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Abstract

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Keywords

Evidence-based practice, occupational therapy students, education

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ABSTRACT

This study explored differences in perceptions of evidence-based practice (EBP) between occupational therapy (OT) students and practitioners. Researchers aimed to understand student and practitioner perceptions of barriers, knowledge, attitudes, and confidence in EBP. Occupational therapy students (n=61) and practitioners (n=21) completed an online researcher-created survey and the Evidence-Based Practice Confidence (EPIC) Scale survey. Results indicated practitioners were more confident in utilizing EBP than students, particularly when identifying a gap in knowledge related to a patient ($p = <.001$), deciding on a course of action for a client ($p = <.001$), and assessing the efficacy of EBP on client outcomes ($p = <.001$). This finding was inconsistent with previous research, which may be due to more practitioners receiving formal education on EBP. It is critical for OT education to support student learning and application of clinical reasoning throughout the EBP process in order to increase confidence. This study was limited by the use of a homogenous population from a single university.

LITERATURE REVIEW

Evidence-based practice (EBP) includes the utilization of critically-appraised research to inform decision making, and it incorporates clinical experience as well as the client's beliefs and values. Graham, Robertson, and Anderson (2013) defined EBP as "the integration of the best available research evidence with clinical expertise and patients'

values and circumstances to make the best decision regarding patient care” (p. 120). According to Thomas, Saroyan, and Snider (2012), there are five steps to EBP implementation. These steps include: (a) posing a PICO (Population, Intervention, Comparison, Outcome) question regarding treatment considerations or potential outcomes, (b) searching for literature that best supports the question, (c) evaluating the evidence in order to determine relevant and valuable information, (d) using the evidence to make both clinical decisions and client-centered applications, and (e) evaluating the intervention’s ability to meet the client’s needs. Thomas et al. (2012) explored EBP among occupational therapy (OT) practitioners and students and found that experienced OT practitioners excelled at clinical decision-making and evaluating intervention techniques. However, OT students were more proficient at posing a PICO question, searching literature, and appraising the evidence. With the exception of Thomas et al. (2012), there was a lack of literature that further investigated this relationship between student and practitioner attitudes, knowledge, confidence, and barriers to utilization of EBP. Students are required to use EBP due to standards set by the Accreditation Council for Occupational Therapy Education (ACOTE), such as “Demonstrate the ability to use statistics to interpret tests and measurements for the purpose of delivering evidence-based practice” (ACOTE, 2012, p. 19) and “Use scholarly literature to make evidence-based decisions” (ACOTE, 2012, p. 30). However, practitioners do not have similar guiding principles when in practice and therefore may not feel required to continue to engage in EBP due to alleged barriers or a lack of perceived knowledge or confidence.

Attitudes Toward EBP

Perceived congruence between the philosophical underpinnings of OT practice and the shift toward being a more evidence-based profession impacted EBP attitudes among OT students and practitioners. Graham et al. (2013) found that 84 percent of OT practitioners surveyed in New Zealand reported that EBP had daily benefits. The majority of the practitioners also reported they believed the use of EBP was important to the practice of OT, and it increased the ability to make care more client-centered. These findings were congruent with a prior American study where researchers found that 96% of the OT clinicians stated that EBP was an important part of their daily practice, and 87% of the participants stated they found literature and research to be a crucial part of their practice (Salls, Dolhi, Silverman, & Hansen, 2009).

Occupational therapy students also had positive attitudes about EBP. In an Irish study, Stronge and Cahill (2012) found that OT students had optimistic feelings about EBP and believed that it was a critical component to the OT curriculum. These researchers determined that “all 86 of the final-year students reported a willingness to engage in EBP in academic work, on clinical placements, and in the future as therapists” (Stronge & Cahill, 2012, p. 12). Furthermore, Stube and Jedlicka (2007) found that OT students at the University of North Dakota had positive perceptions of EBP and were enthusiastic about the profession’s use of EBP. One third-year OT student stated, “It’s the future of the OT profession. It provides a basis and rationale for treatment, and it offers avenues of continued research to expand the profession” (Stube & Jedlicka, 2007, p. 56).

However, attitudes were not enough to solidify the implementation of EBP. While the above studies described both students and practitioners having positive attitudes toward EBP, this does not necessarily correlate with its use in practice.

Knowledge and Confidence in EBP Use

Despite the general positive attitudes regarding EBP, actual implementation necessitated a certain comfort level that was preceded by knowledge and confidence regarding the use of EBP. Egan, Cahill, Huber-Lee, and Wallingford (2016) utilized an online training module aimed to increase 29 OT practitioners' skills and knowledge. Using the Adapted Fresno Test (AFT), clinicians who completed the training module demonstrated a higher average change in EBP knowledge and skills than a control group (Egan et al., 2016). Similarly, Nichols (2017) used the AFT and found both an increase in knowledge and skills and a statistically significant change in confidence among fieldwork educators after the completion of an introductory short course in EBP. The findings of both Egan et al. (2016) and Nichols (2017) were congruent with the research of Graham, Robertson, and Anderson (2013), in which Australian OTs who received training for EBP techniques from their university had more confidence than OTs who had not received training. Salls et al. (2009) explained that "workshops, online courses, and other continuing education opportunities in evidence-based practice can help facilitate skill development, subsequently reducing the time it takes for practitioners to locate and appraise literature" (p. 142). Furthermore, collaboration between academic and clinical settings can be mutually symbiotic: students can "search literature to address therapists' clinical questions, complete critical appraisal papers, and present their findings" (Salls et al., 2009, p. 143).

However, both clinical and academic experience created a gap in knowledge and confidence. Atler and Gavin (2010) highlighted this gap in knowledge between recent graduates and current, experienced OT practitioners. The researchers found that recent graduates had higher levels of confidence in their abilities to perform EBP-related activities, such as database searches and Internet usage, as opposed to OT practitioners who graduated five or more years ago. When examining differences in confidence in OT students, DeCleene Huber et al. (2015) found that third-year OT students reported more confidence than first- and second-year students in evaluating a course of action and selecting a decision based on evidence. These findings indicate that further education in EBP increases the confidence and ability for students to implement EBP principles. However, research suggested that the fieldwork experience needed to be congruent with this formal instruction.

Crabtree, Justiss, and Swinehart (2012) used pre-test/post-test methods and discovered that an EBP-directed course facilitated an increase in Master of OT students' scores for comprehension and use of EBP after the completion of the course. However, scores for the same students "declined between post-course and post-fieldwork measurements" (Crabtree, Justiss, & Swinehart, 2012, p. 146). This decrease in scores post-fieldwork could be due to a lack of EBP implementation by fieldwork coordinators or a lack of opportunity for students to apply skills learned in the EBP course. Despite the veracity of findings regarding low self-reported levels of knowledge,

confidence, and skills among both OT practitioners and students, there were still other barriers that were pervasive in the literature.

Barriers to EBP Implementation

Barriers to EBP implementation in practice was a well-published topic among OT literature. In 2012, Hu reported lack of time, skills, expertise, and support from management as barriers to EBP implementation. In a more recent study, Harding, Porter, Horne-Thompson, Donley, and Taylor (2014) explained that without an understanding of underlying factors that contribute to barriers, it was difficult to design and implement supportive techniques to allow for the utilization of EBP in practice. Therefore, Harding et al. (2014) aimed to use qualitative and quantitative methods to better understand barriers to the implementation of EBP among allied health clinicians. Researchers found a common barrier, lack of time, was broken down into three sub-themes with the use of the qualitative results. These sub-themes were “attitudes and expectations of clinicians and managers, lack of resources resulting in too many tasks to complete in the time available, and lack of skills leading to inefficiencies in the implementation of EBP” (Harding et al., 2014, p. 227). Clinicians felt they had a lack of time due to their caseloads, as well as diminished access to physical and electronic resources due to cost or availability. Lastly, some clinicians felt that a portion of the staff lacked understanding of EBP, or the search for literature was overwhelming, leading to time inefficiency. These mental representations had negative limitations on the advancement of EBP within clinical settings.

In summary, literature surrounding EBP was abundant in regards to the analysis of attitudes, knowledge, confidence, and barriers affecting EBP implementation. There were consistent discoveries highlighting, in general, positive attitudes toward EBP in conjunction with low self-reported levels of knowledge and confidence. Common barriers, such as lack of time and lack of skills, were also pervasive in the literature. With the exception of the study by Thomas et al. (2012), there was minimal literature comparing the population of OT students and practitioners. These findings reflected the inconsistent nature of competencies between education and practice. The recognition of this inconsistency supported the existence of a gap in the EBP decision-making processes between OT students and practitioners, thus leading to a lack of EBP implementation within the clinical setting. There is a need for research that highlights the differences in the factors influencing EBP implementation among OT students and OT practitioners alike. The current study aimed to explore this gap and provide insight into the relationships among knowledge, attitudes, confidence, and barriers of EBP implementation between OT students and practitioners.

METHODS

Study Design and Procedure

This study utilized online surveys to gather quantitative data from participants. The Institutional Review Board’s Human Protections Administrator at the study setting approved this study. Recruitment letters, which contained a link to the survey, were sent via e-mail. All participants completed informed consent before beginning the survey. If

participants did not agree to the informed consent, they were redirected out of the survey. The participants were allowed five weeks to complete the survey, and reminder e-mails were sent two weeks after the initial e-mail.

Participants

Criteria to participate in the study required all participants to be either students in, or alumni from, a private Midwestern university. A convenience sample of all 188 entry-level students currently enrolled in the Master of Occupational Therapy (MOT) and Doctor of Occupational Therapy (OTD) programs in the fall of 2016 were invited to complete a survey regarding EBP (54 students from MOT 2016; 21 from MOT 2018; 18 from MOT 2019; 46 from OTD 2018; 49 from OTD 2019).

A random sample of 200 (from a list of approximately 2000) OT practitioners who were alumni from the same university were invited to complete this survey; however, due to invalid e-mail addresses, only 169 of the original 200 e-mails were successfully sent.

Instruments

The online surveys were created with Qualtrics® software. The surveys created for this study were reviewed by three professors in the OT department at the university who were experts in survey design and EBP. Reviewers provided feedback regarding survey content, which was considered and implemented. The student survey included 15 questions, and the practitioner survey included 17 questions. The survey content between practitioners and students was similar; however, practitioner questions were focused on clinical experience, while the student questions were related to current academic and fieldwork experiences. Basic demographic information, as well as attitudes and barriers in relation to EBP, were included in the survey. Participants were not required to provide identifying information to ensure anonymity. Participants were also asked questions regarding access to research, knowledge of research, and implementation of research.

At the end of the survey, participants completed the Evidence-Based Practice Confidence (EPIC) scale, which rated participants' confidence in implementation of EBP and their ability to appraise evidence-based research and interpret findings from research articles (Salbach & Jaglal, 2011). Each participant was asked to rate their confidence in completing EBP skills using an 11-point scale that ranged from 0-100 percent at ten percent intervals. Empirical support for the construct validity of the EPIC scale was noted in a study with 125 occupational therapists conducted by Clyde, Brooks, Cameron, and Salbach (2016).

Data Analysis

Quantitative data from the survey were analyzed using Qualtrics® and Microsoft Excel. The responses to the perceived barriers and EPIC scale (Salbach & Jaglal, 2011) were entered into Microsoft Excel, and manual member-checking was performed for accuracy. Modes regarding barriers were calculated in the following categories: (i) time, (ii) expertise, (iii) managerial support, (iv) research skills, and (v) access to literature. Two-tailed t-tests were performed in Microsoft Excel to determine statistical significance

of survey data. The two independent variables were the OT students and OT practitioners, while the dependent variables were the responses to both the EPIC scale (Salbach & Jaglal, 2011) and survey. Statistical significance was assumed at $p < .05$. Crosstabs within Qualtrics® allowed researchers to compare results among the data within the survey.

RESULTS

Quantitative Data

Eighty-two of the original 357 participants (22.96%) completed parts of the survey. There was a higher response rate for OT students at 32.44% ($n=61$); only 12.43% ($n=21$) of practitioners responded to the survey. The sample size fluctuated per survey question for both practitioners and students, as 8.43% of respondents did not complete the barriers section of the survey. While 100% of practitioners completed the demographics and knowledge section, the sample size ranged from 19 to 21 respondents for the remainder of the survey questions. In total, student sample size varied from 57 to 62 respondents per survey question. Furthermore, 30.12% of the participants did not complete the EPIC scale. Participant demographic information was collected and presented in Table 1.

Table 1

Demographic Data of OT Practitioners and OT Students

Characteristic	Practitioner: $n = 21$ (25.60%)	Student: $n = 61$ (74.39%)
Gender		
Male	0 (0.00%)	2 (3.82%)
Female	21 (100%)	59 (96.72%)
Age		
	20-29= 7 (33.33%)	20-23= 45 (73.77%)
	30-39= 6 (28.57%)	24-27= 11 (18.03%)
	40-49= 4 (19.05%)	28-30= 2 (3.28%)
	50-59= 2 (9.52%)	31-34= 0 (0.00%)
	60-69= 2 (9.52%)	>35= 3 (4.92%)
	>70= 0 (0.00%)	
Highest Degree Completed		
	Bachelor's Degree= 0 (0.00%)	Bachelor's Degree in Progress=11 (18.03%)

	Master's Degree= 19 (90.48%)	Bachelor's Degree= 49 (89.03%)
	Entry-level Doctorate= 0 (0.00%)	Master's Degree= 1 (1.64%)
	Post-professional Doctorate= 2 (9.52%)	Doctorate= 0 (0.00%)
Years in Practice		
	0-5= 7 (33.33%)	N/A
	5-10= 6 (28.57%)	
	11-20= 2 (9.52%)	
	21-30= 3 (14.29%)	
	>30= 3 (14.29%)	
Cohort		
	N/A	MOT 2016= 13 (21.31%)
		MOT 2018= 2 (3.28%)
		MOT 2019= 0 (0.00%)
		OTD 2018= 26 (42.62%)
		OTD 2019= 20 (32.79%)
		None= 20 (32.79%)
Fieldwork Completed		
	N/A	Level I= 28 (45.90%)
		Level II (first 12 week)= 13 (21.31%)
		None= 20 (32.79%)
Hours Practiced Weekly		
	0-9= 2 (9.52%)	N/A
	10-19= 1 (4.76%)	
	20-29= 3 (14.29%)	
	30-39= 3 (14.29%)	
	40-49= 12 (57.14%)	

Participant characteristics. The majority of all respondents were predominantly female (97.54%, n=80) and reported their highest level of degree achieved as Master's degree (90.48%, n=19). The majority of OT students were enrolled in the OTD cohort of 2018 and 2019 (79.41%, n=46) at the time of the study. At the time of this survey, each of the five student cohorts had completed varying levels of fieldwork (see Table 2).

Table 2

Description of Fieldwork Completed by Cohort

<u>Cohort</u>	<u>Number of Participants</u>	<u>Amount of Fieldwork Completed</u>
MOT 2016	13	All Level I; first Level II (12 weeks)
OTD 2018	26	1-week Level I; 2-week Level I
MOT 2018	2	1-week Level I
MOT 2019	1	None
OTD 2019	20	None

The majority of OT practitioner respondents were graduates of the university's OT program (76.19%, n=16), while the remainder were OT practitioners from the university's post-professional health sciences program. In terms of experience, 60% of practitioners had ten years of experience or fewer in clinical practice, in which the entry-level program's curriculum related to EBP in research has been consistent.

Knowledge of EBP use. In response to EBP knowledge, there was no statistically significant difference between student and practitioner perceptions (see Table 3). The majority of students agreed or strongly agreed (67.79%, n=46) that they knew the components of a PICO question, while only 47.62% (n=10) practitioners either strongly agreed or agreed to knowing these components. The majority of practitioners and students agreed with having the ability to appraise, search, and interpret EBP literature. The majority of practitioners agreed or strongly agreed (84.72%, n=18) to having the skills to identify clinical relevance to research findings. Similarly 86.44% (n=51) of OT students agreed or strongly agreed to having these skills.

Table 3

Statistical Significance of OT Practitioners' and OT Students' Perceived Knowledge, Attitudes, and Utilization of EBP

Survey Question	Practitioner Average	Student Average	p-Value
Know components of a PICO question	3.14	3.644	.18
Appraise strength of research articles	4.05	3.98	.79
Adequate literature searching skills	3.95	4.37	.11
Interpret findings of research articles	3.90	4.12	.35
Identify clinical relevance to findings	4.19	4.08	.66
Feel qualified to implement EBP clinically	4.25	3.10	<.001*
Feel EBP is essential to clinical practice	4.40	4.53	.46
Feel EBP focuses on meeting client needs	3.35	4.11	.004*
Feel clinical experience is more important than EBP	3.00	3.30	.26
Feel there is great benefit for EBP research	4.45	4.35	.52
Feel willing to change/try new ideas	4.55	4.58	.83
Education emphasized clinical importance of EBP	4.55	4.38	.52
I am an EBP practitioner/student	3.89	4.19	.15
I search for research articles during the work/school day	3.06	4.25	.005*
I search for appropriate articles during my free time	3.11	2.52	.070
I use clinical interventions based on EBP	4.22	4.06	<.001*
I attend educational sessions on EBP	2.24	1.85	.043

Note. All practitioner and student averages are of a possible 5 points; with 5 being equal to Strongly Agree, and 1 being equal to Strongly Disagree (*) indicates statistically significant values.

Confidence in EBP implementation. The EPIC scale (Salbach & Jaglal, 2011) was utilized to gain perceptual knowledge regarding OT practitioner and student confidence in components of EBP implementation. With a 69.88% (n=58) response rate, participants rated confidence of EBP implementation on a scale from 0-100 percent. Results indicated a statistically significant difference between student and practitioner perceived confidence for the following: identifying a gap in knowledge ($p = <.001$), asking about values, needs, and treatment preferences with

clients ($p = .002$), deciding on a course of action ($p = <.001$), and continually evaluating actions ($p = <.001$), as practitioners rated higher confidence in these areas. These differences are presented in Table 4. The majority of practitioners reported a higher level of confidence in identifying a gap in knowledge and asking about values, needs, and treatment preferences, as compared to students. Students felt most confident conducting an online literature search, and they reported lower levels of confidence when deciding on a course of action and continually evaluating actions compared to practitioners. Both students and practitioners reported the lowest levels of confidence for interpreting statistical t-tests and procedures. The findings from the EPIC scale can be found in Figure 1.

Table 4

Statistical Significance in Difference of EPIC Scores between Clinicians and Students

EPIC Scale Questions	<i>p</i> -Value
1. Identify a gap in knowledge related to a patient or client situation	<.001*
2. Formulate a question to guide literature search	.25
3. Effectively conduct an online literature search	.70
4. Critically appraise strengths and weaknesses of a study	.80
5. Critically appraise measurement properties of tests	.46
6. Interpret statistical t-test	.60
7. Interpret statistical procedures	.75
8. Determine if evidence applies	.13
9. Ask about values, needs, and treatment preference	.002*
10. Decide on course of action	<.001*
11. Continually evaluate actions	<.001*

Note. (*) indicates statistically significant values.

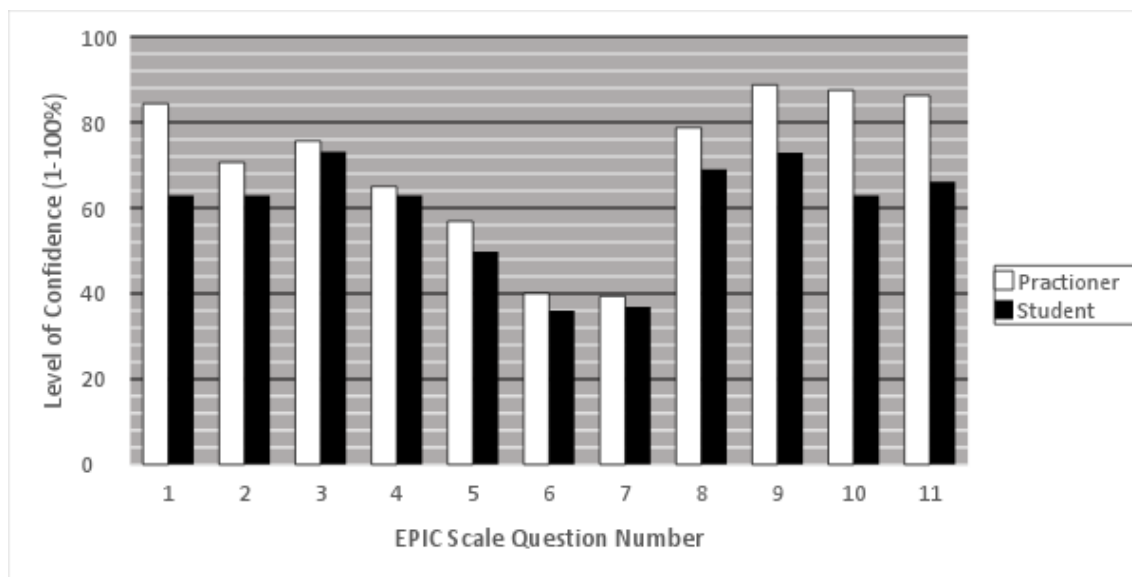


Figure 1. Comparison of practitioner and student scores on EPIC scale items.

Attitudes toward EBP use. There was a statistically significant difference between practitioner and student reports of feeling qualified to implement EBP ($p = .001$) and feeling EBP is strongly focused on meeting client needs ($p = .004$), with the majority of OT practitioners strongly agreeing at a higher rate than OT students (see Table 3). The students reported being expected to be an evidence-based professional at a higher rate than practitioners. Half of the practitioners strongly agreed that EBP is essential to clinical practice, and 57.89% of students expressed the same level of agreement. Though most participants identified EBP as being an important component to clinical practice, 24.56% of students and 15.00% of practitioners felt clinical experience was more important than EBP.

Barriers to implementation of EBP. Practitioners ranked perceived barriers on a scale of 1-5, with 1 being the highest perceived barrier and 5 being the lowest perceived barrier. Practitioners perceived time as their largest barrier to EBP implementation, followed by access to literature, management support, expertise, and research skills. Students equally ranked time and expertise as their highest perceived barriers, followed by management support, research skills, and access to literature. Though practitioners reported limited access to literature as the second highest perceived barrier, 52.63% ($n=10$) agreed to having access to EBP articles.

The third highest identified barrier to EBP implementation for OT practitioners was managerial support. In relation to workplace expectations, 45.00% of practitioners agreed evidence-based practice was expected at work and 50.00% agreed to being an evidence-based practitioner. The majority of practitioners agreed EBP was allowed by administration (57.89%, $n=11$); however, 31.58% ($n=6$) reported their workplace was not equipped to allow EBP implementation. The students identified time and expertise as the highest perceived barriers to EBP implementation, while OT practitioners reported expertise as the second lowest perceived barrier.

Students agreed to searching EBP once a month or more for fieldwork, with 46% self-identified as an evidence-based fieldwork student. The majority of practitioners utilized EBP to implement interventions, with 57.89% (n=11) performing interventions based on EBP once a week or more. However, 42.11% (n=8) of practitioners disagreed or strongly disagreed to having ample time during the workday to incorporate EBP and only 50.00% identified themselves as evidence-based practitioners.

DISCUSSION

Barriers

Practitioners and students, as indicated by the survey, found lack of time to be the largest barrier to EBP implementation, which was consistent with the literature (Graham et al., 2013). Students in this study rated access to literature as the lowest perceived barrier, while practitioners ranked access to literature as the second highest perceived barrier, indicating that students likely have more access to EBP literature than practitioners.

Students rated expertise as one of the highest perceived barriers to EBP implementation, while OT practitioners reported it as the second lowest perceived barrier. This finding reflects the clinical experience of practitioners and supports the statistically significant EPIC scale finding, in which practitioners reported higher levels of confidence in identifying a gap in knowledge and asking about values, needs, and treatment preferences, and deciding on a course of action as compared to students.

Thomas et al. (2012) found practitioners demonstrated the ability to apply decision-making and re-evaluation skills at a higher rate as compared to students. Though practitioners reported higher confidence in clinical application skills, students demonstrated the ability to form a PICO question and search literature at a higher rate. This challenges the findings of the current study, in which practitioners reported a higher rate of confidence (70.28%) in the ability to form a PICO question and search the literature as compared to students (59.56%).

The majority of practitioners agreed EBP was supported by administration and identified managerial support as the third highest perceived barrier to implementation. These findings may relate to workplace culture, as researchers have found organization and social context in the workplace impact attitudes and behaviors of employees (Sarri & Judge, 2004). Lee, Park, and Koo (2015) concluded that the general attitudes embedded throughout the organizational values have a direct effect on attitudes and behaviors of employees. With respect to these findings, attitudes and values related to implementation of EBP in the workplace may affect attitudes of clinicians towards the use of EBP in practice. Therefore, if the employer's organizational values reflect the importance of EBP, clinicians may have similar attitudes towards the use of EBP in practice, thus increasing use of EBP in the workplace. Within OT education, there is a high value placed on the utilization of EBP in coursework and in practice. Students and new practitioners may initially retain this value, but with poor organizational support, use of EBP may decline. Occupational therapy education should support students in finding ways to advocate for the value of EBP with their future employers.

Attitudes

In regards to attitudes of EBP implementation, our study found that 50.00% (n=10) of practitioners strongly agreed there was great benefit to EBP research and identified EBP as essential to clinical practice. Occupational therapy practitioners reported utilizing EBP to implement interventions (57.89%, n=11); however, many reported searching articles only once or twice a year during the workplace. This finding shows that though practitioners utilized EBP

for implementation of interventions, article searches are not performed frequently. However, OT students searched for literature at a statistically significant higher rate than OT practitioners. This significance is likely due to a strong focus on EBP implementation throughout their OT program. The student and practitioner motivations for completing EBP may vary. For example, students may be required to perform EBP as a part of an assignment, whereas clinicians may perform EBP to provide the best possible care for the patient. Graham et al. (2013) found that 84% of the OT practitioners surveyed believed in the benefits of EBP implementation when used in daily practice. Though EBP implementation was positively viewed as beneficial to daily practice, OT practitioners' identified rate of implementation would be higher if there was an emphasis on clinical research in practice (Graham et al., 2013). With the increased prevalence of OTD programs, there will be more entry-level practitioners with experience in clinical research. This may lead to an increase in implementation of evidence-based interventions.

Knowledge

The OT students viewed EBP as essential to clinical practice at a higher rate than OT practitioners. This is similar to our finding that a greater percentage of students than clinicians agreed that they are expected to be evidence-based. Students' views of EBP being essential to clinical practice may be related to a belief that they are expected to be evidence-based practitioners upon graduation. A study by Stronge and Cahill (2012) also found that Irish OT students had optimistic feelings about EBP and believed that it is a critical component of the OT school curriculum. Students from the University of North Dakota had positive perceptions of EBP and were enthusiastic about its use clinically (Stube & Jedlicka, 2007). Our results indicated that 70% of OT practitioners strongly agreed that their academic backgrounds emphasized the importance of EBP implementation, as compared to 56.14% of students, which may be due to the large percentage of students who completed the survey during their first few weeks in the OT program (OTD 2019; n=20).

Confidence

Atler and Gavin (2010) found recent graduates had higher levels of confidence in the ability to use database searches and Internet usage for EBP. These conclusions correspond to our study findings, as students reported they were most confident when conducting an online literature search. Practitioners also indicated high levels of confidence in this component of EBP, which may be related to the fact that 60% of practitioner participants had ten years of experience or fewer, indicating that they were more recent graduates. Our study's results also indicated that OT students reported lower levels of confidence when deciding on a course of action and continually evaluating actions as compared to practitioners. These findings are as expected in regards to skill acquisition and development, which improve with experience (Benner, 1982). The statistically significant finding in student and practitioner perceived confidence from the EPIC scale further support the findings of Thomas et al. (2012), in which experienced OT practitioners excelled at clinical decision-making and evaluating intervention techniques.

Within OT education, it is critical for students to have consistent opportunities to implement evidence-based practice within coursework and fieldwork. When DeAngelis, DiMarco, and Toth-Cohen (2013) surveyed program directors on the educational strategies for teaching EBP, 100% of respondents indicated that students learned to search for and critically evaluate evidence, while the percentage of programs that taught students about evaluating performance and outcomes was lowest at 79.3%. As Benner (1982) described, individuals demonstrate more confidence with skill acquisition; students need opportunities to utilize increasingly more complex clinical reasoning in order to improve their performance in higher-level skills such as clinical decision-making and evaluating intervention techniques.

SUMMARY

While students reported a greater knowledge of steps of the EBP process than practitioners, such as knowing the components of a PICO question, searching the available literature, and interpreting the findings of a research article (see Table 2), they reported less confidence in these steps. The OT practitioners were more confident in their abilities to perform the steps of EBP; however, the majority reported searching for evidence only a few times a year. This reported infrequency of literature searching may be insufficient to stay up-to-date on current research-supported practice. Additionally, this infrequent searching may not lead to utilization of evidence that is client-centered. This was reflected by practitioners reporting that EBP is focused on meeting a client's needs at a statistically significant level less than students.

Students need to have continued opportunities to implement EBP under the supervision of a practitioner with strong confidence and knowledge, in order to improve their own confidence. Practitioners can increase their number of opportunities to search for literature needed to provide research-supported, client-centered care by receiving organizational support in the resources of dedicated time, access to journals, and an expressed value on the importance of EBP. Additionally, there needs to be increased support from academic institutions on continuing to utilize EBP once students begin Level II fieldwork. These could include EBP modules (Van Lew & Singh, 2010) or discussion boards (DeAngelis, 2013) completed concurrently with fieldwork, or requirements to implement a journal club or present research findings to colleagues. Students should also have opportunities to reflect on EBP with classmates and faculty upon completion of Level II fieldwork for continued improvements in curriculum development.

Limitations

One limitation of the current study was the use of a small convenience sample with different levels of OT student and practitioner education and limited practitioner involvement. This study used convenience sampling in which all potential participants were either current or former students of the same university. Therefore, generalizing the result to individuals from other universities may not be appropriate. Additionally, due to changes in the OT curriculum, students who graduated 20 years ago may have had different education related to EBP and research than more recent graduates, which may have impacted practitioner responses. A relatively low sample size of 83 participants (students [n=62]; practitioners [n=21]) further limits generalizability of the research findings.

Additional limitations, including cohort year of current students, were also present. For example, individuals from the OTD 2019 cohort (first year of OT school) reported lower levels of confidence in implementing EBP, and this may be due to the fact that they had completed no fieldwork experiences at the time of our survey. Contrastingly, students from MOT 2018 and OTD 2018 (second year of OT school) may report higher levels of confidence due to additional education and practice through advanced fieldwork experience, similar to findings by DeCleene Huber et al. (2015). Biases regarding EBP may also affect the results of this study, as individuals with strong feeling towards EBP may have been more likely to complete the survey. Future research should examine students and practitioners from a variety of different educational institutions to determine if these findings are consistent across academia and practice.

IMPLICATIONS FOR OCCUPATIONAL THERAPY EDUCATION

Students and practitioners alike reported that their formal education emphasized the clinical importance of EBP; however, fewer students and practitioners reported that they identified as an evidence-based practitioner/student. This could be due to the lack EBP implementation

throughout the fieldwork process, leading to decreased confidence in the steps of implementing the evidence and evaluating its efficacy with a client. Therefore, emphasis should be placed on the implementation of EBP throughout Level I and Level II fieldwork experiences with corresponding assignments that require students to assess their evidence-based interventions in collaboration with fieldwork educators. It may be beneficial to have students connect during Level II fieldwork experiences via learning management systems to have discussions about the types of evidence-based interventions that they are implementing, as well as assessing the efficacy of these interventions.

Finally, it is critical for educators to emphasize the importance of EBP; this can be done through demonstrating utilization of evidence during classroom discussions or requiring students to utilize evidence to formulate treatment plans for case study clients or clients seen while on fieldwork. For example, Evenson (2013) utilized a problem-based, evidence-based client case analysis assignment to encourage students' use of evidence-based practice prior to beginning a Level II fieldwork experience. Within the educational setting, students need to be taught the process of EBP but also the practicalities and challenges of continuing to be an evidence-based practitioner. As DeAngelis et al. (2013) reported, students are inconsistently being taught how to integrate evidence into clinical practice. This could be enhanced through utilization of concurrent didactic EBP modules or discussion boards to facilitate development of confidence and stronger clinical reasoning skills. This solid foundation of EBP through OT education may help to enforce the gap in the implementation of EBP between students and practitioners. With consistent and proficient practice of utilizing EBP throughout the education process, practitioners and students will be more equipped to implement EBP in their practice throughout the course of their career.

CONCLUSION

Our study aimed to explore the perceptual differences in knowledge, attitudes, confidence, and barriers of EBP implementation between OT students and practitioners. Though students and practitioners are expected to utilize EBP in both the classroom and clinic, there is an existing gap between confidence in EBP utilization and decision-making processes. Our study explored this gap and found practitioners felt more qualified to implement EBP clinically, while students felt more strongly that EBP is focused on meeting clients' needs. As measured by the EPIC scale, practitioners were more confident in all areas related to utilizing EBP compared to students. This finding was inconsistent with previous research, which may be due to more practitioners receiving formal education on EBP. While students are required to meet curricular standards that requires utilization of EBP in the classroom, practitioners have no required standards in practice. Future research should test knowledge of EBP-related skills in students and clinicians and determine if perceived confidence in EBP is supported by the individual's knowledge. Additionally, researchers should examine the knowledge and confidence of students and practitioners from multiple academic institutions and workplace settings with a variety of years of work experience to determine if there are national trends in the use of EBP.

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