 0.05$ ). Secondly, the association between grade and the understanding of statistical results were examined. The results of the Chi-square ( $\chi^2$ ) analyses indicated that there is no significant association between any of the grades and difficulty understanding statistical results presented in the research papers ( $p > 0.05$ ). Despite this insignificant result, further descriptive analysis indicated that 72.8% of basic grade therapists (with an average of one and a half years experience working as speech and language therapists) found statistical results not understandable while 42.9% of senior/manager therapists had the same difficulty.

Given that the most highly consistent barrier perceived by the therapists in the current study was reportedly 'lack of time to read research', further Chi-square analyses were also carried out to investigate any possible association between this perceived barrier and grade/years of experience. However, non-significant results were found ( $p > 0.05$ ) for both grade (basic or senior/manager) and years of experience (less than 5 years or 5 or more years).



**Table 2. Ranked percentage agreement for the perceived barriers to implementing evidence-based practice**

Statement	Percentage agreement ( <i>n</i> =32)
<i>Highly consistent barriers</i>	
The therapist does not have time to read research	71.9
<i>Moderately consistent barriers</i>	
The research has methodological inadequacies	62.5
Insufficient time to implement new ideas	59.4
The research has not been replicated	56.3
Research articles are not readily available	53.1
The relevant literature is not compiled in one place	53.1
Implications for practice are not made clear	53.1
The therapist does not feel that results are generalizable to his/her own setting	50.0
<i>Less consistent barriers</i>	
Statistical analysis are not understandable	46.9
The therapist is unaware of the research	43.8
The facilities are inadequate for implementation	40.6
The research is not relevant to the therapist's practice	37.5
The research reports conflicting results	37.5
The research is not reported clearly and readably	37.5
The therapist does not feel capable of evaluating the quality of the research	37.5
The amount of research information is overwhelming	34.4
The therapist has not enough authority to change practice	29.0
There is not a documented need to change practice	25.0
The conclusions drawn from the research are not justified	25.0
The therapist is isolated from knowledgeable colleagues with whom to discuss the research	21.9
The therapist is uncertain whether to believe the results	18.8
Administration will not allow implementation	18.8
The therapist feels the benefits of changing will be minimal	18.8
Other staff are not supportive of implementation	15.6
Doctors will not cooperate with implementation	9.4
Research articles are not published fast enough	9.4
The therapist does not see the value of research for practice	6.3
The therapist sees little benefit for self	3.1
The therapist is unwilling to change/try new ideas	3.1

Note: Items that received ratings of 3 and 4 on the barriers scale were considered significant barriers. Percentage agreement was then calculated from the total number of participants (*n*=32).

Highly consistent barrier=>70% agreement; moderately consistent barrier=>50% agreement; and less consistent barrier=<50% agreement.

*Associations between employment setting and perceived barriers affecting evidence-based practice implementation*

The perceived barriers to the successful implementation of EBP that particular work settings may impose on therapists were investigated. Possible significant associations were determined by an in-depth examination of the data. The data provided by the therapists was entered into 2 × 2 contingency tables and Chi-square analyses was performed to determine the relationship between the two variables. There was no significant association between any of the three workplace settings (acute care, community care, and voluntary agencies) and lack of time to read research or implement new ideas (*p*>0.05). Interestingly, there was a significant association between the acute care workplace setting and the therapists not feeling capable of

evaluating the quality of the research ( $\chi^2=6.969$ ,  $p<0.05$ ), while no association was found between this perceived barrier and community care or voluntary agencies ( $p>0.05$ ).

#### *Access to research/journals*

Only 12.5% ( $n=4$ ) of respondents reported either they or their departments did not subscribe to any journals. Twenty-five per cent of the therapists surveyed reported that they subscribed to journals while the remaining 62.5% reported to have access to journals through their departments. The most widely accessible publications were found to be the Royal College of Speech and Language Therapists publications *Bulletin* and *International Journal of Language and Communication Disorders* (57.14% of the therapists having access). Table 3 displays the range of journals which the therapists who participated in this study have access to. The acute care speech and language therapy departments that participated in this study had access to an average of five publications while those working in community care had access to an average of two journals and those working in intellectual disability and autistic spectrum disorder had access to an average of three journals. It is important to note however, that seven (25%) of the respondents reported that they had access to the *Journal of Communication Disorders*, which may refer to the *International Journal of Language and Communication Disorders*. One respondent also reported having access to the *British Journal of Disorders of Communication*, which is a previous title of the *International Journal of Language and Communication Disorders*. If this is indeed the case, then the range of journals accessible to therapists is even narrower than first indicated.

#### *Additional perceived barriers*

In order to gain as much relevant information as possible, respondents were invited to provide any additional information which they felt was relevant to this study.

**Table 3. Range of journals to which respondents have access ( $n=28$ )**

Journal	Number of therapists with access	Percentage of therapists with access
<i>International Journal of Language and Communication Disorders (IJLCD)</i>	16	57.14
<i>RCSLT Bulletin</i>	16	57.14
<i>Journal of Clinical Speech and Language Studies</i>	13	46.42
<i>Dysphagia</i>	8	28.57
<i>Aphasiology</i>	8	28.57
<i>Journal of Voice</i>	7	25
<i>Annals of Otorhinolaryngology</i>	7	25
ASHA publications	2	7.14
<i>Journal of Fluency Disorders</i>	1	3.57
<i>Journal of Communication and Language Disorders*</i>	7	25
<i>British Journal of Disorders of Communication</i> (previously <i>IJLCD</i> )*	1	3.57

Note: \*Titles that might refer to the *International Journal of Language and Communication Disorders (IJLCD)*.

Thirteen therapists (40.6%) provided their opinions on the barriers to EBP implementation by completing this section. Additional important barriers not included in the questionnaire were also mentioned such as lack of time for conducting their own research ( $n=9$ ); and lack of support and attitudes of management to research ( $n=4$ ). Three of the respondents who completed this section, also commented that a lack of research exists in some areas of speech and language therapy. These therapists highlighted that a lack of research specifically relating to certain client groups can also hinder EBP implementation. In addition, one of the thirteen respondents who completed this section stated that speech and language therapy resources are limited in Ireland and consequently hinder the successful implementation of EBP. Finally, one respondent who completed this section reported that most new practice ideas come from continuing professional development courses and discussions with more experienced colleagues rather than from journal articles. Table 4 highlights a representative selection of the comments provided by the therapists.

### Discussion

The primary aim of this study was to investigate the perceived barriers which speech and language therapists working in southern Ireland encounter when attempting to implement evidence-based practice (EBP). Associations between some of these barriers and workplace setting or grade/years of experience were also studied.

The results of this study show that only 6.3% of therapists do not see the value of research for practice, from which we may infer a probable general agreement among speech and language therapists regarding the importance of EBP to the practice of speech and language therapy. These results are similar to findings that have been put forward by Metcalfe *et al.* (2001), whereby 98.5% of speech and language therapists reported that research is important for professional practice. Despite the agreement regarding the importance of EBP, there are still many

**Table 4. Selection of comments provided by therapists outlining additional barriers**

Theme	Comments
Time	I enjoy research and do so in my spare time. I would prefer hours during my working week to be allowed for research The average SLT [speech and language therapy] caseload does not leave much time for research
Management	Managers have an important role to play to encourage therapists to continue professional development and implement change to practice based on research, including: facilitating study days, time set aside at team meetings for article reviews and encouraging therapists to undertake small research projects based on own clinical research
Lack of research	Little research in SLT on 'therapy' — how effective it is/what type works well When working with adults with intellectual disability, it is difficult to find articles relating directly to this client group
Resources	SLT resources are limited when compared with other countries, e.g. the UK, the United States, Australia
Source/quality of information	Most new practice ideas don't come from articles but continuing professional development courses and discussions with more experienced colleagues

barriers preventing its successful implementation by speech and language therapists in southern Ireland.

#### *Perceived barriers to EBP*

The greatest barrier perceived to be preventing the successful implementation of EBP was reported to be the lack of time to read research. Seventy-two per cent of respondents rated this as a barrier making it highly consistent. This finding was not surprising in light of previous research conducted in the area of speech and language therapy which have also reported lack of time to be one of the greatest barriers affecting EBP implementation (Dunn *et al.* 1998, Newman *et al.* 1998, Metcalfe *et al.* 2001, Zipoli and Kennedy 2005). These studies have suggested that this barrier may be a result of the many professional demands, such as large caseloads, placed on speech and language therapists and it is possible for this to be also true in the case of Irish therapists. One might argue that therapists of a higher grade or more years working as a speech and language therapist may not perceive this to be such a barrier due to increased efficiency that comes with experience. However, the results of the current study indicated no association between grade/years of experience and the perception that a lack of time to read research is a moderate/great barrier to implementing EBP. It is thus reasonable to propose that this result necessitates the need for making best evidence more widely available to therapists in a manner that is easily accessible, using clear and concise information, to counter the effects of restricted time to read research.

In addition to a lack of time to read research, this study also finds a lack of time to implement new ideas to be a barrier to successful EBP implementation. Fifty-nine per cent of respondents rated this as a barrier making it moderately consistent. This finding is similar to that found by Closs and Lewin (1998) who report that 81.6% of respondents in their study report this factor to be a barrier to EBP implementation. It is reasonable to suggest that similar factors to those which contribute to a lack of time to read research may also contribute to a lack of time to implement new ideas, such as large caseloads. It is essential that speech and language therapists manage their caseload efficiently and are given time by managers to ensure that EBP can be implemented.

In addition to the lack of time available to speech and language therapists, the quality of the research and the manner in which it is presented in research papers can be a barrier in implementing EBP. Firstly, the second most significant barrier reported by speech and language therapists was 'the research has methodological inadequacies' with 62.5% of respondents agreeing with this statement. This makes it a moderately consistent barrier. Secondly, 56.3% of respondents reported that a barrier to implementation is 'the research has not been replicated'. The presentation of the research and its findings can also be an obstacle when attempting to implement EBP as 53.1% of respondents reported that 'implications for practice are not made clear', while 37.5% also agreed that 'the research is not reported clearly and readably'. These findings are similar to those highlighted by Closs and Lewin (1998) who studied therapists in the UK. The researchers found that 46.6% of respondents reported methodological inadequacies, 39.8% reported that the research has not been replicated, 56.3% reported that the implications for practice are not made clear, while 59.2% believed that the research is not reported clearly and

readably. If these barriers are to be overcome, it appears that professional journals need to ensure that the results of research studies, together with their implications for clinical practice are more easily understood. The results of this study suggest that the methodology of some research studies may have some inaccuracies and should be improved. Professional journals may need to ensure that the methodology and results of research studies, together with their implications for clinical practice, are more clearly elucidated for therapists, thus helping to reduce uncertainty.

The additional comments offered by three of the 13 respondents who completed this section suggest that the current lack of research in the field of communication disorders might be a barrier to the implementation of EBP. This result was to be expected following a review of the previous literature (Plante 2004, Kamhi 2006). It has become clear that in areas of study where limited evidence is available, the principles of EBP are not easy to apply due to the limited evidence available to support clinical decisions. This calls for additional research to be conducted, where gaps in knowledge exist, to ensure that more therapy provided to clients is evidence-based.

#### *Lack of skills*

Yet another perceived barrier which may affect the implementation of EBP is the lack of skills of the speech and language therapist. The results of this study indicate that therapists have many of the necessary skills required to implement EBP. However, this study reveals that some therapists are also lacking skills in important areas. The most significant barrier relating to the skills of the therapist was 'statistical results are not understandable' with 46.9% of respondents reporting this to be a barrier. These findings are in keeping with previous literature which states that up to 78.1% of respondents in the UK have perceived this factor to be a barrier (Metcalf *et al.* 2001). According to the demographic descriptive results of this study, half of the respondents reported having less than five years of experience as a speech and language therapist. This finding appears to be representative of the population of speech and language therapists across the Republic of Ireland, as a previous study investigating dysphagia evaluation practices amongst speech and language therapists working with adult populations in Ireland reported that 54.3% of speech and language therapists had between one and five years of experience (Pettigrew and O'Toole 2007). Interestingly, although no significant association was found between basic grade therapists and a lack of ability to understand statistical results, 72.8% of basic grade therapists reported this to be a barrier in contrast to only 42.9% of senior/manager grade therapists. It is reasonable to propose that the lack of ability to understand statistical analysis may be due to lack of experience or inadequate training in academic programmes. The basic grade therapists who took part in this study had been working as speech and language therapists for an average of 1.5 years. In light of these findings it may be recommended that academic programmes should revise their teaching of research methods and that additional training should be provided to basic grade therapists if required. The second most significant barrier with regard to the attitudes of the therapist is 'therapist does not feel capable of evaluating the quality of the research' (37.5%), similar to Kamhi (2006) who has stated that therapists may lack the ability to critically analyse the research. Surprisingly, analysis of this barrier and its association with workplace settings

revealed a significant association between therapists working in acute care only and this barrier. It is possible that this association may be attributed to the different research evidence to be appraised by therapists working in different settings. For example, therapists working in acute care may be required to appraise research evidence on acute neurological disorders, whereas therapists working within a community setting may need to evaluate research on the long term outcomes of a particular therapy approach.

In addition to the barriers previously mentioned, it appears possible that a culture of consulting other therapists still exists among speech and language therapists in Ireland. It has been reported that therapists consult other colleagues when faced with a clinical question (Zipoli and Kennedy 2005), as also highlighted by one participant in the current study. As well as the culture of consulting which might exist in this area, it is reasonable to conclude that consultation of other professionals may be a consequence of the lack of research available and lack of time experienced by therapists, as already discussed. It is essential that therapists are encouraged to source research from journals to ensure the highest standards of therapy are provided to clients.

*Associations between employment setting and perceived barriers affecting evidence-based practice implementation*

As well as the barriers already highlighted, the results of this study indicated that the setting in which the therapist is working can also impose barriers and limitations which can be perceived to prevent the successful implementation of EBP. In contrast to a study conducted by Closs and Lewin (1998) which found that many co-workers were unsupportive of EBP and unwilling to work as a team, just 15.6% of respondents from this study reported that other staff were not supportive of the implementation of evidence-based work practices. However, some therapists stated that management needs to play a greater role in encouraging and facilitating the completion, reading and implementation of research and its findings. Similar results have been reported by Newman *et al.* (1998) who have reported that issues concerning EBP are not prioritized by management in the UK. Accordingly, it has been reported that speech and language therapy departments may often lack the proper resources necessary for the successful implementation of EBP (Closs and Lewin 1998). It is possible that these results are transferable to Ireland where EBP could be seen as a low management priority given the large workloads that managers are currently faced with as well as budget constraints.

*Access to research/journals*

Although, it has been found that most speech and language therapists have some access to the literature, this access can be limited. This study has revealed a significant difference between the range of journals that various settings have access to, with acute care therapists having access to a wider range of journals than those working in community care and with people with intellectual disability and autistic spectrum disorder. It is possible that this difference may be accounted for given that acute care departments often have access to university and hospital libraries. This finding is in accordance with those of Bernstein Ratner (2006) who has reported

that it is extremely difficult for therapists to gain access to literature unless they are affiliated with well funded university libraries. High access to journals such as *Dysphagia*, which has been reported in this study, may be a result of the high percentage of acute care respondents. In light of these results and previous research, management appears to have an important role to play to ensure the successful implementation of EBP (Closs and Lewin 1998, Metcalfe *et al.* 2001).

### *Limitations*

Although the aims were successfully accomplished, several limitations may have impacted on this study. Firstly, 32 speech and language therapists from four counties in southern Ireland completed and returned the questionnaires. This is a relatively small number of respondents from a restricted area of the country. However, the response rate was very high and the sample size was in keeping with similar studies (for example, Meline and Paradiso 2003). Furthermore, it is not unreasonable to assume that the sample of therapist participants in this study working in acute care, community care, and voluntary agencies is representative of the wider therapy population in Ireland. The southern region is the largest in the Health Service Executive (HSE), and there is no reason to believe that the therapist population would differ significantly from the representative sample in this study (similar to Metcalfe *et al.* 2001).

A second limitation included the fact that some respondents ( $n=2$ ) indicated no option or more than one option for some of the items in the questionnaire. Consequently, these data could not be included for analysis. Finally, despite the validity of a similar questionnaire being established by previous studies, items were misinterpreted or found difficult to understand by some of the therapists who completed the questionnaire, as indicated by some comments provided by the respondents.

### **Further research**

Further investigation of this area should involve increasing the number of participants in order to give a more generalized look at therapists' opinions of the barriers to EBP. Participants should also be recruited from all areas of Ireland to investigate the barriers facing speech and language therapists attempting to implement EBP in all areas of the country. Comparisons could then be made between specific geographical areas. Furthermore, research investigating self-reports of levels of EBP implementation amongst speech and language therapists in Ireland would provide extremely pertinent additional information and further facilitate the development of measures to overcome and/or minimize barriers to EBP implementation.

Given the feedback from some respondents regarding the clarity of the items presented in the questionnaire, the wording of some items should be altered to ensure it is understandable for the participants. Although the barriers scale was useful, it was still quite limited in the information that it provided. For example, respondents could not provide reasons for choosing a particular rating. In addition, the wording of the headings and Likert scale items made it difficult to determine whether speech and language therapists were responding based on their personal

experiences, or what they perceive to be barriers in general. Additional methods such as the use of more open-ended questions or qualitative methods such as interviews of therapists working in different settings could be incorporated into the methodology to provide a much more in depth and specific analysis of this issue.

Research carried out by Zipoli and Kennedy (2005) indicated that a culture of consulting other therapists still exists among speech and language therapists. One participant in this study also reported this to be true. Additional research should be carried out in order to determine if this practice is common among therapists in Ireland.

Additional comments offered by three of the respondents in this study suggest that a lack of research in the field of communication disorders may be a barrier to the implementation of EBP. This calls for research to be conducted in areas, where gaps in knowledge are present, to ensure that more speech and language therapy intervention is evidence-based.

### Conclusion

Overall, the results of this study indicate that speech and language therapists working in this region of Ireland perceive barriers which prevent them from successfully implementing the research into practice. In general, these barriers are consistent with those facing speech and language therapists in other countries. The information provided in this study may help speech and language therapists, managers, educators, and researchers to identify barriers which may hinder the implementation of evidence-based practice and subsequently take measures to overcome them.

### Acknowledgements

The authors would like to thank the speech and language therapists who completed the questionnaire. **Declaration of interest:** The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

### References

- BERNSTEIN RATNER, N., 2006, Evidence-based practice: an examination of its ramifications for the practice of speech–language pathology. *Language, Speech and Hearing Services in Schools*, **37**, 257–267.
- CICERONE, K. D., 2005, Evidence-based practice and the limits of rational rehabilitation. *Archives in Physics and Medical Rehabilitation*, **86**, 1073–1074.
- CLOSS, S. J. and LEWIN, B., 1998, Perceived barriers to research utilisation: a survey of four therapies. *British Journal of Therapy and Rehabilitation*, **5**, 151–155.
- DUNN, V., CRICHTON, N., ROE, B., SEERS, K. and WILLIAMS, K., 1998, Using research for practice: a UK experience of the BARRIERS scale. *Journal of Advanced Nursing*, **27**, 1203–1210.
- DYSART, A. M. and TOMLIN, G. S., 2002, Factors related to evidence-based practice among U.S. occupational therapy clinicians. *American Journal of Occupational Therapy*, **56**, 275–283.
- FUNK, S. G., CHAMPAGNE, M. T., WIESE, R. A. and TOURNQUIST, E. M., 1991, BARRIERS: the barriers to research utilisation scale. *Applied Nursing Research*, **4**(1), 39–45.
- JETTE, D. U., BACON, K., BATTY, C., CARLSON, M., FERLAND, A., HEMINGWAY, R. D., HILL, J. C., OGHVIE, L. and VOLK, D., 2003, Evidence-based practice: beliefs, attitudes, knowledge, and behaviours of physical therapists. *Physical Therapy*, **83**(9), 786–804.



- KAMHI, A. G., 2006, Combining research and reason to make treatment decisions. *Language, Speech and Hearing Services in Schools*, **37**, 255–256.
- MELINE, T. and PARADISO, T., 2003, Evidence-based practice in schools: Evaluating research and reducing barriers. *Language, Speech and Hearing Services in Schools*, **34**, 273–283.
- METCALFE, C., LEWIN, R., WISHER, S., PERRY, S., BANNIGAN, K. and KLABER MOFFET, J., 2001, Barriers to implementing the evidence base in four NHS therapies. *Physiotherapy*, **87**, 433–441.
- NEWMAN, M., PAPADOPOULOS, I. and SIGSWORTH, J., 1998, Barriers to evidence-based practice. *Intensive and Critical Care Nursing*, **14**, 231–238.
- PETTIGREW, C. M. and O'TOOLE, C., 2007, Dysphagia evaluation of speech and language therapists in Ireland: clinical assessment and instrumental examination decision-making. *Dysphagia*, **22**, 235–244.
- PLANTE, E., 2004, Evidence-based practice in communication sciences and disorders. *Journal of Communication Disorders*, **37**, 389–390.
- RAPPOLT, S. and TASSONE, M., 2002, How rehabilitation therapists gather, evaluate and implement new knowledge. *Journal of Continuing Education in the Health Professions*, **22**, 170–180.
- REILLY, S., DOUGLAS, J. and OATES, J., 2004, *Evidence-based Practice in Speech Pathology* (London: Whurr).
- ROSS, J., 2006, Evidence-based practice: a buzz word or a reality? *Journal of PeriAnesthesia Nursing*, **21**(3), 151–152.
- ROYAL COLLEGE OF SPEECH AND LANGUAGE THERAPISTS (RCSLT), 2006, *Communicating Quality 3* (London: RCSLT Publ).
- SACKETT, D. L., ROSENBERG, W. M. C., MUIR GRAY, J. A., HAYNES, R. B. and RICHARDSON, W. S., 1996, Evidence-based medicine: what it is and what it isn't. *British Medical Journal*, **312**, 71–72.
- SCHLOSSER, R. W., 2003, Evidence-based practice: frequently asked questions, myths and resources. *Perspectives on Augmentative and Alternative Communication*, **12**, 4–7.
- ZIPOLI, R. P. and KENNEDY, M., 2005, Evidence-based practice among speech–language pathologists: attitudes, utilisation and barriers. *American Journal of Speech–Language Pathology*, **14**, 208–220.

## Appendix 1: The Questionnaire

### Questionnaire

*The barriers perceived to prevent the successful implementation of evidence-based practice by speech & language therapists in Ireland*

**This questionnaire asks you for your opinions on the barriers faced by speech and language therapists when attempting to implement evidence-based practice. Please do not include any identifying information.**

---

Please complete the questions below

### Background Information

1. How many years have you been employed as a SLT? \_\_\_\_\_
2. In what position are you currently employed? \_\_\_\_\_ (e.g. basic, senior, manager)
3. In what setting do you work (community care, acute care, etc)? \_\_\_\_\_
4. In what county do you work? \_\_\_\_\_
5. Do you subscribe to any journals? \_\_\_\_\_  
(a) If so, please list the journals below

**Barriers Scale**

Please complete the section below by circling one of the numbers following each statement as appropriate.

1. the item is a barrier to no extent
2. the item is a barrier to little extent
3. the item is a barrier to moderate extent
4. the item is a barrier to a great extent; and
5. no opinion on the item

**Statement**

There is insufficient time on the job to implement new ideas	1	2	3	4	5
The therapist does not have time to read research	1	2	3	4	5
Statistical analysis are not understandable	1	2	3	4	5
The research has methodological inadequacies	1	2	3	4	5
Research reports/articles are not readily available	1	2	3	4	5
The facilities are inadequate for implementation	1	2	3	4	5
The research is not relevant to the therapist's practice	1	2	3	4	5
Doctors will not cooperate with implementation	1	2	3	4	5
Other staff are not supportive of implementation	1	2	3	4	5
The literature reports conflicting results	1	2	3	4	5
The relevant literature is not compiled in one place	1	2	3	4	5
The research is not reported clearly and readably	1	2	3	4	5
Implications for practice are not made clear	1	2	3	4	5
The therapist does not feel capable of evaluating the quality of the research	1	2	3	4	5
The therapist does not feel she/he has enough authority to change patient care procedures	1	2	3	4	5
The therapist is unaware of the research	1	2	3	4	5
The therapist does not feel that results are generalisable to own setting	1	2	3	4	5
The research has not been replicated	1	2	3	4	5
The therapist is isolated from knowledgeable colleagues with whom to discuss the research	1	2	3	4	5
The therapist is uncertain whether to believe the results of the research	1	2	3	4	5
Administration will not allow implementation	1	2	3	4	5
The conclusions drawn from the research are not justified	1	2	3	4	5
The therapist feels the benefits of changing practice will be minimal	1	2	3	4	5
Research reports/articles are not published fast enough	1	2	3	4	5
The therapist is unwilling to change/try new ideas	1	2	3	4	5
There is not a documented need to change practice	1	2	3	4	5
The therapist sees little benefit for self	1	2	3	4	5
The therapist does not see the value of research for practice	1	2	3	4	5
The amount of research information is overwhelming	1	2	3	4	5

**Please share any additional opinions/comments regarding the barriers faced when attempting to implement evidence-based practice below (optional).**

**Please return the questionnaire using the SAE provided. Thank you for your time**