OT6054 Project 4

Department of Clinical Therapies

MSc Occupational Therapy

Module Leader: Judi Pettigrew

12004936

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5,000

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Title: Becoming Evidence Based Practitioners: A Study of Final Year Clinical Therapy Students at University of Limerick

Background- Evidence based practice (EBP) is pivotal to health professionals ensuring their practice is gold standard (Crabtree et al 2012). EBP aims; to guide and support health professionals implement best evidence practice to develop patient's outcomes (Dizon 2012).

Objectives- This study investigated if final year clinical therapy students have the perceived knowledge, attitudes and behaviours to become evidence based practitioners. It also investigated differences between disciplines of Occupational Therapy, Speech and Language Therapy and Physiotherapy students.

Methods- Quantitative Research was used. The Knowledge, Attitude and Behaviour (KAB) questionnaire (Johnston et al 2003) was completed by final year clinical therapy students in the 2012/13 academic year. A response rate of (73% n=63) was achieved from a potential population of 86 students. Data was analysed using Statistical Packages for Social Science using version 21.0 (IBM SPSS Inc, NY, USA, 2012).

Results- The curriculum prepared clinical therapy students to become evidence based practitioners and the students felt they were knowledgeable in using EBP. (8.1%) of the students reported EBP isn’t discussed on practice education. This impact’s on the students as they are not seeing positive role models using EBP. (98.5%) of students believed that EBP was useful and will incorporate it into their future practice.

Conclusion- The students are prepared to be evidence base practitioners, however, some practice education sites are not using EBP. Collaboration between Universities and practice education sites will be essential in facilitating newly graduated therapists in maintaining EBP skills. Further study is required to explore how to facilitate this transition.
Introduction

Evidence based practice (EBP) is defined as "the conscientious, explicit and judicious use of current best evidence in making decisions about the care of the individual patient. It means integrating individual clinical expertise with the best available external clinical evidence from systematic research." Sackett et al 1996 (cited in Crabtree et al 2012, p.139). EBP demands changes in education of students to practice using more relevant research. EBP also provides opportunities for clinical therapists to be more individual, effective and to maximize effects of clinical judgment (Dizon 2012).

Organisations representing clinical therapies internationally have emphasized the importance of EBP. The World Federation of Occupational Therapists (WFOT) highlights the importance of EBP within Occupational Therapy. It has set up an Evidence-Based Occupational Therapy Web-portal. This has been designed in partnership with international colleagues to provide strategies, knowledge and resources to aid occupational therapists in finding out about and using evidence (WFOT, 2011). CPLOL is the Standing Liaison Committee of Speech and Language Therapists. This European association promotes EBP to all its members and it has a section of the website devoted to EBP with guidelines and tips how to use it (CPLOL, 2013). The World Confederation of Physiotherapy (WCPT) is the representative of Physiotherapy and their organizations around the globe. WCPT is committed to EBP (WCPT, 2013). WCPT facilitates international collaboration, develops partnerships and networking, and produces resources to further the development of EBP worldwide.

EBP is considered to be an essential driving force to advance professions according to AOTA (2007) and to ensure a quality delivery of services to clients (Crist, 2010). The majority of the recent studies conducted are of qualified healthcare professionals. University is where healthcare students learn the concept of EBP and this is the foundation of their careers for the future (Crabtree et al 2012). There is a lack of studies completed on the concept of EBP in student populations.

In 2012 the individual Departments of Occupational Therapy, Physiotherapy and Speech and Language Therapy at the University of Limerick merged together to form one Department of Clinical Therapies. One of the aims of each programme is to educate students to adopt an evidence based approach to practice upon graduation. If academic educators and practice educators can understand how students acquire EBP skills, their attitudes and behaviours
towards EBP, then they are more likely to develop effective teaching strategies in academic and practice education settings.

**Research Question**

**Are Clinical Therapy students prepared to become Evidence Based Practitioners?**

This study investigates final year Occupational Therapy, Physiotherapy and Speech and Language Therapy students perceived preparedness for being evidence based practitioners in terms of their knowledge, attitudes and present and future use of EBP and exploring experiences of acquiring EBP skills in academic and practice education modules. Gaining a better understanding of EBP from the student’s perspective could inform teaching strategies within academic curricula across disciplines as they graduate and transition into employment.

**Literature Review**

“Evidence based practice provides a framework to practitioners in which they can consider clinical problem solving, allowing them to keep informed with current and best practice within their area.”(Upton and Upton 2006a). EBP is comprehended as a 5 step process: 1) the development of a clinical question, 2) assimilation of the best available evidence 3) systematic and critical appraisal 4) applying the evidence to the problem and 5) evaluation (Strauss *et al* 2010). Many individuals recognize the importance of EBP, but numerous barriers prevent its implementation. These barriers are different across subgroups of the labour force and across different organizations. In Occupational Therapy practice, the barriers and challenges to EBP frequently expressed are similar to other healthcare professions.

**Barriers Towards EBP**

Barriers towards EBP include lack of computer skills such as difficulty using electronic databases, difficulty understanding research terminology and statistics, and limited searching and appraisal skills, poor accessibility, and the lack of resources to find research articles. A lack of training in the utilization of EBP, and institutional barriers such as; high staff turnover, access to resources, large caseloads (Bennett *et al*., 2003; Crabtree *et al*., 2012; Curtin and Jaramazovi, 2001 (cited in Upton *et al* 2014); Döpp *et al* 2012 (cited in Upton *et al* 2014); Gosling and Westbrook., 2004; Heiwe *et al* 2011; McCluskey, 2003; McKenna et
Utilization of EBP

Studies demonstrated that Occupational Therapists hold positive attitudes towards evidence-based practice. However, these attitudes do not translate into practice, with research indicating a lack of EBP utilization. Occupational Therapists perceive a number of barriers to EBP, including lack of time, lack of availability and accessibility of research, and having limited research skills. There is no “one-size fits all” (Scurlock-Evans, et al. 2014, p.13) approach to enhancing EBP implementation. For example, Scurlock-Evans, et al. (2014) showed Physiotherapists working in different settings (e.g. community, hospital, acute) may have different educational needs and encounter different barriers. Therefore, assessing organisational culture prior to designing EBP interventions is essential. Many Physiotherapists hold positive attitudes towards EBP. However, this does not necessarily translate into consistent, high-quality EBP.

Educational Barriers

There are many studies that show findings of inadequate knowledge and understanding of EBP among practicing clinicians. According to McCluskey (2003), Occupational Therapists report low levels of knowledge and skills in relation to EBP. Metcalfe et al (2001) aimed to examine the barriers to implementing EBP. The study portrays that therapists value research findings but the majority have problems accessing and understanding the literature. This suggests a need to improve training at both undergraduate and postgraduate level, improve the quality of publications in healthcare professional journals, and fund therapy-relevant trials, systematic reviews and meta-analyses (Dizon et al 2012; Evenson 2013; Metcalfe et al 2001).

Cameron et al (2005) found that therapists with higher educational attainment held high views on the importance of EBP utilisation. Higher education qualifications have been
associated with greater ability to use research tools (Romani and Forni, 2010), more positive attitudes (Brown et al 2010), greater knowledge (Prior et al 2010), and uptake (Thomas and Falan, 2011) of EBP. Kim et al (2012) identified statistically significant improvements in EBP and knowledge following a 9-month EBP program. Educational background is not the only factor affecting attitudes toward and implementation of EBP. The research suggests that providing ongoing support for experienced, as well as newly qualified, staff members is needed to increase confidence in EBP.

**Preparation of Students and New Graduates for EBP**

Stronge and Cahill (2011) investigated the knowledge and attitudes toward EBP of Occupational Therapy students in the Republic of Ireland. They found that almost all students appreciated the advantages of EBP and that all students were willing to practice evidence-based Occupational Therapy. Just over 25% noted that their practice educator/other therapists were not evidence-based practitioners, and did not observe EBP on practice education. They found that academics need to take account of students’ practice education experience so as to help them prepare for the barriers to incorporating research into decision making in the real world of clinical practice (Stronge and Cahill, 2011).

Gray et al (2012) aimed to explore the feelings of newly graduated Occupational Therapists in Australia and New Zealand regarding their education and work preparedness. Most newly graduated Occupational Therapists felt somewhat prepared for practice. However, only 17.1% of Australian new graduates, and even fewer (8.5%) of New Zealand new graduates felt very well prepared. This study provides the first international comparison into the feelings of competence and preparedness for practice of new graduates of Occupational Therapy. Given the importance of competencies, such as EBP to the progress of the profession, there is a need to further explore methods to increase feelings of preparedness in these areas. Crabtree et al., (2012) conducted a study on Occupational Therapy students using an EBP course based on a book by Law, (2002). Results indicated that the course improved basic EBP skills and knowledge, but was ineffective in giving the students the strategies to retain and use those skills beyond the classroom. These findings were consistent with results from previous reported literature by McCluskey and Lovarini, (2005).
Training Programmes to Improve EBP Skills

Dizon et al (2012) discusses that it is widely recognised that if healthcare is not based on current best evidence it is likely to be inefficient, ineffective and unsafe. Much of the literature on EBP training programs is focused on medicine and there is minimum evidence for training programs in allied health. Further research is required into education components and time frames of effective EBP training programs for Physiotherapy, Occupational Therapy and Speech and Language Therapy. Due to the limited body of evidence regarding the effectiveness of EBP training programs in allied health, future research should focus on validating existing EBP outcome measures and evaluating the effectiveness of training programs in other allied health disciplines (Dizon et al 2012). Upton et al (2014) also found in the literature that most recently graduated therapists and or therapists that had received prior EBP training had more positive attitudes towards EBP. Therefore it is essential that educational and training initiatives provide therapists with the tools and support they need to engage fully with research evidence and its application within clinical care (Upton et al 2014).

Research Objectives-

1. To quantitatively investigate if final year clinical therapy students have:
   • the perceived knowledge to become evidence based practitioners
   • the perceived attitudes to become evidence based practitioners
   • the use and exhibit behaviours to become evidence based practitioners

2. To investigate if there are differences between disciplines in their knowledge of evidence based practice and attitudes and behaviours towards evidence based practitioners.

Methodology

Quantitative research is “Explaining phenomena by collecting numerical data that are analyzed using mathematically based methods (in particular statistics)” (Aliaga and
The purpose of quantitative research is to prove a hypothesis through statistical analysis of results. One of the advantages of this type of research is that it is easier to compile the data onto a chart or graph because of the numbers that are made available (Gerring 2008). Another advantage of quantitative research is that the research can be conducted on a large scale and gives a lot more information as far as value and statistics. Random sampling is specific to quantitative research. Random sampling uses a random sample of subjects from a large population (Gerring 2008). Large samples and studies of large populations are not conducive to qualitative research, due to the amount and type of information being gathered. However, for a quantitative study, this is ideal.

Benefits of Survey Research

- **Cost Effective** - Surveys have a very small cost per participant.
- **Data collection** - Easier with surveys as you can collect data on different variables.
- **Sample Size** - Surveys allow the researcher to reach thousands of possible participants if necessary, which ensures a more accurate sample in which to draw conclusions.
- **Candid Responses** - The anonymity of surveys allows people to feel more candid with their responses and this results in more accurate data.
- **Perform Statistical manipulation** - During data analysis that permits multiple uses of the data set.
- **Interviewer Bias** - This is not a factor.

Quantitative research was appropriate as my sample size was large and strength in numbers characterizes the many advantages of quantitative research. The KAB questionnaire (Johnston et al 2003) was the tool chosen to evaluate the student’s perceptions of EBP. It was developed to explore the knowledge, attitude and behaviour of medical students towards EBP. The questionnaire was adapted with permission from the authors and was used with Occupational Therapy students in Ireland (Stronge and Cahill, 2011). The self-rated questionnaire gathers general demographic information and has four sub-scales: knowledge (5 items), attitudes (6 items), use of EBP including personal application (6 items) and future use of EBP (9 items). The remaining 17 items include questions about sources of evidence and the demographic characteristics of the participants (Brown et al 2010). Each sub-scale
uses a Likert scale. Minor modifications were made to the KAB questionnaire with permission to make it more suitable for use with Clinical Therapy students. Modifications included replacing terms such as “medical” with “Occupational Therapy”, “Speech and Language Therapy”, and “Physiotherapy”, and changing “consultant” to “therapist” or “educator”. Care was taken not to change the meaning of the questions. The instrument has internal reliability with Cronbach’s alpha of 0.71-0.88. Construct validity was measured by correlating the factors with other measures of EBP. Responsiveness of the questionnaire was examined through paired t-tests of the pre-factor and post-factor mean scores (Johnston et al 2003; Brown et al 2010). Responsiveness was reported to be reliable and valid (Johnston et al 2003).

Participants

- Participants were the population of final-year students enrolled in MSc Occupational Therapy, MSc Speech and Language Therapy and BSc in Physiotherapy within the Clinical Therapies Department at the University of Limerick.
- Participants were of either gender, and over the age of 18.
- The exclusion criteria for the study were; if students had transferred into their current course from another third level education establishment.

Research Procedure

Ethical approval was obtained from the University of Limerick Ethics Committee. The principal researcher was granted permission from the course directors of each programme to access potential participants. The questionnaires were distributed at the end of a lecture in the final semester of the final year in April 2013. Students were informed about the purpose of the study prior to completing the questionnaire. It was explained that participation is voluntary and they were assured about anonymity and confidentiality. Participants didn’t place their names onto the questionnaire and they were not assigned identification numbers. This ensured anonymity and confidentiality. Informed consent was implied by completing the questionnaire. Every student was given an information leaflet firstly and then the questionnaire. The researcher also left the classroom while students were completing the questionnaire. It took approximately 10 minutes to complete. They were returned in a sealed envelope and placed in a box to ensure anonymity. The completed questionnaires are kept in a locked filing cabinet to which only the primary researcher had access to.
Data Analysis

The Statistical Packages for Social Science version 21.0 (IBM SPSS Inc, NY, USA, 2012) was used for data analysis. Descriptive statistics including frequency and percentages were calculated, and Chi-squared cross-tabulations were used to examine if there were any differences across the 3 disciplines, the age or if having previous academic qualifications impacted on the participant’s responses.

Results

A response rate of (n=73%) was achieved, with 63 questionnaires completed and returned from the population of 86 students, from the final year clinical therapies programmes in University of Limerick. (68%, n= 20) responded from Speech and Language Therapy programme, (78%, n=24) students responded from the Occupational Therapy programme, and the majority of students responded (80%, n=19) from the Physiotherapy programme. See table 1 for demographic details.

Table 1. Demographic Characteristics of Participants

<table>
<thead>
<tr>
<th>Age</th>
<th>18-21</th>
<th>22-25</th>
<th>26-29</th>
<th>30+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number %</td>
<td>4 (6.5%)</td>
<td>30 (48.4%)</td>
<td>20 (32.3%)</td>
<td>8 (12.9%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Have you a previous qualification</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number %</td>
<td>43 (68.3%)</td>
<td>20 (31.7%)</td>
</tr>
</tbody>
</table>

Knowledge of EBP

The results showed, that overall the students felt they were knowledgeable to be evidence-based practitioners. All students (100%) on graduation agreed critically appraised evidence should be applied to the client using clinical judgement and experience. (98.3%) agreed that effective searching skills and easy access to bibliographic databases and evidence sources are essential to practicing evidence-based therapy. The majority (98.4%) of students also agreed
Evidence-based therapy requires the use of critical appraisal skills to ensure the quality of all the research papers retrieved. (96.8%) agreed that practicing evidence-based therapy increases the certainty that the proposed treatment is effective.

**Personal Application, Use and Behaviours towards evidence based practice**

The majority (91.9%) of the students consider themselves to be a practicing evidence-based therapy currently while on practice education. The clinical therapy students revealed that they access therapy evidence in general, everyday-(25.4%) every other day-(34.9%) and every week-(36.5%). They frequently access clinical therapy evidence on the internet every week-(42.9%), every other day-(38.1%) and every day-(17.5%). They access evidence from a textbook mostly every month (38.1%), followed by every week (30.2%) and every other day (17.5%). The evidence from original research papers is accessed by the student’s most commonly every other day (30.6%). The access of therapy evidence from the Cochrane database was again diverse with (32.8%) saying they access it every week where (16.4%) never access the database at all. (41%) of students said they never access medical evidence from secondary sources such as Journal Club, the journal Evidence-Based Therapy, or CATs (Critically Appraised Topics) but (31.9%) said they access these sources every month.

**Table 2.0 Sources used to find evidence**

<table>
<thead>
<tr>
<th>Where did you find this evidence?</th>
<th>Responses</th>
<th>Percent of Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Internet</td>
<td>62</td>
<td>35.6%</td>
</tr>
<tr>
<td>A Textbook</td>
<td>39</td>
<td>22.4%</td>
</tr>
<tr>
<td>Original Research Papers</td>
<td>27</td>
<td>15.5%</td>
</tr>
<tr>
<td>The Cochrane Database</td>
<td>23</td>
<td>13.2%</td>
</tr>
<tr>
<td>From secondary sources such as Journal Club, The Journal of Evidence-</td>
<td>8</td>
<td>8.6%</td>
</tr>
<tr>
<td>Based Occupational Therapy, OT Seeker or CATs (Critically Appraised</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Topics)</td>
<td>15</td>
<td>8.6%</td>
</tr>
</tbody>
</table>
Table 2.1
In your opinion and judgement, how much has the practice of evidence-based therapy, on average, affected the management or outcome of the clients you have seen?

<table>
<thead>
<tr>
<th>Completely</th>
<th>A lot</th>
<th>Moderate</th>
<th>Somewhat</th>
<th>A little</th>
<th>Not at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 (3.2%)</td>
<td>35 (55.6%)</td>
<td>18 (28.6%)</td>
<td>5 (7.9%)</td>
<td>3 (4.8%)</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 2.2
During your placements, how frequently is current best evidence about the particular clinical problem at hand discussed?

<table>
<thead>
<tr>
<th>Completely</th>
<th>A lot</th>
<th>Moderate</th>
<th>Somewhat</th>
<th>A little</th>
<th>Not at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 (4.8%)</td>
<td>19 (30.6%)</td>
<td>22 (35.5%)</td>
<td>11 (17.7%)</td>
<td>6 (9.7%)</td>
<td>1 (1.6%)</td>
</tr>
</tbody>
</table>

Table 2.3
How frequently have you raised the role of current best evidence on placement?

<table>
<thead>
<tr>
<th>All the time</th>
<th>Often</th>
<th>Sometimes</th>
<th>Occasional</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 (3.2%)</td>
<td>27 (42.9%)</td>
<td>18 (28.6%)</td>
<td>10 (15.9%)</td>
<td>4 (6.3%)</td>
<td>2 (3.2%)</td>
</tr>
</tbody>
</table>

Table 2.4
How much confidence do you have in your clinical decision-making?

<table>
<thead>
<tr>
<th>A lot</th>
<th>A moderate amount</th>
<th>Some</th>
<th>A little</th>
<th>None at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 (11.3%)</td>
<td>42 (67.7%)</td>
<td>11 (17.7%)</td>
<td>2 (3.2%)</td>
<td>-</td>
</tr>
</tbody>
</table>

The clinical therapy students reported that if they were to use evidence-based therapy, the majority would prefer to be given the evidence on their desktop computer in their work environment followed closely by desktop in home environment. See graph 1.
Preferred Resources for Receiving Evidence

Graph 1.

Table 3.1

Overall, how frequently do you practice evidence-based therapy?

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every day</td>
<td>22</td>
<td>37.3%</td>
</tr>
<tr>
<td>Every other day</td>
<td>17</td>
<td>28.8%</td>
</tr>
<tr>
<td>Every week</td>
<td>14</td>
<td>23.7%</td>
</tr>
<tr>
<td>Every month</td>
<td>5</td>
<td>8.5%</td>
</tr>
<tr>
<td>Never</td>
<td>1</td>
<td>1.7%</td>
</tr>
</tbody>
</table>

Table 3.2

Do you consider yourself a practitioner of evidence-based therapy currently?

<table>
<thead>
<tr>
<th>Status</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>120</td>
<td>91.9%</td>
</tr>
<tr>
<td>No</td>
<td>12</td>
<td>8.1%</td>
</tr>
</tbody>
</table>

Selecting those who said no in table 3.2 (no=5)
Table 3.3

<table>
<thead>
<tr>
<th>I don’t practice evidence based therapy because:</th>
<th>Yes (%)</th>
<th>No (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>My educators/other therapists don’t</td>
<td>(60%)</td>
<td>(40%)</td>
</tr>
<tr>
<td>My colleagues don’t</td>
<td>(40%)</td>
<td>(60%)</td>
</tr>
<tr>
<td>I don't believe in it</td>
<td>(20%)</td>
<td>(80%)</td>
</tr>
<tr>
<td>I don’t know how</td>
<td>-</td>
<td>(100%)</td>
</tr>
<tr>
<td>I don’t have time</td>
<td>-</td>
<td>(100%)</td>
</tr>
<tr>
<td>Of personal procrastination</td>
<td>(20%)</td>
<td>(80%)</td>
</tr>
</tbody>
</table>

Attitudes toward evidence based practice

Most students had a positive attitude towards evidence based practice. (79.4%) disagreed that if evidence-based therapy is valid, then anyone can see clients and do what therapists do. The majority (85.5%) disagree that evidence-based therapy ignores the 'art' of therapy. The majority (90.4%) disagree that therapist’s, in general, should not practice evidence-based practice because therapy is about people and clients, not statistics. (49.2%) agree and (50.8%) disagree that previous work experience is more important than research findings in choosing the best treatment available for a client.

Future Use of EBP

Overall (98.5%) believe that EBP is useful for the future and will incorporate it into their future practice. The majority (55.6%) of students said it was moderately easy to practice evidence-based therapy as a clinical therapy student in the last month but (14.3%) said it was difficult. All the students agreed on the fact that they consider the practice of evidence-based therapy a routine part of their learning. The majority (92%) of the students personally
appreciate the advantages of practicing evidence-based therapy. Following on from that (93.4%) agree that evidence-based therapy should be an integral part of the undergraduate therapy curriculum. Table 4. shows participants believe that EBP is very useful for the future and that they will incorporate it into their future practice.

Table 4.

<table>
<thead>
<tr>
<th></th>
<th>Very useful</th>
<th>Somewhat useful</th>
<th>Useful</th>
<th>Not useful</th>
<th>Somewhat useless</th>
<th>Completely useless</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compared to when you started, how useful do you believe evidence-based therapy will be in your future practice?</td>
<td>44 (71.0%)</td>
<td>12 (19.4%)</td>
<td>4 (6.5%)</td>
<td>1 (1.6%)</td>
<td>1 (1.6%)</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Very willing</th>
<th>Moderately willing</th>
<th>Willing</th>
<th>Unwilling</th>
<th>Moderately unwilling</th>
<th>Very unwilling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compared to when you started, how willing are you to practice evidence-based therapy as a therapist in the future?</td>
<td>39 (61.9%)</td>
<td>17 (27.0%)</td>
<td>6 (9.5%)</td>
<td>-</td>
<td>1 (1.6%)</td>
<td>-</td>
</tr>
</tbody>
</table>

Results by discipline that differ

Occupational Therapy students were the dominant discipline to disagree (37.5%) that research using clinical trials is generally more reliable than research using the observational method. (33.3%) of Occupational Therapists and (35%) of Speech and Language Therapists access evidence on a daily basis where only (5.3%) of Physiotherapists do it daily. Occupational Therapists and Speech and Language Therapists frequently use textbooks but (15.8%) of Physiotherapists said they never look at textbooks. However, Physiotherapists significantly use the Cochrane Database more than the other two disciplines every week. Physiotherapists use it (52.6%), with (20%) of Speech and Language Therapists and (25%) of Occupational Therapists saying they never access it.
Discussion

Knowledge and Skills

The students within this study all (100%) agreed that effective searching skills and easy access to bibliographic databases and evidence sources are essential to practicing evidence-based therapy. The majority (98.4%) of students also agreed evidence-based therapy requires the use of critical appraisal skills to ensure the quality of all the research papers retrieved. The internet was the most common source of evidence which echo’s the finding of Stronge and Cahill (2011). This is not surprising given that in health care the internet is providing unprecedented opportunities to access information, improve decisions, and enhance communication among decision-makers and the people affected by their decisions. However, internet use is also creating many new problems as there is a lack of access to it in many practice settings and there are many institutional barriers affecting its use, and this in turn impacts on the utilization of EBP. For example, Bennett et al (2003) found that 91.5% of Occupational Therapists could access the internet at some location, but only 52% had access in their actual Occupational Therapy department. There is also a gap in limited computer skills and difficulty using electronic databases (Upton et al 2014).

The results of this study showed that (33.3%) of Occupational Therapists and (35%) of Speech and Language Therapists access evidence on a daily basis where only (5.3%) of Physiotherapists access it daily. The Occupational Therapy students and Speech and Language Therapy students also don’t use the Cochrane database as much as Physiotherapists. The Cochrane database is internationally recognised as the highest standard in evidence-based health care, so Occupational Therapy and Speech and Language Therapists may need to incorporate this more into their researching for the best EBP. (15.8%) of the Physiotherapy class never use textbooks whereas Occupational Therapists and Speech and Language Therapists frequently use them. These findings may relate to the fact that the Occupational Therapy and Speech and Language courses are a Masters course for 2 years and Physiotherapy course is a degree with the duration of 4 years. There might be a link to age being a possible factor in these results since these two courses are post graduate courses with more mature students and Physiotherapy is a degree course with younger students. It suggests that due to their age they could be potentially more computer illiterate students.
However, barriers here can be problematic for the future use of EBP as the younger population may not go to library as often as the older generation as they are more computer literate. Due to this, important research published in textbooks may not be considered. These findings have impact on practice and education.

**Attitude and Behaviours**

In Table 2.2 results show students reported EBP isn’t being discussed while they are on placement. This is an impact on the students as they are not seeing positive role models using EBP. Table 3.4 shows that practice educators being seen as role models on placement accounted for 60% of students not utilizing EBP. Olsen *et al* (2013) found that there is a lack of role models in EBP. Although the behaviours and attitudes towards EBP is positive, students are novices and look to their clinical instructors for guidance. If the practice educators don’t have EBP skills, it in turn impacts on the student. This is also not consistent with the university, as one of the aims of each clinical therapy programme is to educate students to adopt an evidence-based approach to practice upon graduation. Table 2.4 demonstrates that the clinical therapy students collectively do have moderate confidence in their clinical decision-making. This is a reflection on the university that the students feel prepared however it must be carried through on placements. This coincides with the findings of Stronge and Cahill (2011) also with just over 25% noting that their fieldwork educator/other therapists were not evidence-based practitioners, and did not observe EBP on practice education. This finding is concerning. Academics need to take account of students’ practice education experience so as to help them prepare for the barriers to incorporating research into decision making in the real world of clinical practice (Stronge and Cahill 2011).

Another possible aspect to this is that the practice educator might not have a degree qualification which could affect their own views on EBP. Cameron *et al* (2005) found that therapists with higher educational attainment held high views on the importance of EBP utilisation and Higher education (tertiary) qualifications have been associated with greater ability to use research tools (Romani and Forni 2010). From an Irish perspective the HSE embargo may also have impacted on the health professional’s workload due to cutbacks in funding, a stretch in resources, larger caseloads and hitting targets such as statistics, resulting in less time for EBP. This is also moving away from client-centred practice which involves best practice. The introduction of CORU, Ireland’s first multi-profession health regulator and
upcoming registration for health and social care professionals, in Ireland will have an impact on how professionals practice. There will be expectancy that standards are met by all health professionals registered with CORU to keep up their CPD and will ensure all therapists will be using EBP (www.coru.ie).

**Future Use of EBP**

Students are prepared and willing to use EBP in the future. However it seems from this study that the culture of an organisation had a huge role to play on the implementation of EBP within practice, with students citing not practising EBP because their educators didn’t. Olsen *et al* (2013) recognised the need for an evidence-based culture if students were to successfully apply EBP in future clinical education. Upton *et al* (2014b) also found that there is a need to assess an organisations culture to identify their needs around implementing EBP. The introduction of CORU will be a positive impact on EBP in the future as it will maintain the skills of the students, Basic Grade Occupational Therapists and Senior Occupational Therapists. The results in this study found that the majority of clinical therapy students (98.5%) believe that EBP is useful for the future and that they will incorporate it into their future practice. All the students agreed on the fact that they consider the practice of evidence-based therapy a routine part of their learning. With this statement in mind the gap between EBP in the University curriculum and EBP in the working environment can be bridged by CORU as it will become a routine part of being a clinical therapy practitioner.

**Implications for Practice and Education**

The results have many implications for practice and education. In order to ensure EBP occurs in practice settings, therapy managers should consider the results and seek management support to address the barriers to facilitating and maintaining EBP in their settings. Possible practical examples may be to provide internet access on practice education sites and support of a university librarian to teach searching and database skills for practice educators. Students graduating and transitioning to employment may also need to adapt to using the sites resources such as using the on-site library, text books and resource folders and not solely relying on the internet.
The results demonstrated that most of the students practice evidence-based therapy every day within college and in order to continue being evidence based practitioners while transitioning into the work environment we need to address the barriers. There is a need for collaboration between practice education settings and university based staff in facilitating students to maintain their EBP skills. For example, as practice education sites have limited access to most current research; practice educators that accept students for placements may be offered online access to databases and journal subscriptions in return for facilitating students from the university.

Targeting practice educators and qualified therapists with online or weekly courses could also be an effective way to incorporate EBP on these educational sites. Crabtree et al (2012) conducted a study with an EBP course and found providing these types of programmes/training courses could be a method of addressing the many barriers towards EBP that are related to qualified therapists lack of knowledge and skills in EBP.

**Future Research**

A qualitative in depth study of current practice educators’ perceptions of their understanding EBP and how they incorporate EBP into their routine practice could yield useful results. Another possibility for future research is to complete the KAB questionnaire at two different intervals within the therapy programmes, for example at the end of 1st year and again at end of the final year of study to document and measure the change of knowledge, attitudes and behaviours of EBP. A possible longitudinal study to follow up final year student cohort one or two years on in their careers to see if there knowledge, attitudes, behaviours and there future use of EBP has changed over the transition from college to the workplace may be useful.

**Limitations of the study**

The KAB tool may have posed a limitation as some of the statements were confusing, and the questionnaire was long. Another limitation may be that it was administered at the end of the students final semester when participants were extremely busy and may have rushed
there answers. The principal researcher was based in the University programme and this may have impacted the honesty of participant’s responses.

**Conclusion**

The evidence from this study shows that the curriculum within the University of Limerick across clinical therapies is preparing clinical therapy students to be evidence based practitioners. They are knowledgeable, they have positive attitudes and behaviours towards EBP and the students reported they feel EBP is an integral part of their routine learning and they will incorporate EBP into their future practice. In saying this, it does not translate into consistent, high quality EBP in the workplace. The challenge appears to be in relation to future use of EBP and how to maintain EBP skills in the transition from University to the working environment. The survey results suggest that students are prepared while in University to be evidence based practitioners, however there are barriers present in practice settings.

Collaboration between University programmes and Practice education sites and educators is crucial in terms of building on EBP implementation in the future. This study highlighted that there is a gap between what is taught in University and what is actually happening on practice education. Practice educators also need to be facilitated by Universities and their clinical managers to become positive role models to students who are on placement.

Furthermore, there seems to be a culture for seeking information from peers and other professionals as opposed to EBP sources. Further systematic evidence is needed to understand and highlight the most effective way to enable clinical therapy students to implement EBP.

Continual professional development and organisational support for qualified practitioners has been highlighted throughout the literature as the future to strengthening EBP utilization benefiting the professions and more importantly the client (Scurlock-Evans, L. *et al* 2014; Upton, P. *et al* 2014; Upton, D *et al* 2014).
References


The World Confederation for Physical Therapy (WCPT) 2013 available: [http://www.wcpt.org/ebp](http://www.wcpt.org/ebp) [assessed: Wed 16 April 2014]


