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Madelin Buscho
University of North Dakota

Samantha Scheel
University of North Dakota

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The Level of Knowledge of Evidenced Based Practice (EBP) by OT Managers

by

Madelin Buscho, MOTS and Samantha Scheel, MOTS

Advisor: LaVonne Fox, OTR/L, PhD

An Independent Study

Submitted to the Occupational Therapy Department of the

University of North Dakota

In partial fulfillment of the requirements

for the degree of

Master of Occupational Therapy
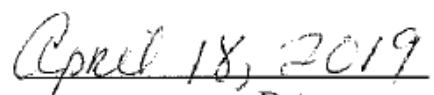

Grand Forks, North Dakota

May, 2019

This Independent Study, submitted by, Madelin Buscho, MOTS and, Samantha Scheel, MOTS in partial fulfillment of the requirement for the Degree of Master of Occupational Therapy from the University of North Dakota, has been read by the Faculty Advisor under whom the work has been done and is hereby approved.

_____
Faculty Advisor

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Date

Title: The Level of Knowledge of Evidenced Based Practice (EBP) by OT

Managers

Department: Occupational Therapy

Degree :   Master of Occupational Therapy

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Samantha Schal
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~Maddi and Sam

ABSTRACT

Title: The Level of Knowledge of Evidenced Based Practice (EBP) by OT Managers

Madeline Buscho, MOTS, Samantha Scheel, MOTS, & LaVonne Fox, PhD, OTR/L,

FAOTA. The Level of Knowledge of Evidenced Based Practice (EBP) by OT

Managers Department of Occupational Therapy, University of North Dakota

School of Medicine and Health Sciences, 1301 N Columbia Rd, Grand Forks, ND

58203--2898

Introduction: Occupational therapy (OT) managers are stakeholders in the expectations of occupational therapists, and hold great influence over evidence-based practice (EBP) implementation (Clark, Park & Burke, 2013). There are no research articles pertaining to the knowledge, attitudes or practices related to EBP among OT managers. The purpose of this research was to determine the knowledge, attitudes, practices and perceived barriers to EBP implementation held by OT managers. Managers who oversee occupational therapists will be referred to as OT managers in this study no matter their professional background.

Methodology: This study was approved by the Institutional Review Board at the University of North Dakota (UND) in Grand Forks, North Dakota. A descriptive design was used to conduct this study. Convenience sampling was utilized to obtain participants for this study using the University of North Dakota Fieldwork Contact Database. Participants were emailed a survey. Quantitative data was analyzed using Qualtrics and the Statistical Package for Social Sciences, version 25. Quantitative data was analyzed using an open coding process.

Results: A total of 40 surveys were returned out of 258 deliverable messages, yielding a response rate of 15.5%. Most of the respondents were female (85%, n= 34) and held Master's degrees (72.5%, n=29).The respondents reported an overall "high" knowledge score (x= 25.36). The respondents had "moderate" attitudes towards EBP (x= 12.13, sd= 3.4). Scores related to EBP practice, indicated that practices were "moderate" (x=14.4). The mean score on the barriers subscale was 12.45, which indicated that a moderate level of barriers was perceived.

Conclusion: OT managers hold positive attitudes towards EBP, which positively influences their intentions to implement EBP. They also have moderate levels of EBP practices, which positively influences their intentions to implement EBP. Lastly, they have high knowledge of EBP, but perceive moderate levels of barriers to implementation, which decreases their perceived control over EBP implementation. Based on the results of this study, a potential factor inhibiting the intention to implement EBP, is OT managers' perceived barriers to implementation. Understanding OT managers' perceived KAPB of EBP and the relationships between those factors helps to guide the next level of research, which is knowledge translation. Future research at the level of knowledge translation needs to explore the most effective interventions for increasing EBP implementation and active involvement in EBP by OT practitioners, students, and managers alike.

CHAPTER I

INTRODUCTION

Rationale

The United States' healthcare system is moving towards reimbursing services that provide effective, quality care over the quantity of services provided (Leland, Crum, Phipps, Roberts, & Gage, 2015). The evidence-based practice (EBP) process involves clinician's expertise, research and evidence, and client factors (Blessing & Forister, 2016). Through the EBP process, clinicians implement effective interventions that promote best practice, thus providing quality care.

Evidence-based practice (EBP) implementation is limited within the occupational therapy (OT) profession, despite the fact that students and practitioners feel positively towards it and have sufficient knowledge of the EBP process (Brown, Tseng, Casey, McDonald & Lyons, 2010; Morrison & Robertson, 2016; Stronge & Cahill, 2012; Thomas & Law, 2013). If the OT profession fails to prove that therapists are providing effective and quality service, then the profession will lose the ability to be a reimbursable service. Inconsistent EBP implementation does not appear to be stemming from a lack of knowledge or positive attitudes by clinicians or students. As of now, the true cause is unclear. Considering external factors that are affecting EBP implementation, is necessary to solve this problem, which could greatly affect the future of OT.

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Managers of OTs are strong stakeholders in the social norms and expectations of occupational therapists, and therefore hold great influence over EBP implementation. There are no research articles that discuss the level of knowledge, the attitudes towards, the current practices of or the perceived barriers to EBP implementation by OT managers. The level of knowledge, attitude towards, practices of, and barriers to EBP will be referred to as KAPB for the remainder of this paper. KAPB could influence how managers view EBP and therefore how occupational therapists view and implement EBP. In this research, KAPB was studied to add to the body of knowledge regarding EBP implementation by occupational therapy professionals. As knowledge from this research is gained, future research can be conducted on how managers affect EBP implementation within the occupational therapy profession. In the remainder of this study, those professionals who manage or supervise occupational therapists will be referred to as OT managers, whether or not they practiced as occupational therapists before becoming managers.

Statement of the Problem

EBP is becoming a more prominent standard of care for all healthcare professions, yet within OT it is not being utilized to the extent the profession requires (Clark, Park & Burke, 2013; Thomas & Law, 2013). KAPB of EBP have been studied in OT clinicians, OT students, and across other health professions such as athletic training and nursing (Brown, Tseng, Casey, McDonald & Lyons, 2010; Heiwe, Kajermo, Tyni-Lenne, Guidetti, Samuelsson, Andersson & Wengstrom, 2011; Morrison & Robertson, 2016; Mota da Silva, Cunha Menezes Costa, Garcia, A & Pena Costa, 2015; Stronge & Cahill, 2012; Stube & Jedlicka, 2007; Thomas & Law, 2013). Literature also exists that

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suggests environmental and systemic changes must be made to facilitate health professionals' implementation of EBP (Morrison & Robertson, 2016; Novak & McIntrye, 2010; Stronge & Cahill, 2012; Stube & Jedlicka, 2007; Thomas & Law, 2013). These systematic changes often include changes at the managerial level, which affect the way knowledge from research is translated into practice (Novak & McIntyre, 2010). However, a lack of literature exists regarding the KAPB of EBP by managers, specifically those who oversee occupational therapists. The KAPB of EBP by OT managers must be understood to create useful systematic changes to facilitate the use of EBP by occupational therapists.

Theoretical Framework

Overall, there needs to be a change in the OT profession concerning EBP implementation. To understand this change, the factors that affect it need to be studied. OT managers are one of those factors that have been discussed as influencing change (Bailey, Bornstein & Ryan, 2007; Stronge & Cahill, 2012). The Theory of Planned Behavior was used to determine what other factors influence change, and determined what factors should be studied when surveying managers of occupational therapists. Ajzen (1991) proposed the Theory of Planned Behavior, which contends that engaging in a particular behavior depends on an intention to perform said behavior. The intention to complete a behavior is influenced by three factors;

     1. attitude toward the behavior,

     2. the subjective norm, and

     3. perceived behavioral control.

Attitude is considered a personal evaluation of a behavior. A subjective norm is considered a socially expected mode of conduct, and perceived behavioral control is considered self-efficacy with respect to behavior. Though all three factors influence behavior, Ajzen asserts that the two strongest factors are an individual's intention to perform the behavior and their perceived behavioral control over the behavior (1991).

This study drew parallels from the concepts in the Theory of Planned Behavior to the concepts of KAPB. The researchers measured the KAPB of OT managers to gain an understanding of their perceived behavioral control, their subjective norms and their attitudes. The specific parallels are presented more fully in Chapter III. Change, regarding EBP implementation, needs to happen so that the OT profession can maintain a position as a reimbursable service. Therefore, the Theory of Planned Behavior assisted the researchers in understanding factors that affect this change, and in taking the first steps necessary to create change.

Research Questions

To address the problem of a lack of literature regarding the KAPB of OT managers and EBP, four research questions were developed.

1. What is the level of knowledge of EBP practice by OT managers?

2. What are the attitudes toward EBP held by OT managers?

3. What is the level of practices of EBP by OT managers?

4. What are the perceived barriers to EBP implementation held by OT managers?

Assumption

Based on existing literature, the researchers assume that managers of occupational therapists would have positive attitudes toward and sufficient knowledge of evidence-based practice, but would have limited practices of implementing evidence-based practice.

Scope and Delimitation

This study focuses on the perspective of managers of occupational therapists regarding EBP. A survey was sent to managers of occupational therapists through email using Qualtrics. The survey was open for 23 days between August 2018 and September 2018. A reminder email was sent two weeks after the initial email requesting participation. This study was limited to managers of occupational therapists due to the limited literature regarding managers. The study did not include other healthcare practitioners or managers of non-OT practitioners.

Importance of the Study

It is important to understand the factors that affect EBP implementation before trying to understand why it is lacking. Based upon the Theory of Planned Behavior, the KAPB of EBP affects EBP implementation. The KAPB of non-OT professionals, OT practitioners and OT students have had baseline research conducted regarding EBP implementation.

To the best of the researchers' knowledge, the KAPB of OT managers has not been studied. The goal of this study is to establish a baseline to understanding the OT managers' role in increasing the use of EBP. The researchers anticipate that the findings

of this study will fill a gap in the literature regarding the KAPB of EBP by OT managers, and create a launching point for future studies and/or research on this specific population.

Research involving knowledge translation, effective EBP implementation strategies, and the use of EBP in the OT profession will find this study useful as it will add breadth to existing knowledge related to those research areas. Knowledge translation is the next step in research, as it explains what is needed to convert knowledge of research findings into practice (Grimshaw, Eccles, Lavis, Hill & Squires, 2012). As this study provides an understanding of managers' perspectives of EBP, the findings may assist in developing studies that look into how managers approach knowledge translation, and how managers with sufficient knowledge translation strategies can affect EBP implementation in clinical practice. Managers may also find the study useful to gain an understanding of the importance of EBP implementation.

Definition of Terms

- **Evidence-Based Practice** - For the purposes of this study, evidence-based practice is defined as the formal gathering and synthesis of information from research findings through systematic research review to determine best clinical practice (Abreu & Chang, 2011).

- **KAPB** - For the purpose of this study, KAPB is defined as knowledge of, attitudes toward, practices of, and barriers to evidence-based practice. Knowledge is defined as an understanding of a science, art or technique (Merriam-Webster Dictionary, 2018). Attitude is defined as a feeling or emotion toward a fact or state (Merriam-Webster Dictionary, 2018). Practice is defined as actual performance or application (Merriam-Webster Dictionary, 2018). Barriers are

defined as something immaterial that impedes or separates (Merriam-Webster Dictionary, 2018). For the purposes of this study, barriers are defined as factors that inhibit or reduce the use of evidence-based practice.

- **Manager** - For the purposes of this study, a manager is defined as someone who oversees the work of occupational therapists, designs and evaluates program effectiveness, and tracks client outcomes (Jacobs & McCormack, 2011). It does not need to be only a manager who is an occupational therapist.

- **Knowledge Translation -** For the purposes of this study, knowledge translation is defined as the process of transferring knowledge of research findings into clinical practice (Grimshaw et al., 2012).

Chapter I provides an introduction to the topics that will be discussed in this paper as well as an explanation of the importance of this study. Chapter II presents a more detailed examination of the literature. Emphasis was placed on current levels of evidence-based practice within the field or occupational therapy. Chapter III describes the methodology used during conduction of the study. Chapter IV presents the results of the study and Chapter V discusses the importance of the results in relation to the OT profession.

CHAPTER II

LITERATURE REVIEW

Introduction

Across healthcare, providers are encouraged to utilize evidence-based practice (EBP) to provide the best possible care to patients. The use of EBP combines clinical reasoning skills, utilization of the best possible evidence, and client input to create a client-centered and research-supported treatment plan (Blessing & Forister, 2016). In 2007, the American Occupational Therapy Association (AOTA) released their *Centennial Vision,* in which EBP was proposed as a norm for the profession (American Occupational Therapy Association, 2007). Clark, Park & Burke (2013) reported that by 2012 the use of EBP was still not widely accepted by occupational therapists. This was occurring despite the fact that many suggestions have been made as to how to increase the use of EBP (Lin, Murphy & Robinson, 2010; Thomas & Law, 2013; Evenson, 2013). Ten years later Vision 2025 (AOTA, 2017) was presented. One of the core pillars of Vision 2025 is labeled as *'Effective,'* which is defined as, *'Occupational therapy is evidence based, client centered, and cost effective'* (AOTA, 2017).

A search of PubMed using the Mesh terms "evidence-based practice" and "occupational therapy" from 2012 to 2018 provided 51 results, two of which were related to research utilization among OTs (Clark, Park & Burke, 2013; Thomas & Law, 2013). Research has been conducted on multiple topics relating to EBP since the *Centennial*

Vision. There is range of topics from practitioner perspectives to student perspectives and education's role in EBP development. However, a lack of literature exists on the perspectives of managers of occupational therapists, despite the fact that research suggests environmental factors, including support of managers and supervisors, influence the implementation of EBP in practice (Thomas & Law, 2013; Morrison & Robertson, 2016; Stronge & Cahill, 2012; Stube & Jedlicka, 2007). The literature review aimed to define EBP and describe the existing literature relating to EBP. Topics included the KAPB of EBP by OTs and students, and information on how occupational therapy managers are involved in this process.

EBP Defined

EBP is defined by Abreu and Chang (2011) as "the formal gathering and synthesis of information from research findings through systematic research review to determine best clinical practice." Based on this definition, many practitioners have viewed EBP as a static process that does not take a therapist's clinical expertise or the client's needs into consideration (Hinojosa, 2013). This however is not true. The EBP process is portrayed in the literature as a process involving three aspects: clinician's expertise, research and evidence, and client factors (Blessing & Forister, 2016). Clinicians are expected to use their past clinical experience in conjunction with the most current research and client's preferences. The EBP process also involves five specific steps, defined by Abreu and Chang (2011), as:

1. Formulating a clinical question,

2. Searching for and gathering evidence,

3. Critical appraisal of evidence,

4. Application of evidence to the clinical situation, and

5. Evaluation of the use of evidence.

Cameron et al (2005), Hitch (2016), and Wressele and Samuelsson (2014) discuss the fact that EBP is not fully utilized within the occupational therapy profession and the process has struggled to become a norm in the field (Clark, Park & Burke, 2013; Thomas & Law, 2013). When EBP is underutilized or simply not used at all, the consequences can be detrimental to the occupational therapy profession. According to Abreu & Chang (2011), occupational therapists may have limited problem-solving and critical appraisal skills if they are not using EBP, as the use of EBP enhances these skills. Lack of EBP also creates an ethical dilemma. By not utilizing the best and most recent evidence, there is a risk of losing best practice, which puts patients at risk for not receiving the best care possible (Abreu & Chang, 2011). If patients are not receiving the best care due to a lack of evidence use in practice, the profession of occupational therapy risks being viewed as invalid and unreliable. Eventually, a lack of EBP in occupational therapy profession could lead to a loss of credibility, especially when compared to other healthcare professions. It is proposed that the aforementioned effects could be avoided through increased utilization of EBP for the betterment of clients and the profession.

Barriers to implementation will be discussed in more depth later in this chapter, however one of the barriers appears to be a difficulty translating knowledge, generated by research, into daily practice (Hitch, Pepin & Stagnitti, 2014; Peck, Lester, Hinshaw, Stiles & Dingman, 2009; Sudsawad, 2005; Lin, Murphy & Robinson, 2010; McCluskey & Cusick, 2002; Sudsawad, 2005). To alter this, many suggestions have been made as to how to increase implementation. Some authors have written articles geared towards

clinicians and teaching them about EBP as they assume a lack of knowledge inhibits

implementation (Lin, Murphy & Robinson, 2010). Others have proposed frameworks and

theories to assist clinicians and managers in EBP implementation (Hitch et al, 2009;

Sudsawad, 2005). McCluskey and Cusick (2002) targeted managers specifically by

discussing strategies for changing clinician behavior. They provided suggestions in many

areas including understanding change, discussing staff values, offering continuing

education, and acting as role models regarding knowledge translation. (McCluskey &

Cusick, 2002; Menon, Bitensky-Korner, Kastner, McKibbon and Straus, 2009).

A systematic review, regarding the effectiveness of knowledge translation in

rehabilitative clinicians, found that strategies most effective were active, multi-

component interventions (Menon, Bitensky-Korner, Kastner, McKibbon, & Straus,

2009). However, these interventions did not cause a change in attitudes towards

evidence. In spite of the suggestions and findings by many authors, recent articles suggest

an increase in EBP implementation has not been seen (Clark, Park & Burke, 2013; Hitch,

2016; Thomas & Law, 2013; Wressele and Samuelsson, 2014). This literature review

seeks to examine factors that may influence EBP implementation including the views

healthcare providers have towards EBP. A review of the literature presents how EBP is

currently perceived and utilized in healthcare professions and ultimately how its use

could be enhanced in occupational therapy.

Perspectives of EBP

Non-OT

There has been a growing body of literature regarding the knowledge, attitudes

and competency of healthcare professionals and students in using evidence-based

practice. Multiple authors have analyzed EBP within their respective healthcare fields

(Heiwe, Kajermo, Tyni-Lenne, Guidetti, Samuelsson, Andersson & Wengstrom, 2011;

McCarty, Hankemeier, Walter, Newton & Lunen, 2013; Mota da Silva, Cunha Menezes

Costa, Garcia, A & Pena Costa, 2015; Witzke, Bucher, Collins, Essex, Prata,

Thomas…Wintersgill, 2008). Based on these studies, EBP is viewed positively across

healthcare professions including nursing, athletic training, dietetics and physical therapy

(Heiwe, et al., 2011; McCarty, et al., 2013; Mota da Silva, et al., 2015; Witzke, et al.,

2008). Athletic trainers and dietitians expressed a desire to increase EBP implementation

within their personal practice (Heiwe, et atl., 2011; McCarty, et al., 2013), and physical

therapists and nurses reported a strong need to increase knowledge and skills related to

EBP (Mota da Silva, et al., 2015; Witzke, et al., 2008). These findings regarding KAPB

of EBP in non-OT professions are similar to the perspectives that occupational therapy

practitioners hold.

OT Practitioner Perspectives

Research relating to practitioners has been of utmost importance as EBP affects

the everyday practice of occupational therapists. Evidence suggests that therapists, from a

variety of locations and practice settings, generally have positive feelings about EBP, but

are not demonstrating adequate knowledge of EBP or practicing research utilization in

clinical situations (Brown, Tseng, Casey, McDonald & Lyons, 2010; Lyons, Brown,

Tseng, Casey, J., & McDonald, 2011; Upton, Stephens, Williams, and Scurlock-Evans,

2014; Thomas & Law, 2013). Hitch (2016) found that Canadian therapists in mental

health had varying attitudes towards EBP, and that more years of experience affected

those attitudes somewhat negatively. This was supported by Cameron et al. (2005) who

discovered that occupational therapists with more years of experience reported using research in clinical practice less often. Wressele and Samuelsson (2014) reported similar findings that not much has changed from 2005 to 2014 in terms of research use in practitioners with advanced experience.

Brown, Tseng, Casey, McDonald, and Lyons (2010) conducted a large survey across the United Kingdom, Taiwan and Australia. This study included 696 pediatric occupational therapists and measured their KAPB of EBP using separate subscales for knowledge, attitude and practices. Within each subscale, practitioners rated five factors related to knowledge, attitude or practice as high, moderate or low. They found that across each country practitioners felt "moderate" towards EBP according to the attitude subscale. Combined scores from all nations showed the lowest ratings on the practices subscale and the highest ratings for practitioners' attitudes toward research (Brown, Tseng, Casey, McDonald & Lyons, 2010). Across countries, factor scores were rated as high for "identifying clinical problems" indicating that the practitioners had the most knowledge about this step in the EBP process. The lowest ranked factor scale was knowledge and practices of "administering research implementation" indicating that implementation of EBP was a problem for practitioners who took this survey. All other factor scores, across countries, were rated as "moderate" (Brown, Tseng, Casey, McDonald & Lyons, 2010). According to Brown et al. (2010), across various countries, practitioners appear to have difficulty implementing research. This may stem from a lack of knowing how to use research in practice, knowledge translation, or it may be caused by other barriers.

When relevant research is regularly used within clinical practice, occupational therapists find that it enhances their abilities to use EBP. Craik and Rappolt (2006) interviewed 11 occupational therapists who worked in stroke rehabilitation. The researchers discovered that factors such as clinical experience, mentoring students, being involved in research activities, and participating in continuing education increases the practitioners' abilities to continue to use EBP despite barriers that might prevent its use. In general, practitioners seemed to have a positive attitude towards EBP and felt that is benefits the profession when relevant research is regularly used within clinical practice (Brown, Tseng, Casey, McDonald & Lyons, 2010; Lyons, et al., 2011; Thomas & Law, 2013; Upton, Stephens, Williams, and Scurlock-Evans, 2014). Practitioners have the opportunity to change the current level of utilization. Students, as future practitioners, also have the opportunity to increase utilization. Their attitudes, knowledge and behaviors of EBP have been studied.

OT Student Perspectives

EBP is taught in all OT curriculums as required by the Accreditation Council for Occupational Therapy Education (ACOTE, 2013). Students learn about EBP, its definition, and its process; in preparation to influence the future of the profession and feel positively towards EBP (Morrison & Robertson, 2016; Stronge & Cahill, 2012; Stube & Jecklica, 2007). Specifically, students are excited about the potential that EBP has to help the profession advance and feel it should continue to be required in OT curriculums (Stronge & Cahill, 2012; Stube & Jedlicka, 2007). In addition to positive attitudes towards EBP, Stronge and Cahill (2012) and DeCleene et al. (2015) found that students have adequate knowledge of EBP and its process. Students have shown the ability to

complete all five steps of the EBP process and use evidence in their practice during fieldwork experiences (DeCleene et al., 2015; Morrison & Robertson, 2016; Stronge & Cahill, 2012; Stube & Jedlicka, 2007). However, they reported that they did not initially recognize their supervisors' use of clinical reasoning and past experience as EBP (Stube & Jedlicka, 2007).

Of particular interest to the authors of this study, was the finding that students reported their supervisors strongly influenced their views and use of EBP (Morrison & Robertson, 2016; Stronge & Cahill, 2012; Stube & Jedlicka, 2007; Thomas & Law, 2013). Despite the fact that students reported benefits to using evidence, they also reported that they were only more likely to do so when prompted by a senior therapist (Morrison & Robertson, 2016). Stube and Jedlicka (2007) supported this finding in discussing the fact that the need for support from their fieldwork supervisors was imperative to increasing students' confidence and exposure to EBP. Stronge and Cahill (2012) found that students cited their supervisor not using evidence as a barrier to their own use of EBP. This as well as other barriers inhibit use of EBP in the OT profession despite both practitioners and students holding positive attitudes towards EBP.

Barriers to EBP

In a study by Heiwe et al. (2011) it was found that dietitians, occupational therapists, and physical therapists, at one of the largest university hospitals in Europe, perceived a lack of time and a lack of knowledge of EBP to be a barrier to its implementation. McCarty et al. (2013) found similar results to Heiwe et al. (2011) with athletic training educators, clinicians and students. Mota da Silva et al. (2015) conducted a systematic review of physical therapists' attitudes towards EBP and found that they too

perceived a lack of EBP knowledge and a lack of time to implement EBP as barriers. Several authors also found that a lack of support from employers was a barrier to EBP implementation (McCary et al., 2013; Mota da Silva et al., 2015). Based upon the literature, professionals across healthcare fields hold similar perceptions of barriers to EBP implementation.

OT students' and practitioners' perceived barriers to EBP implementation, are commonly examined within the same studies that investigate their knowledge and attitude of EBP (Brown, Tseng, Casey, McDonald & Lyons, 2010; Evenson, 2013; Morrison & Robertson, 2016; Stronge & Cahill, 2012; Stube & Jedlicka, 2007). There are commonly held perceptions of barriers to implementation of EBP by both occupational therapy practitioners and students (Brown, Tseng, Casey, McDonald & Lyons, 2010; Evenson, 2013; Hitch, 2016; Morrison & Robertson, 2016; Samuelsson & Wressle, 2015; Stronge & Cahill, 2012; Stube & Jedlicka, 2007). Multiple studies have identified lack of time and difficulty reading statistical analysis as major barriers to utilizing research for EBP (Samuelsson & Wressle, 2015; Hitch, 2016; Morrison & Robertson, 2016; Evenson, 2013). Other barriers perceived by both practitioners and students is adequate access to research and a lack of literature specific to the clients they serve (Brown, Tseng, Casey, McDonald & Lyons, 2010; Morrison & Robertson, 2016; Evenson, 2013; Stronge & Cahill, 2012; Stube & Jedlicka, 2007). All these factors relate to the topic of knowledge translation and the difficulty OT students and practitioners have in using the research within their own clinical practice.

Another commonality was the perception that the work environment and fellow colleagues greatly influenced the degree to which EBP was used (Clark, Park & Burke,

2013). Students reported that their fieldwork supervisors' views and practices of EBP greatly affected their own views and practices (Morrison & Robertson, 2016; Stronge & Cahill, 2012; Stube & Jedlicka, 2007). Similarly, multiple studies found that the environment in which clinicians worked greatly impacted implementation of EBP (Clark, Park & Burke, 2013; Robertson, Graham, & Anderson, 2013; Samuelsson & Wressle, 2015; Thomas & Law, 2013). Managers are a part of and influencers of the work environment, and therefore have an influence on EBP implementation.

OT Manager

As this study sought to explore the KAPB of EBP by OT managers, general information about OT managers was gathered. In an attempt to summarize common skill sets for OT managers, McCormack (2011) reviewed literature related to OT managers. He discussed four general functions of managers including planning, organizing, coordinating and controlling. Although these functions were deemed important, the healthcare environment inhibited managers from completing all four functions successfully, and inhibited them from supervising outcomes in an effective manner. In terms of daily operations, McCormack (2011) found that managers spend most of their days communicating orally, but also heavily utilize email as a form of efficient communication. Managers are generally oriented toward action rather than reflection as their days are characterized by spontaneity and interruptions (McCormack, 2011). Overall, the literature appears to support EBP within OT managers' scope of practice. Sufficient evidence supports a correlation between organizational factors, such as occupational therapy managers, with EBP implementation.

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Research on the perspectives of managers of occupational therapists regarding EBP is limited, and usually only found within studies that target practitioner perspectives or other EBP topics related to occupational therapy. Wressele and Samuelson (2015) discovered that while managers were more often involved in discussions relating to overall changes and improvements to practice, they were less involved in research related to clinical practice and direct patient care.

Bondoc and Burkhardt (2004) stated that managers of occupational therapists have the ability to influence their employees' KAPB of EBP. Morrison and Robertson (2016) extrapolated from Bondoc and Burkhardt (2004) that if those individuals do not value the utilization of EBP, EBP would not be implemented into daily practice. According to Eyler and Kapusta (2011), OT managers are responsible not only for understanding EBP, but for helping clinicians understand EBP, fostering change to support EBP, and instilling a sense of inquiry in practitioners. Stronge and Cahill (2012) made the assertion that "Managers are in the position to promote an evidence-based culture by supporting staff, including recent graduates and students on placement, to engage in continuing professional development through EBP" (p. 14).

Bailey, Bornstein and Ryan (2007) suggest that occupational therapy managers can be helpful in fostering work environments that support EBP. Some of their suggestions include regular discussions of the evidence during staff meetings, in-services structured around EBP, and creation of tracking systems related to outcomes based on EBP (Bailey, Bornstein & Ryan 2007). Findings of multiple research studies, suggest that occupational therapy managers play a role in supporting EBP (Clark, Park & Burke, 2013; Eyler & Kapusta, 2011; McCary et al., 2013; Mota da Silva et al., 2015; Morrison

& Robertson, 2016; Robertson, Graham, & Anderson, 2013; Samuelsson & Wressle, 2015; Stronge & Cahill, 2012; Stube & Jedlicka, 2007; Thomas & Law, 2013).

Novak and McIntyre (2010) found that continuing education (CE) courses increased knowledge of EBP but not implementation. Based upon this, they implemented a program that targeted both workplace supports and EBP knowledge and skills through a CE course. The targeted workplace supports included managerial changes specifically related to EBP implementation. The researchers targeted management areas, such as adding outcomes addressing EBP in existing strategic plans, implementing role descriptions, incentives and providing tools for EBP implementation, and clinical staff mentoring. Findings revealed that these techniques increased both EBP knowledge and implementation over the next 18 months. Novak and McIntyre (2010) summarized the importance of workplace supports in the following statement:

> This study appears to suggest that the addition of workplace supports may, in fact, be the catalyst for EBP implementation change when measured through indirect implementation behaviours. This study indicates that managers should not rely on CE alone, if they hope to achieve more than a small improvement in knowledge. They will need to be actively involved in leading the change themselves, incorporating a suite of workplace supports. (p. 391)

Novak and McIntyre assert, with evidence, that CE and managerial changes together increased EBP implementation (2010). The authors of this article propose the need to conduct research on the KAPB of managers of OTs to fill a gap in the current literature.

Need for Research

Evidenced based practice is essential to ensure the efficiency and effectiveness in the provision of healthcare services. The use of EBP combines clinical reasoning skills, the best possible evidence and client input to create a client-centered and research-

supported treatment plan (Blessing & Forister, 2016). In 2007, the American

Occupational Therapy Association (AOTA) released their *Centennial Vision*, in which

EBP was proposed as a norm for the profession (American Occupational Therapy

Association, 2007). This was reinforced as essential as one of the core pillars of Vision

2025 states that ***'Occupational therapy is evidence based, client centered, and cost***

effective' (AOTA, 2017). Yet, the occupational therapy profession continues to struggle

with EBP implementation (Clark, Park & Burke, 2013; Thomas & Law, 2013).

In a systematic review by Upton, Stephens, Williams, and Scurlock-Evans (2014)

32 articles revealed that therapists had positive attitudes towards EBP, but research

utilization in clinical practice lacked. Based on this literature, attitudes of clinicians

towards EBP seem to be mostly positive, yet utilization of EBP does not reflect these

attitudes. Students are taught about EBP throughout their education as required by

ACOTE (2013). Morrison & Robertson (2016), identified that first-year therapists

discussed many of the same barriers to EBP implementation as clinicians with more

experience. In addition, the first-year therapists found strategies to resolve these issues

that were not taught in the educational setting such asking senior therapists for their

expertise (Morrison & Robertson, 2016). There is a perception commonly held by

occupational therapy students and clinicians that the work environment, including

influence of colleagues and supervisors, affect EBP utilization (Clark, Park, & Burke,

2013).

Multiple studies have found that managers play an important role in creating work

environments that support EBP (Bailey, Bornstien & Ryan, 2007; Clark, Park & Burke,

2013; Morrison & Robertson, 2016; Novak & McIntyre, 2010; Robertson, Graham, &

Anderson, 2013; Samuelsson & Wressle, 2015; Stronge & Cahill, 2012; Stube & Jedlicka, 2007; Thomas & Law, 2013). Sufficient evidence supports a correlation between organizational factors, such as OT managers, with EBP implementation. However, there are limited research findings pertaining to attitudes and perceptions of OT managers relating to EBP. This supports the need for the study.

The purpose of this study was to determine the KAPB of managers who oversee occupational therapists toward evidence-based practice and what barriers they perceived in implementing EBP in their facility. Based on the existing literature, it is asserted that OT managers facilitate a work environment either compatible or incompatible with the use of EBP. Understanding the attitudes of OT managers toward EBP could enhance the knowledge of why EBP is not yet fully accepted, with the hope of increasing use in the future.

Four research questions were developed for this study:

1. What is the level of knowledge of EBP practice by OT managers?

2. What are the attitudes toward EBP held by OT managers?

3. What is the level of practices of EBP by OT managers?

4. What are the perceived barriers to EBP implementation held by OT managers?

It is believed that an understanding of occupational therapy managers' perspectives on EBP may lead to increased knowledge of why EBP has lacked strong implementation over the years. This will add to the body of literature regarding evidence-based practice and its implementation in the OT profession. It was anticipated that occupational therapy

managers will demonstrate similar KAPB of EBP, as well as describe similar barriers to

EBP implementation, as current occupational therapy clinicians and students.

CHAPTER III

METHODOLOGY

This study was approved by the Institutional Review Board at the University of

North Dakota (UND) in Grand Forks, North Dakota. This chapter provides a thorough

description of the process used in initiating, conducting and completing the study. Based

on the findings of the literature review, the researchers determined that a descriptive

design, via survey method, would be appropriate to gain information about the KAPB of

EBP by OT managers and the barriers they perceive to implementation of EBP.

Theoretical Basis

Ajzen (1991) proposed the Theory of Planned Behavior, which claims that

individuals engage in behaviors based on their intention to perform said behavior. The

intention to complete a behavior is influenced by three factors; attitude toward the

behavior, the subjective norm, and perceived behavioral control. In this research, the

intended behavior studied was the practice of implementing EBP. To study this behavior,

the concepts within the Theory of Planned Behavior were measured. The attitudes that

mangers hold were measured in a survey. The subjective norm was determined by

measuring the managers' current level of EBP implementation. Finally, perceived

behavioral control was determined by measuring managers' knowledge of EBP and their

perceived levels of barriers to EBP implementation. Through measurement of the

concepts within the Theory of Planned Behavior, researchers came to understand EBP

implementation as it related to OT managers.

Figure 3.1- Translation of Theory of Planned Behavior to KAPB survey
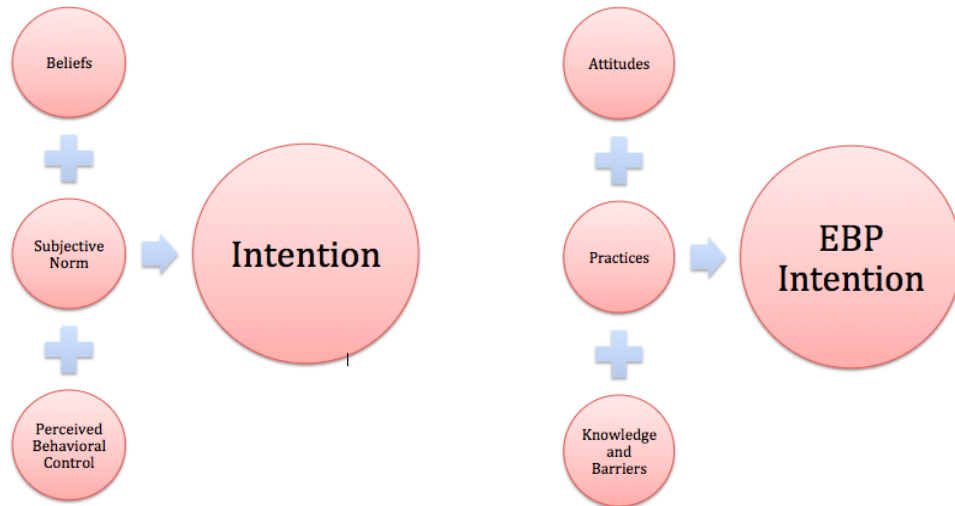
It is proposed that the intention to increase EBP utilization, within the OT

profession is needed, as one barrier to EBP appears to be a difficulty or inability to

translate knowledge generated by research into daily practice (Hitch, Pepin & Stagnitti,

2014; Peck, Lester, Hinshaw, Stiles & Dingman, 2009; Sudsawad, 2005; Lin, Murphy &

Robinson, 2010; McCluskey & Cusick, 2002; Sudsawad, 2005). Research on knowledge

translation supports the use of the Theory of Planned Behavior. Both propose that a

particular step or impetus is required for knowledge to be translated into action. When

viewed simultaneously, the Theory of Planned Behavior and the concept of knowledge

translation suggest that the step needed to translate knowledge into action is intention.

A study that supports the use of the Theory of Planned Behavior, within

knowledge translation research, was conducted by Novak and McIntyre in 2010. Novak

and McIntyre (2010) implemented specific managerial workplace supports, which increased both EBP knowledge and implementation. It can be speculated that these workplace supports, implemented by managers of clinicians, created the intention to translate knowledge of existing research into real clinical practice. The subjective norm of managers, the attitudes toward, and the perceived behavioral control, over the specific workplace supports that Novak and McIntyre (2010) implemented, appear to have influenced the intention to use EBP. Based on their study, knowledge translation appears to be an essential piece to the implementation of EBP (Novak and McIntyre, 2010). That is, that managers have influence over the process of knowledge translation, and thus over the process of EBP implementation as a whole.

The Theory of Planned Behavior was used to validate measurement of the KAPB of managers and the barriers they perceived in this study. The overarching goal of this research is to understand managers' KAPB of EBP, which influences EBP implementation with the OT profession. This needs to be understood before determining the reasons behind the current levels of EBP implementation, which is the next level of research related to EBP.

Research Design

A descriptive design was used to conduct this study. Anastas (1999) and Given (2007) define a descriptive design as one that explores current phenomena linked to a research problem without offering explanations as to why the problem is occurring. The purpose of this descriptive study was to gather information about the topic of EBP implementation by managers of OTs since this population had not been studied prior. Using a descriptive approach allowed researchers to examine occupational therapy

managers' KAPB of EBP to explore the limited presence of EBP implementation within their departments. A 38-question survey was used to collect quantitative data with open-ended questions. Information was gathered quantitatively with Likert scale questions and qualitatively with open-ended questions, providing multiple types of data to describe the problem and explore its implications for practice.

Sampling

Convenience sampling is a type of non-probability sampling that relies on available subjects that are easily accessible (Berg & Lune, 2012). This sampling strategy was utilized to obtain participants for this study as respondents were recruited using the University of North Dakota Fieldwork Contact Database, which the researchers had access to through the University of North Dakota Occupational Therapy Department. The database includes contact information for 274 fieldwork coordinators across 14 states whose facilities have fieldwork affiliations with the University of North Dakota Occupational Therapy Department. Inclusion criteria required that respondents were current managers of occupational therapists, were able to read and write English, and were required to acknowledge that they had read and understood the informed consent before they were allowed to start the survey.

Instrumentation

The survey was designed using demographic components, components of the Knowledge, Attitude and Behavior (KAB) survey by Johnston, Leung, Fielding, Tin and Ho (2003), and open-ended questions. The open-ended questions contained content regarding perceived barriers to EBP implementation and yearly employee evaluation. With permission from the authors, items from the KAB questionnaire were adapted to

relate to occupational therapy managers. The KAB survey was developed in 2002 as a way to measure aspects of EBP beyond skill acquisition (Johnston, et al., 2003). The survey included questions related to knowledge of EBP, attitudes towards EBP, EBP practices, actual use of EBP and anticipated use of EBP (Johnston, et al. 2003). It was found that the KAB survey had good construct validity and sufficient reliability (Johnston, et al., 2003).

For the purposes of this study, the KAB survey was modified with permission from Johnston et al. (2003) and was referred to as the KAPB survey. See Appendix A for documentation of permission. The survey was created using Qualtrics, a University-affiliated online survey website. The survey included subscales of knowledge, attitudes, practices, and barriers. The knowledge subscale measured knowledge of EBP. The attitudes subscale measured attitudes toward EBP. The practices subscale measured current practices of EBP. The barriers subscale measured perceived barriers toward implementing EBP. Data obtained from the survey was stored on the Qualtrics website and downloaded in an Excel file format. After the completion of the study, data was then removed off the Qualtrics website.

Data Collection

Emails were sent to all 274 contacts with the link to complete the survey. The emails requested that fieldwork coordinators either provide contact information of the occupational therapy manager at that site or forward the initial email on to the occupational therapy manager. A total of 16 emails were undeliverable. The initial email resulted in 20 responses. A follow-up email was sent to fieldwork coordinators two

weeks later with the same request. This email resulted in 31 additional responses, which resulted in a total of 51 responses.

Data Analysis Process

Qualtrics was used for data entry and retrieval. Quantitative data was analyzed using Qualtrics and the Statistical Package for Social Sciences, version 25 (SPSS, Chicago, IL, USA). SPSS was used for generation of descriptive statistics, correlations, and regressions. Descriptive statistics were run to determine frequencies including means, standard deviations and percentages. Regression tests (ANOVA and paired t-tests) were run to analyze significant differences between managers of OTs. A p value of .05 was considered significant.

A total score was obtained for each individual subscale of the KAPB survey including the knowledge, attitudes, practices and barriers subscales. The knowledge subscale included questions 25-29 and question 35. A high score on the knowledge subscale indicated that respondents had a high level of knowledge of the EBP process. The attitude subscale included questions 17-23. A high score on the attitudes subscale indicated that respondents had positive attitudes towards EBP, and a low score indicated negative attitudes towards EBP. The practices subscale included questions 30-32 and 36-37. A high level of EBP implementation was indicative of a high score on the practices subscale. Questions 39-43 were included in the barriers subscale, and a high score indicated that the respondents perceived many barriers to EBP implementation.

The scores for the subscales were rated as high, moderate or low based upon the total score in each subscale. The process for determining these scores was as follows: the lowest possible score for the subscale was subtracted from the highest possible score to

get a range. This range was then divided by three to determine the range for the high,

moderate and low ratings. For example, the total range for the knowledge subscale was

24 (highest possible score= 30, lowest possible score= 6). The total range was then

divided by three, determining that each rating on the knowledge subscale should contain

8 scores (high= 30-23, moderate= 22-14, low= 13-6).

Four open-ended questions were included at the end of the survey, which were

coded and interpreted using an open coding process (Berg & Lune, 2012). Initially an

open coding process was undertaken individually by the researchers who coded each

question. Once each researcher coded the questions individually, an axial coding process

began to determine final codes (Strauss, 1987). Similar codes were consolidated or

renamed to accurately represent the concepts within respondents' answers. Researchers

then derived themes from each question by analyzing similarities and differences

between codes through a selective coding process. All six themes were reviewed by the

researchers, to determine overall assertions made by survey participants. Quantitative and

qualitative data are described in detail in Chapter IV, Results.

CHAPTER IV

RESULTS

Chapter IV summarizes the major findings within this study including the instrument validity and reliability, and outcomes of descriptive and inferential statistics. Analysis of the data is presented in Chapter V. Pre-analysis data screening was completed prior to formal data analysis to review general results of the questionnaire. Data regarding the instrument's validity and reliability was sought out, followed by a descriptive statistical analysis of demographic responses and instrument responses. Inferential statistics were analyzed last to substantiate the results of the existing research questions.

Missing Data and Case Deletion

Of the 50 total responses, there were 18 occurrences of missing data in the final data analysis. Of the 18 occurrences of missing data, 10 cases were omitted as they had minimal to no data reported, resulting in a response total of 40. The remaining cases with partial data were included in data analysis to provide as robust analysis as possible despite the limited number of responses. These instances of missing data are noted as a limitation due to substantial number of missing cases compared to final number of respondents.

Instrument Reliability and Validity

The KAB survey, which this survey was based on, was found to have good construct validity and sufficient reliability (Johnston, et al., 2003). The researchers

reached out to authors of the original survey to find specific statistics regarding validity and reliability of the questionnaire. Personal communication dated May 10, 2018 indicated that no further data was available regarding specific validity and reliability measures of the original questionnaire. Due to the changes made the original KAB survey, the validity and reliability of this survey was not able to be determined.

Analysis of Data

  Quantitative.

  Respondent Demographics.

  A total of 40 surveys were returned out of 258 deliverable messages, yielding a response rate of 15.5%. The frequencies and percentages of respondents' ages were calculated. The average age of the 40 respondents was 41.35 years old (sd=9.6 years). Respondents were fairly equally distributed over the age groups with the majority being female (85%, n=34). Most of the respondents held Master's degrees (72.5%, n=29); just under one quarter of respondents held Bachelor's degrees (22.5%, n= 9), and only 5% held Doctorate degrees (n=2). A full description of the above demographics are in Table 1.

TABLE 1: *Respondent age, gender, and degree earned*

	Frequency	Percentage
Age		
0-34	12	30.0
35-44	13	32.5
45+	12	30.0
No Age listed	3	7.5
Gender		
Female	34	85.0
Male	6	15.0
Degree earned		
Bachelors	9	22.5
Masters	29	72.5
Doctorate	2	5.0

The frequencies and percentages of respondents' practice settings, professional background, years as a manager and location were calculated. Respondents most frequently worked in inpatient settings (30%, n=12). Respondents also worked in mental health settings (27.5%, n=11), pediatric settings (25%, n=10), and physical disabilities settings (25%, n=10). Outpatient settings (12.5%, n=5) was the lowest. Four respondents reported that they worked in "other" settings (6%). Respondents were asked about which state they practiced in, and 30 out of 38 reported they practiced in Midwest states (78.9%). For a full description of states of practice, see Table 2.

TABLE 2: *Respondent state of practice*

State	Frequency	Percentage
AZ	1	2.5
ID	1	2.5
MN	18	45.0
MT	1	2.5
ND	7	17.5
NE	1	2.5
SD	3	7.5
WA	1	2.5
WY	5	12.5
No State Listed	2	5.0
Total	**40**	**100.0**

A majority of respondents reported they practiced as occupational therapists before becoming managers (87.5%, n=35). Other practice settings reported included skilled nursing facilities (5%, n=2), equine therapy (2.5%, n=1) and education (2.5%, n=1). Managers, who had 0-2 years of experience, composed 32.5% of the sample (n=13). Respondents who had 3-5 years of experience composed 17.5% of the sample (n=7). Respondents who reported they had between 6-8 years of experience as a manager composed 15% of the sample (n=6). Respondents who had 9-11 years of experience as a manager made up 15% of the sample (n=6), and respondents with 12 or more years of experience made up 20% of the sample (n=8). Based on this data, 32.5% of the sample had 0-2 years of experience meaning they are functioning professionally at a novice to beginner level of practice. At this level of practice, novice managers have a more difficult time using critical appraisal skills and their clinical reasoning is also at a novice to beginner level, presenting a challenge to EBP implementation overall. For a full description of demographic data, see Table 3.

TABLE 3: *Respondent practice setting, professional background, years as manager, university affiliation, and facility setting*

	Frequency	Percentage
Practice Setting		
Pediatrics	10	25.0
Mental Health	11	27.5
Physical Disabilities	10	25.0
Inpatient	12	30.0
Outpatient	5	12.5
Other	4	6.0
Professional Background		
OT	35	87.5
Speech Therapist	1	2.5
Other	4	10.0
Years as a Manager		
0-2	13	32.5
3-5	7	17.5
6-8	6	15.0
9-11	6	15.0
12 or more	8	20.0
University Affiliated Facility		
Yes	8	20.0
No	32	80.0
Setting		
Rural	14	35.0
Urban	25	62.5
No Answer	1	2.5

Research Question Analysis.

To answer the research questions, data analysis was conducted to determine the means and standard deviations related to the subscales of the KAP survey. Frequency counts were also conducted to determine barriers that were perceived by OT managers.

OT Managers Knowledge of EBP.

Means and standard deviations were calculated to answer the research question: "What is the level of knowledge of EBP practice by OT managers?" The respondents

reported an overall "high" knowledge score ($\bar{x}$= 25.36) indicating that they had a "high"

level of EBP knowledge. Most (n=33, 87%) respondents reported they somewhat agreed

or strongly agreed with the statement "I have a clear understanding of what EBP is."

When asked about knowledge of EBP, 82% of respondents somewhat agreed or strongly

agreed with the statement "The EBP process requires the appropriate identification and

formulation of clinical questions." When responding to the statement "EBP requires the

use of critical appraisal skills to ensure the quality of research papers retrieved," 35

respondents (90%) agreed either somewhat or strongly. The statement "critically

appraised evidence should be appropriately applied to the patient using clinical

judgement and experience" was agreed upon, either somewhat or strongly, by 89% of

respondents. Though these two statements had high instances of agreeance, a majority of

respondents were practicing as novice managers as noted prior. Therefore, their

agreeance with the statements may not reflect their ability to utilize critical reasoning

skills or critical appraisal skills. Both of these skills are required for proper EBP

implementation, and a lack of these skills could inhibit EBP implementation. Responses

to all the questions regarding knowledge of EBP are tabulated in Table 4.

TABLE 4: *Knowledge subscale questions and scores*

Knowledge Subscale Total Score	Mean	Rank
	25.36 (sd = 4.55)	High

Knowledge Subscale	Mean	Rating
Q25: Using evidence-based practice increases the certainty that the proposed treatment is effective	3.97 (sd= 1.16)	Strongly disagree= 1, Somewhat disagree= 2, Neither agree nor disagree=3, Somewhat agree= 4, Strongly agree=5
Q26: The evidence-based practice process requires the appropriate identification and formulation of clinical question	4.13 (sd= 1.13)	Strongly disagree= 1, Somewhat disagree= 2, Neither agree nor disagree=3, Somewhat agree= 4, Strongly agree=5
Q27: Effective searching skills/easy access to bibliographic databases and evidence sources are essential to using evidence-based practice.	4.18 (sd= 1.02)	Strongly disagree= 1, Somewhat disagree= 2, Neither agree nor disagree=3, Somewhat agree= 4, Strongly agree=5
Q28: Evidence-based practice requires the use of critical appraisal skills to ensure the quality of research papers retrieved	4.33 (sd= 0.98)	Strongly disagree= 1, Somewhat disagree= 2, Neither agree nor disagree=3, Somewhat agree= 4, Strongly agree=5
Q29: Critically appraised evidence should be appropriately applied to the patient using clinical judgment and experience	4.49 (sd= 1.12)	Strongly disagree= 1, Somewhat disagree= 2,neither agree nor disagree=3, somewhat agree= 4, strongly agree=5
Q35: I have a clear understanding of what evidence-based practice	4.37 (sd= 1.13)	Strongly disagree= 1, Somewhat disagree= 2,neither agree nor disagree=3, somewhat agree= 4, strongly agree=5

Rank scale: high: 30-23 **moderate**: 22-14 **low**: 13-6

OT Managers' Attitudes of EBP.

Means and standard deviations were calculated to answer the research question:

"What are the attitudes toward EBP held by OT managers?" A higher average score on

the attitudes scale represented a negative attitude toward EBP, whereas a lower average score represented a positive attitude toward EBP. Overall, the respondents had "positive" attitudes towards EBP ($\bar{x}$= 12.13, sd=3.4). In the attitudes subscale of the survey, only 10% of respondents stated that they agreed or strongly agreed with the statement "previous work experience is more important than research findings when choosing the best treatment for a patient." When responding to the statement "EBP is a cookbook form of practice that disregards clinical experience," 80% of respondents disagreed or strongly disagreed.

EBP is widely taught in occupational therapy education and continuing educations courses in a positive light as something that is necessary and important for healthcare workers to understand. Considering most (87.5%) of the sample had a previous professional background in occupational therapy, it is logical that only 10% of respondents agreed or strongly agreed that previous work experience is more important than research when choosing patient treatment, and that 80% of respondents disagreed or strongly disagreed that EBP is a cookbook form of practice. Those with occupational therapy backgrounds should be expected to have positive attitudes toward EBP, which this data shows. For a full depiction of the responses in the attitudes section, please see Table 5.

TABLE 5: *Attitude subscale questions and scores*

Attitude Subscale Total Score	Mean	Rank
	12.13 (sd=3.42)	Positive
Attitude Subscale	**Mean**	**Rating**
Q17: Evidence-based practice is a "cook-book" form of practice that disregards clinical experience	1.83 (sd= 1.01)	Strongly disagree= 1, Somewhat disagree= 2, neither agree nor disagree=3, somewhat agree= 4, strongly agree=5
Q18: There is no reason for me, or the OTs I oversee, to adopt evidence-based practice because it is just a "fad" or "fashion" that will pass with time	1.37 (sd= 0.77)	Strongly disagree= 1, Somewhat disagree= 2, neither agree nor disagree=3, somewhat agree= 4, strongly agree=5
Q19: If evidence-based practice is valid, then anyone can see patients and do what occupational therapists do	1.28 (sd= 0.75)	Strongly disagree= 1, Somewhat disagree= 2, neither agree nor disagree=3, somewhat agree= 4, strongly agree=5
Q20: Occupational therapists, in general, should not use evidence-based practice because occupational therapy is about people and clients, not statistics	1.35 (sd= 0.48)	Strongly disagree= 1, Somewhat disagree= 2, neither agree nor disagree=3, somewhat agree= 4, strongly agree=5
Q21: Previous work experience is more important than research findings when choosing the best treatment for a patient	2.43 (sd= 0.90)	Strongly disagree= 1, Somewhat disagree= 2, neither agree nor disagree=3, somewhat agree= 4, strongly agree=5
Q22: On average, how much does the use of evidence-based practice affect the process or outcome of the clients your facility has served?	2.33 (sd= 1.23)	Completely=6, A lot=5, Moderately=4, Somewhat=3, A little= 2, Not at all=1, I don't know= 0
Q23: How useful do you believe evidence-based practice will be in future therapy practice?	1.55 (sd= 0.85)	Very useful=6, Somewhat useful=5, Useful=4, Not useful= 3, Somewhat useless=2, Completely useless=1, I don't know=0

Rank Scale: Negative attitude: 37-26 **Moderate attitude:** 25-15 **Positive attitude:** 14-5

OT Managers' EBP Practices.

Means and standard deviations were calculated to answer the research question: "What is the level of practices of EBP by OT managers?" Overall scores related to EBP practice, indicated that practices were "moderate" ($\bar{x}$= 14.4). Respondents reported that they "often" (26%, n=13) or "occasionally" (24%, n=12) discussed current best evidence with the OTs they oversaw. Just under half of respondents reported the amount of evidence the OTs they oversee is increasing (48%, n=24). About 42% of respondents reported that the use of EBP affects client outcomes "a lot" on the a 7-point Likert scale.

As half of the OT managers in this sample had six or more years of experience, and most (87.5%) practices as occupational therapists before becoming managers, their exposure to EBP is likely high. Additionally, the sample of managers had a "high" knowledge of EBP according to the average score on the knowledge subscale of this survey. Based on this data, exposure to and knowledge of EBP does not directly translate into practice or implementation for the OT managers in this sample, as the mean score for practices was "moderate" (x=14.4). See Table 6 for response items, 7-point Likert scale, and scores related to EBP practice. Some questions in Table 6 are classified as multiple selections questions, and allowed respondents to choose as many options as was applicable to their situation. Scores for these questions were calculated as the total number of options they chose.

TABLE 6: *Practice subscale questions and scores*

Practice Subscale Total Score	Mean	Rank
	14.43 (sd=4.16)	Moderate
Practice Subscale	**Mean**	**Rating**
Q30: What sources do the OTs you oversee access clinical evidence? Check all that apply.	2.62 (sd= 1.96)	Total number checked (Unsure=0) Options: A- Internet (excluding research databases) B-Textbooks C- Paper copies D-online databases E-secondary sources F-other G-unsure
Q31: What percentage of the OTs that you oversee access clinical evidence…	1.06 (sd= 1.27)	Every day= 4, Every week= 3, Every month=2, Never= 1, Other=0
Q32: Do you consider the majority of OTs you supervise to be evidence-based practitioners?	3.63 (sd= 0.79)	Yes=4, No=2
Q36: Do you feel the amount of evidence that the OTs you oversee use is increasing or decreasing?	2.37 (sd= 0.99)	Increasing= 3, Decreasing= 2, Neither=1, Unsure=0
Q37: How frequently is the current best evidence related to your area of practice discussed with the OTs you oversee?	3.97 (sd= 1.30)	All the time=6, Often=5, Sometimes=4, Occasionally= 3, Rarely= 2, Never=1, I don't know= 0

Rank Scale: High: 21-15 **Moderate**: 14-8 **Low**: 7-1

Perceived Barriers to EBP Implementation by OT Managers.

Means and standard deviations were calculated to answer the research question:

What are the perceived barriers to EBP implementation held by OT managers?

Respondents were asked to report the barriers that they perceived to implementing EBP.

The mean score reported by respondents was 12.45, which indicated that a moderate level

of barriers was perceived. The most commonly reported barrier was a lack of time (71%).

Half of respondents reported that EBP was difficult to implement because it is difficult to

create new habits, and just under half of respondents (45%) reported that there was not

enough evidence for their specific area of practice. Just one respondent reported that they

perceived their facility not supporting EBP was a barrier to EBP implementation. Thirty-

two percent of respondents ($x= 12$) reported that a lack of evaluation criteria to evaluate

EBP implementation by OTs was a barrier.

      Overall, the barriers reported by respondents, in this survey, seem to represent

larger barriers to EBP implementation in the occupational therapy profession as a whole.

For example, perceived lack of evaluation criteria could indicate that there is a lack of

resources available from professional organizations, such as AOTA, to track and evaluate

the use of EBP in clinical practice. The perceived lack of evidence for specific areas of

practice could point to an overall lack of research in the profession of occupational

therapy, which creates a significant barrier for utilizing EBP. A full description of

responses to the barriers subscale can be found in Table 7.

TABLE 7: *Barriers subscale questions and scores*

Barriers Subscale Total Score	Mean	Rank
	12.45 (sd=4.20)	Moderate
Barriers Subscale	**Mean**	**Rating**
Q39: It is easy for the OTs I oversee to find evidence to use within evidence-based practice	2.74 (sd= 1.27)	Strongly disagree= 5, somewhat disagree= 4, neither agree nor disagree= 3, somewhat agree= 2, strongly agree= 1
Q40: Evidence-based practice takes too much time for occupational therapists	2.74 (sd= 1.20)	Strongly disagree=1, somewhat disagree=2, neither agree nor disagree=3, somewhat agree=4, strongly agree=5
Q41: It is easy for the OTs I oversee to access evidence from multiple sources (library, online, textbooks, etc.)	2.74 (sd= 1.31)	Strongly disagree= 5, somewhat disagree= 4, neither agree nor disagree= 3, somewhat agree= 2, strongly agree= 1
Q42: Are the OTs you oversee unable to find evidence relevant to their practice?	2.55 (sd= 0.80)	Yes= 2, no= 1
Q43: What barriers do you perceive to implementing evidence-based practice by yourself or the OTs you oversee? Check all that apply.	2.52 (sd= 2.15)	Total number of barriers Options: A- not enough time to access and/or appraise evidence B- Not enough evidence for area of practice C- Other professionals do not use evidence-based practice D- My facility does not support the use of evidence-based practice E-Lack of statistical knowledge F- No evaluation criteria to measure OT's use of evidence-based practice G- Lack of knowledge of evidence-based practice process H-It is difficult to implement new habits, including using evidence-based practice I- Other

Rank Scale: High Barriers: 26-20 **Moderate Barriers:** 19-12 **Low Barriers:** 11-4

KAPB means by Practice Setting.

Means were calculated to determine the average KAPB of OT managers by practice setting. For those managers who reported that they practice in the pediatric setting (n=10), the mean score on the knowledge subscale was 24.00, the mean score on the attitude subscale was 12.50, the mean score on the practices subscale was 14.50, and the mean score on the barriers subscale was 13.13. Managers who reported practicing in mental health settings (n=11), the mean score on the knowledge subscale was 26.45, the mean score on the attitude subscale was 11.91, the mean score on the practices subscale was 15.71, and the mean score on the barriers subscale was 13.55.

In the physical dysfunction setting (n=10), managers had a mean score of 28.63 on the knowledge subscale, a mean score of 10.75 on the attitude subscale, a mean score of 16.97 on the practice subscale and a mean score of 12.75 on the barriers subscale. Those managers who reported that they worked in inpatient settings (n=12) had a mean score of 25.50 on the knowledge subscale, a mean score of 11.67 on the attitude subscale, a mean score of 16.46 on the practice subscale and a mean score of 12.67 on the barriers subscale. In the outpatient setting (n=5), managers scored an average of 24.60 on the knowledge subscale, an average score of 12.20 on the attitude subscale, an average of 14.90 on the practice subscale, and an average score of 14.20 on the barriers subscale. Managers that reported they work in "other" settings (n=4) had a mean score of 25.34 on the knowledge subscale, a mean score of 12.28 on the attitude subscale, a mean score of 15.05 on the practices subscale and a mean score of 13.91 on barriers subscale.

Managers who had been practicing for 3-5 years had the highest levels of knowledge, the most positive attitudes, and perceived the lowest amount of barriers to

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EBP. Despite this, managers who had been working for 6-8 years had the highest levels of EBP practices. As previously mentioned, this indicates that critical reasoning skills, critical appraisal skills and the ability to implement EBP are gained over time and are strongest within managers who are functioning at the proficient to expert level. Knowledge of and exposure to EBP do not appear to increase EBP implementation alone.

KAPB means by previous professional background.

Means and standard deviations were calculated to determine the average KAPB of OT managers by their professional background before becoming managers. Those managers who practiced as occupational therapists before becoming managers of OTs (n=35) had a mean score of 25.82 (sd=4.28) on the knowledge subscale, a mean score of 12.34 (sd=3.57) on the attitude subscale, a mean score of 14.82 (sd=3.99) on the practices subscale and a mean score of 14.27 (sd=4.69) on the barriers subscale. Managers who practiced in areas other than occupational therapy before becoming managers of OTs (n=5) had a mean score of 23.80 (sd=5.68) on the knowledge subscale, a mean score of 10.60 (sd=1.52) on the attitude subscale, a mean score of 13.40 (sd=5.50) on the practices subscale, and a mean score of 12.80 (sd=3.90) on the barriers subscale.

Overall, respondents who practiced as occupational therapists before becoming OT managers had the highest levels of knowledge, attitudes, and practices, but also perceived more barriers to EBP implementation. This could be due to the fact that OT managers who practiced as occupational therapists before have a better understanding of the barriers to EBP implementation as an occupational therapist, but also have more exposure to the importance and effectiveness of using EBP.

Perceived barriers by practice setting.

Frequencies and percentages were calculated to determine the amount of barriers perceived by OT managers in different practice settings. Of those managers who practiced in pediatric settings, none reported that other professionals not using EBP was a barrier, and none reported that their facility not supporting the use of EBP was a barrier. No managers practicing in mental health settings, inpatient settings or in outpatient settings reported that their facility not supporting EBP was a barrier. "Other professionals do not use EBP" was not reported as a barrier by managers in physical disabilities settings, inpatient settings, or "other" settings.

All of the managers who practice in "other" settings perceived time as a barrier (n=4), as did 80% of the managers in outpatient settings (n=4), 75% of the managers in inpatient settings (n=12), 63.34% of managers in pediatrics (n=7), 60% of those managers in physical disabilities settings (n=6) and 50% of managers practicing in mental health (n=6). Half of the managers in mental health settings (n=6) and 80% of managers in outpatient settings (n=4) also perceived "implementing new habits, such as using EBP" as a barrier.

Overall, the primary barrier to implementing EBP across all practice settings is time. This finding could indicate that a perception exists that EBP is a time-consuming clinical activity. It was also the conclusion of the authors of this study that a lack of time was related to other barriers. For example, OT managers who perceived time as a barrier also saw lack of knowledge of the EBP process as a barrier. It takes time to learn about the EBP process, and therefore both are perceived as a barrier. Interestingly, managers who practiced in physical disability settings had the highest levels of knowledge of EBP

and only 20% of them reported "lack of evidence for my practice setting" as a barrier. This could indicate that more research disseminated in the field of occupational therapy is related to physical disabilities. OT managers in this practice setting may perceive fewer barriers due to an increased exposure to research. Additionally, although the average score on the practices subscale was rated as "moderate", OT managers who worked in physical disabilities settings had "high" levels of EBP practices. This could indicate that there is a need for increased research in the OT field to also increase EBP implementation and decrease perceived barriers to implementation. A full description of barriers perceived by practitioners is found in Table 8.

TABLE 8: *Perceived barriers to EBP implementation*

|	Time	Evid	Other Prof	Support	NoStat	NoEval	NoKnow	Diff Hab
Pediatric (n=10)	7	6	0	0	1	3	1	4
Mental Health (n=11)	6	5	2	0	4	3	3	**6**
Physical Disabilities (n=10)	6	2	0	1	3	2	1	5
Inpatient (n=12)	9	5	0	0	2	5	2	8
Outpatient (n=5)	4	3	1	0	1	1	3	**4**
Other (n=4)	4	1	0	0	1	1	2	2

KAPB and Years as a Manager.

The variable "years as a manger" was analyzed with relation to knowledge, attitudes, practices and barriers of EBP. The highest average score on the knowledge subscale ($\bar{x}$= 27.29, sd= 1.80) belonged to those managers who had been practicing for 3-

5 years. Those with the lowest average score on the knowledge subscale had 6-8 years of experience as managers ($\bar{x}$= 23.36, sd= 4.57). Managers with the highest average mean in the attitudes subscale ($\bar{x}$= 13.67, sd= 3.28), and therefore the most negative attitude towards EBP, reported practicing for 6-8 years. For those OT managers in the sample with 6-8 years of experience, factors such as lack of support for EBP, burnout, or being consumed with other managerial tasks could influence the attitudes toward EBP, in this category of managers. Those with the lowest average score ($\bar{x}$= 11.14, sd= 3.13), and therefore the most positive attitude towards EBP, reported practicing for 3-5 years. Respondents with 0-2 years of experience perceived the highest mean level of barriers to EBP implementation ($\bar{x}$= 15.73, sd=4.05) and they had the lowest average score on the practices subscale ($\bar{x}$= 12.91, sd= 3.77). This result could be influenced by the fact that these managers are at a novice level and may not fully understand or have access to the tools needed to promote implementation of EBP in the OTs they oversee. It could also be that they are trying to find their own balance as an entry/novice OT.

The highest average score on the practices subscale ($\bar{x}$= 16.22, sd= 2.48) was held by managers who had practiced for 6-8 years. It is interesting to note that although managers with 6-8 years of experience had the highest level of practices, they also had the most negative attitudes toward EBP. This could indicate that although negative attitudes may be an inhibiting force to implementing EBP, they may not be as strong as an inhibitor as other factors such as lack of time or available evidence. Managers who had practiced for 3-5 years had the lowest average score on the barriers subscale ($\bar{x}$= 12.29, sd= 4.46). When analyzing this result while considering the progression from novice to expert, one might consider that there is a large boost in confidence when

progressing from novice to beginner level. This increase in confidence may occur without

an equal size of increase in critical thinking or critical appraisal skills. Therefore, the

boost in confidence may explain the decreased level of barriers perceived by OT

managers who have 3-5 years of experience. See Figure 4.1 for a visual representation of

KAPB average subscale scores by years as a manager.

Figure 4.1. KAPB scores by Years as a Manager
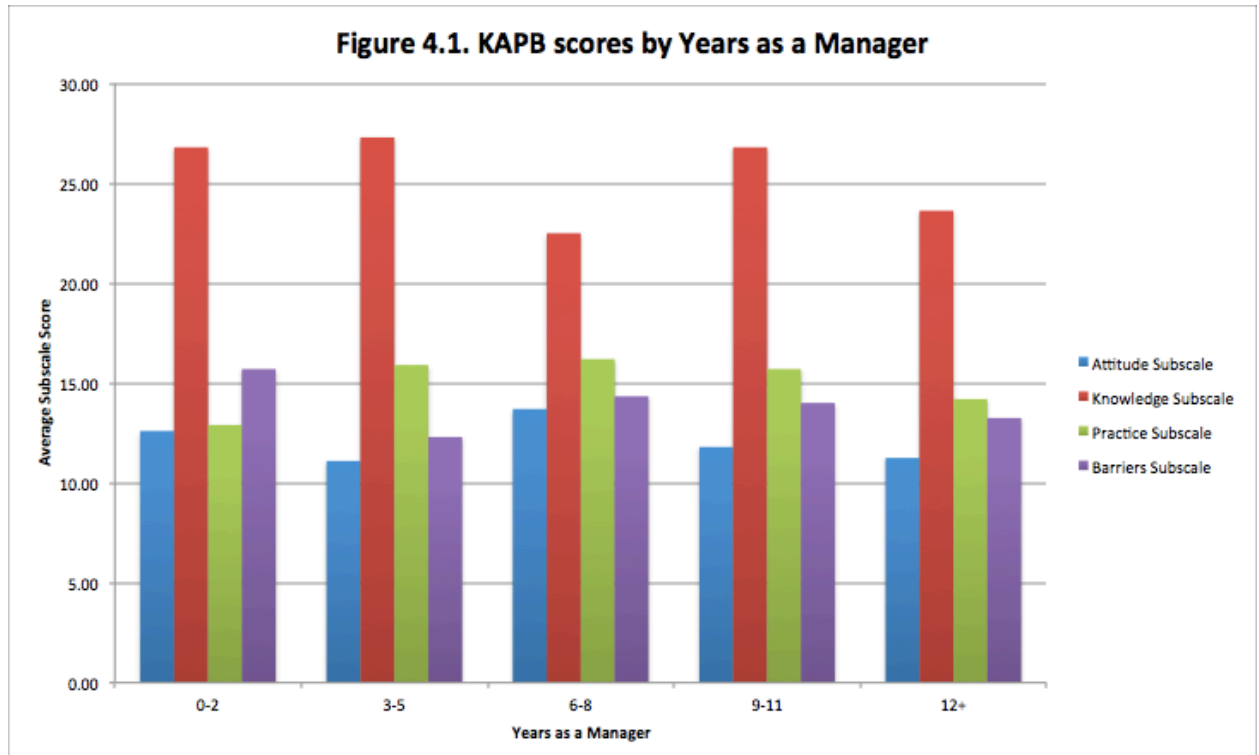
Qualitative.

The qualitative portion of the study was completed by 38 respondents. Qualitative

analysis of the four open-ended questions included in the survey yielded three overall

assertions and six themes. Initial data analysis yielded approximately five codes per

question. After analysis of these codes, one to two themes were created to represent the

thoughts of the participants in each open-ended question, resulting in six total themes.

For a representation of the qualitative coding process, see Table 3. Finally, three major

assertions were derived regarding the practices of EBP implementation by managers who oversaw occupational therapists:

(1) Evidence-based practice implementation is within the manager's scope of practice,

(2) Currently, managers of occupational therapists utilize more informal ways of supporting and implementing EBP within their facilities and

(3) Managers of occupational therapists lack sufficient ways to evaluate EBP implementation by occupational therapists.

Specifically, eleven of the 35 respondents who answered the open-ended questions on the survey reported that they have no way to evaluate how the OTs they oversee are implementing EBP. Additionally, 23 of the 35 respondents reported they have no way to evaluate how much time the OTs they oversee spend accessing clinical evidence.

Figure 2: *Qualitative analysis*
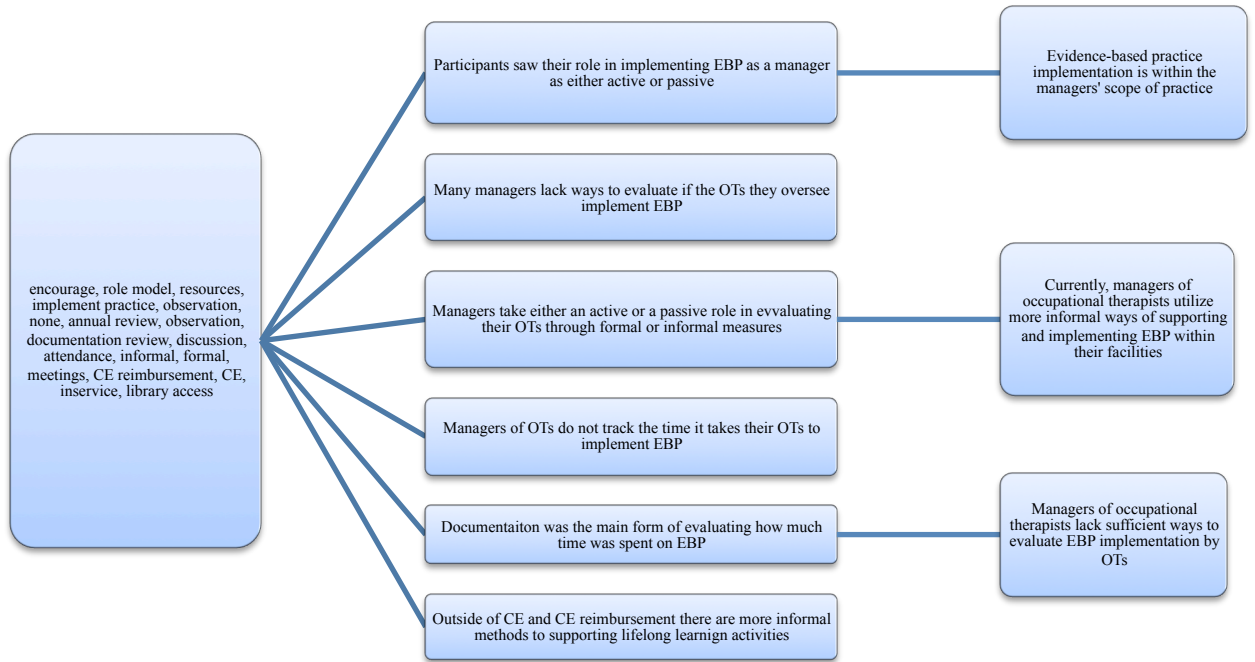
Correlational Analysis.

Correlations were analyzed to determine relationships between the variables of KAP and other variables such as age, years as a manger, and more. Age was correlated with knowledge, attitudes, and practices of EBP, as well as barriers perceived to EBP implementation. None of these correlations were determined to be significant. Age and attitude had a correlation of -0.16, suggesting that as age increases, attitudes of EBP decrease slightly. Age and knowledge scores were analyzed with a correlation of -0.12, suggesting a weak correlation that as age increases, knowledge of EBP decreases. A correlation between age and practices of EBP was found at 0.19, suggesting that as age increases, practices of EBP increase. A significant correlation between age and barriers

perceived to EBP was found at -0.34 (p>0.05), suggesting that as age increased, barriers perceived decreased. These findings indicate that knowledge and attitudes may not be as strong of influencies on EBP practice as percieved barriers.

Correlational analysis was conducted between the average scores on the KAPB subscales and the variable "years as a manger". None of these correlations were found to be statistically significant. Years as a manager and the average scores on the knowledge were correlated at -0.249, suggesting that as years as a manager increased, knowledge of EBP decreased slightly. Some of these results appear to contradict each other. There is an assumed a positive relationship between years as a manager and age; as one increases the other would also increase. These results show that as age increased EBP practices slightly increased, but an increase in years as a manager, showed a decrease in the knowledge level. The authors of this study could not find a possible explanation for why EBP practices would increase as knowledge decreased and therefore recommend that this study be repeated with a larger sample size.

The relationship between respondents' level of education and KAP of EBP, as well as perceived barriers to EBP, was analyzed. None of these correlations were found to be statistically significant. Respondents were asked to report which barriers they perceived to EBP implementation, and a correlational analysis was conducted between these answers. There was only one significant relationship found between barriers. Managers perceiving there is "Not enough time to access and/or appraise evidence" was significantly correlation to managers perceiving there was a "lack of knowledge of the EBP process" (r=0.33, p>0.05).

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Relationships were analyzed between knowledge of EBP, attitude towards EBP, practices of EBP and perceived barriers to EBP implementation. A significant relationship was found between attitudes towards EBP and barriers perceived (r=0.54, p=0.01). The relationship between EBP practices and perceived barriers was also found to be significant (r= -0.65, p=.01). Pearson correlation showed relationships between other KAP measures, but none were determined to be significant. For a full depiction of all correlations, see Table 9.

TABLE 9: *Correlation analyses*

	Knowledge	Attitudes	Practices	Barriers
Knowledge	x	x	x	x
Attitude	-0.22	x	x	x
Practices	0.31	-0.32	x	x
Barriers	-0.087	0.54**	-0.65**	x
Age	-0.12	-0.16	0.19	-0.34*
Level of Education	-0.046	-0.12	0.0	-0.042

$*p \leq .05$ $**p \leq .01$

Difference of Measures.

Though not a part of the original research questions, the researchers were interested to discover if any differences existed between the KAP of managers and the barriers they perceived, and certain demographic data. One-way ANOVAs were calculated to determine whether significant differences existed between managers' knowledge and age, age and practices, age and barriers, and practices and barriers. No significant difference in mean score on the knowledge subscales subscale scores existed between age groups ($F(2, 32) = 0.094$, p=0.911). When calculating differences in managers' age and their mean score in the practice subscale, no significant difference

was found ($F(2, 30)=0.826$, p=0.448). There was no significant difference found between mean score of barriers subscale and age ($F(2, 32)=2.399$, p=0.107). No significant difference was calculated between the managers' attitude scores and age ($F(2, 34) = 0.979$, p=0.386).

An independent sample t-test was calculated to determine whether significant differences existed between previous professional background of managers and KAPB of managers. No significant differences were found between managers' previous professional background and any subtests related to the knowledge, attitudes, practices, of managers, or the barriers that managers perceived. The difference of means for attitude of managers and previous background was calculated at $t(38) = 1.068$ (p=0.292). The difference of means for managers' knowledge of EBP and previous background was calculated at $t(36) = 0.944$ (p=0.351). The difference calculated between practices of managers and their previous background is $t(34) = 0.701$ (p=0.488). Finally, the difference of means for the barriers perceived by managers and their previous professional background was found at $t(36) = 0.666$ (p=0.509).

Chapter IV described the results of this study as they related to the four original research questions. Chapter V summarizes and discusses these findings and their overall meaning in the occupational therapy profession as they related to previous literature.

CHAPTER V

DISCUSSION

Introduction

The purpose of this research was not to explain the lack of EBP implementation within the OT profession, but rather to explore factors that affect implementation and have not been studied before. The researchers utilized a descriptive design and a convenience sampling method to conduct a survey of OT managers. The following chapter provides a summary and analysis of the results of this study related to the current literature reviewed in Chapter II. Chapter V terminates with recommendations for areas of further study and practice.

It should be noted that when discussing this study's results in comparison to existing literature, the literature discusses OT clinicians and OT students, not OT managers as there was no literature found pertaining to the KAPB of OT managers.

<div align="center">

Summary of Findings

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Knowledge Level

Results of the survey showed that managers of OTs had "high" levels of knowledge of EBP. This indicates that respondents understood EBP and its process well. When comparing these results to the literature, it appears that managers have higher levels of knowledge of EBP than OT practitioners (Brown, Tseng, Casey, McDonald & Lyons, 2010; Lyons, Brown, Tseng, Casey, J., & McDonald, 2011; Upton, Stephens,

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Williams, and Scurlock-Evans, 2014; Thomas & Law, 2013). Additionally, managers, who practiced as OTs before becoming managers, had higher levels of knowledge and practice. Managers who had been practicing for 3-5 years had the highest levels of knowledge. Managers who practiced in physical disability settings had the highest levels of knowledge of EBP. Considering this data, the conclusion drawn was that all OT managers are exposed to EBP through schooling or continuing education courses, which contributes to their high levels of EBP knowledge. However, more exposure to research may increase knowledge levels even further.

Attitude Level

In contrast, the results of this survey were similar to the literature regarding attitudes towards EBP. OT managers, OT practitioners and OT students appear to have positive attitudes towards EBP (Brown, Tseng, Casey, McDonald & Lyons, 2010; Lyons, Brown, Tseng, Casey, J., & McDonald, 2011; Morrison & Robertson, 2016; Stronge & Cahill, 2012; Stube & Jedlicka, 2007; Thomas & Law, 2013). The results of this survey showed that overall, OT managers have "positive" attitudes toward EBP.

Compared to the other settings of OT managers, managers who practiced in physical disability settings had the most positive attitudes toward EBP. Similarly, compared to other ranges for years of practice as an OT manager, those practicing for 3-5 years as an OT manager had the most positive attitudes towards EBP. When compared to those with other previous professional backgrounds, managers who practiced as occupational therapists before becoming OT managers had more negative attitudes towards EBP than managers who had other previous professional backgrounds.

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This could be due to the fact that OT managers who practiced as occupational therapists prior to becoming managers had a better understanding of barriers to EBP, and therefore were more inclined to hold negative attitudes towards it. When considering that half of the sample had 6 or more years of experience as a manager in comparison to the results of the attitude subscale, it challenges the notion found in the literature that years of experience negatively impacts attitudes toward EBP (Cameron et al., 2005; Hitch, 2016). These results show that many factors could affect OT managers' attitude towards EBP, but that overall positive attitudes were found.

Practice Levels

Overall, OT managers who took this survey currently practiced EBP at moderate levels. When broken down by practice setting, those OT managers who practiced in physical disability settings had the highest practice levels. OT managers who worked as occupational therapists prior to becoming managers also had the highest practice levels compared to those with other backgrounds. According to this data, it is interesting to find that OT managers who previously practiced as occupational therapists had the lowest attitudes toward EBP, but had the highest level of practices when compared to OT managers with other previous professional backgrounds.

It is interesting to note that OT managers who had been working for 6-8 years had the highest levels of EBP practices compared to those with more than 8 years of experience. According to the data, exposure to research alone, through more years of experience, does not appear to increase EBP implementation and practices.

Critical thinking skills, critical appraisal skills, and the ability to understand OT practice holistically appear to impact EBP practices and implementation. These skills are

not as common among novice managers with fewer years of experience, and therefore limited experience as an OT let alone a manager could be negatively affecting EBP practices and implementation.

Perceived Barrier Levels

OT managers perceived a moderate level of barriers to EBP implementation. This differs slightly from the literature as it was found OT practitioners had low levels of EBP practice (Brown, Tseng, Casey, McDonald & Lyons, 2010; Cameron et al., 2005; Hitch, 2016; Wressele & Samuelsson, 2014), yet they perceived many of the same barriers to implementation as OT managers. OT practitioners, students and managers perceived time as the biggest barrier to EBP implementation (Wressle & Samuelsson , 2015; Hitch, 2016; Morrison & Robertson, 2016; Evenson, 2013).

According to this current study, managers who practiced in outpatient settings, perceived the highest levels of barriers to implementation. Managers, who practiced as OTs before becoming managers, had higher levels of perceived barriers than those managers with other previous professional backgrounds. Managers who had been practicing for 3-5 years perceived the lowest amount of barriers to EBP.

Overall, the barriers reported by respondents, in this study, may represent barriers to EBP implementation in the occupational therapy profession as a whole. For example, perceived lack of time is an overarching barrier to both managers and OTs alike, which could point to a lack of resources for accessing and utilizing applicable research efficiently and effectively. Similar to a lack of time, the perception of a lack of evaluation criteria to track and evaluate EBP in clinical practice may indicate a lack of EBP-related evaluation resources available from professional organizations, such as AOTA. The

perception that an overall lack of research in the profession of occupational therapy exists for some practice areas could create a significant barrier for utilizing EBP. Additionally, the data shows that although negative attitudes may be an inhibiting force to implementing EBP, they may not be as strong as an inhibitor as other factors such as lack of time or available evidence.

Qualitative Findings

Qualitative findings, of this study, were compared to the literature. The results of the KAPB survey were that EBP implementation is within the managers' scope of practice. Novak and McIntyre (2010) found:

1. Active involvement by managers in the EBP practice as most effective to increase EBP implementation. Active involvement was characterized by creation of workplace supports to foster an environment of EBP such as the creation of a strategic plan, EBP performance indicators added to clinician role descriptions, and clinician leadership mentoring to role model the use of EBP.

2. Continuing education increased knowledge of EBP, but did not increase implementation.

According to the qualitative results of this study, managers did not actively participate in EBP implementation. They had more informal and inactive ways of participating in EBP implementation such as distributing research articles, conversations about EBP at meetings and in passing, and by encouraging the use of EBP. The more formal, and less common approach for implementing EBP, was to send practitioners to Continuing Education (CE) courses. This finding was similar to Novak and McIntyre

(2010) showing that this strategy alone does not increase EBP implementation, and was

seen as a factor that could inhibit EBP implementation. Lastly, managers in this research,

lacked sufficient ways to evaluate EBP implementation by the OTs they oversee. These

findings are similar to that of Wressle and Samuelson (2015), who found that managers

were involved in general discussions related to overall changes in practice, but were less

involved in direct research on clinical practice and patient care.

Correlations

Through correlational analysis, four significant relationships were found between

survey data.

1. A significant correlation between age and barriers, perceived to EBP,

   suggested that as age increased, barriers perceived decreased. Within the

   literature, no correlations were found between age and barriers perceived.

   However, negative correlations were found between age and attitudes as well

   as age and practices within the literature (Cameron et al., 2005; Hitch, 2016).

2. A significant relationship was found between those managers who perceived a

   lack of time as a barrier to EBP and those who perceived a lack of knowledge

   of the EBP process as a barrier. This finding is similar to the literature

   reporting on barriers cited by OT practitioners, as time and lack of statistical

   knowledge or knowledge of an evidence-based process were commonly

   reported as barriers (Wressle & Samuelsson , 2015; Hitch, 2016; Morrison &

   Robertson, 2016; Evenson, 2013).

3. The results of this study showed a significant, positive correlation between the

   scores on the attitude subscale and scores on the barriers subscale. This

demonstrates that as attitudes become more positive, the number of barriers perceived increases.

4. Finally, a significant correlation was found between scores on the practices subscale and the barriers subscale, which indicated that as practices of EBP increase, the barriers perceived decreases.

Conclusions

The Theory of Planned Behavior created a framework for conceptualizing the results of this research. According to this theory, understanding managers' personal evaluation of, knowledge of, and perceived behavioral control over EBP is important as it is predictive of their future behavior and propensity to change. This helps to inform current literature trends that aim to explain why EBP is implemented in low levels and what can be done to change that.

By aligning the Theory of Planned Behavior and this research, the researchers found that:

1. OT managers hold positive attitudes towards EBP, which positively influences their intentions to implement EBP.

2. OT managers have moderate levels of EBP practices, which relates to their social norms, and positively influences their intentions to implement EBP.

3. Lastly, they have high knowledge of EBP, but perceive moderate levels of barriers to implementation, which decreases their perceived control over EBP implementation.

These factors indicate that a potential factor, inhibiting the intention to implement EBP, is OT managers' perceived barriers to implementation. These perceived barriers

decreases their perceived control over EBP implementation, and therefore their likelihood to actively implement EBP. This could also indicate that high levels of knowledge of EBP are not enough to increase EBP implementation. This supports findings within the literature that indicate interventions such as CE courses, which increase knowledge of EBP, do not increase actual EBP implementation. Therefore, further research needs to be conducted to determine how to increase EBP implementation.

A large portion (32.5%) of respondents to this survey had 0-2 years of experience as OT managers. According to Patterson & Chapman (2013) this meant that 32.5% of respondents were practicing at a novel level, which is characterized by a lack of critical thinking skills, critical appraisal skills and therefore ability to implement EBP. The relationship between KAPB and years as a manger was explored within this study. Managers who had 0-2 years of experience as an OT manager had high levels of knowledge of EBP, but also had the lowest scores on the practices subscale and the highest scores on the barriers subscale. This indicates that despite high knowledge levels, critical reasoning skills and critical appraisal skills may be necessary to decrease barriers perceived to EBP implementation and to increase EBP implementation overall. The relationship between skill acquisition, years of experience and EBP implementation should be further explored in future studies.

Implications for Research

The researchers of this study intend the results to fill a gap in the research related to OT managers and EBP implementation. It was found that there is a lack of literature regarding OT managers and their perspectives on EBP, which supports further research

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on this topic. Researchers hope this research can be conducted again with a larger population to find more significant relationships and differences between subscales.

Factors, discussed as influencing EBP implementation, include: knowledge, attitudes, current practices, perceived barriers, years of experience and active involvement by managers. These should be explored in future research. Understanding OT managers' perceived KAPB of EBP and the relationships between those factors helps to guide the next level of research, which is knowledge translation. Future research at the level of knowledge translation needs to explore the most effective interventions for increasing EBP implementation and active involvement in EBP by OT practitioners, students, and managers alike.

Final Assertions

Based on the literature review in this research, supervisors and managerial supports influence the use of EBP (Clark, Park & Burke, 2013; Eyler & Kapusta, 2011; McCary et al., 2013; Mota da Silva et al., 2015; Morrison & Robertson, 2016; Robertson, Graham, & Anderson, 2013; Samuelsson & Wressle, 2015; Stronge & Cahill, 2012; Stube & Jedlicka, 2007; Thomas & Law, 2013) and EBP is within OT managers' scope of practice (Abreu & Chang, 2011; McCormack, 2011). This study found that managers had high levels of knowledge of EBP, positive attitudes towards EBP and moderate levels of current EBP practices. Barriers were perceived to be "moderate" and were an inhibiting factor to EBP implementation when considering the Theory of Planned Behavior. Managers need to be considered when studying EBP implementation within the field of occupational therapy, and when determining interventions to increase implementation.

Limitations

Limitations to this study impact its generalizability and strength of evidence. This study was limited by:

1. A small sample size and low response rate, allowing for only a narrow perspective of OT managers and small effect size.

2. The nature of the survey as a self-report measure may have introduced a response bias into the research.

3. The sample was convenience and was limited to those facilities affiliated with the University of North Dakota limits the generalizability and narrows the scope within which the results can be applied.

4. This survey was created from an existing survey, its validity and reliability are not known. The authors of this study would like to thank Dr. Leung and her associates for the use and modification of their instruments.

5. Throughout the study and the survey, managers of OTs were referred to as 'OT managers,' creating potential confusion for readers and respondents as it may have been perceived that managers in this study were also OTs. This was not the case. Managers could have any previous professional background.

6. The survey used in this study had some questions, which may have been confusing or misleading in their structure or wording, which could have introduced some response bias or differences from respondents, potentially skewing the data.

Recommendations

Overall, the researchers recommend:

1. Validating the psychometrics of the survey used to understand the validity and reliability related to OT managers.

2. The study be repeated, gathering a larger sample of managers to better understand their perceptions of EBP as a group. Within larger studies, factors that need to be examined include knowledge, attitudes, current practices, perceived barriers, years of experience and active involvement by managers, which will help explain the lack of EBP implementation within the occupational therapy field.

3. Determining a cause for the lack of EBP implementation and effective strategies for increasing EBP implementation.

Clinically, it is recommended that strategies for increasing EBP implementation need to be developed and distributed to not only OT practitioners, but OT managers as well. Additionally, OT managers should be educated on the fact that active involvement on their part, including workplace supports to foster an environment of EBP, helps increase EBP implementation (Novak & McIntyre, 2010). Continuing to offer CE support and more informal implementation strategies such as the creation of a strategic plan, EBP performance indicators and clinician leadership mentoring (Novak & McIntyre, 2010) can also help increase EBP implementation.

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Appendix A

Informed Consent:

You are invited to participate in a research study titled "The Level of Knowledge, Attitudes and Practices (KAP) of Evidence-Based Practice (EBP) by OT Managers". This study is being done by Madelin Buscho, Samantha Scheel and Dr. Lavonne Fox at the University of North Dakota. You were selected to participate in this research study because you have been identified as a manager or supervisor of occupational therapists.

The purpose of this research study is to answer the question: What are the perceived knowledge, attitudes and practices of OT managers towards evidence-based practice and what barriers do they perceive in implementing evidence-based practice in their facility? If you agree to participate in this study, you will be asked to complete an online survey. This survey will ask you about your knowledge of EBP, you attitudes towards it, how you and the OTs you over see practice EBP, and what barriers you perceive to EBP implementation. The survey will take approximately 10 minutes to complete.

You may not directly benefit from this research; although, we hope that your participation in the study may add to the body of literature regarding evidence-based practice and its implementation in the occupational therapy profession. You will not be paid for participating in the research study. The University of North Dakota and the

research team are receiving no payments from other agencies, organizations, or companies to conduct this research study.

No risks are perceived to be associated with this study; however, as with any online related activity the risk of a breach of confidentiality is always possible. To the best of our ability, the records of this study will be kept private to the extent permitted by law. Your study record may be reviewed by Government agencies and the University of North Dakota Institutional Review Board. If any report about this study that may be published, you will not be identified. Any information about the study sample will described in a summarized manner so that you cannot be identified.

Your participation is voluntary. You may exit the survey at any time without penalty. Your decision whether or not to participate will not affect your current or future relations with the University of North Dakota.

If you have questions about this project or if you have a research-related problem, you may contact the researchers:

<div align="center">

Madelin Buscho, MOTS - madelin.buscho@und.edu

Samantha Scheel, MOTS - samantha.scheel@und.edu

Dr. LaVonne Fox - lavonne.fox@und.edu

</div>

If you have questions regarding your rights as a research subject, you may contact the University of North Dakota Institutional Review Board at (701) 777-4279 or UND.irb@research.UND.edu.

By clicking "I agree" below you are indicating that you are at least 18 years old, have

read and understood this consent form and agree to participate in this research

study. Please print a copy of this page for your records.

Appendix B

Dear Samantha

The Dean has asked me to reply to your email.

Please find attached a colour coded copy of the questionnaire as respected. The colours are indicative of the validated domains. The domain scores are calculated as a simple arithmetic mean of all domain items.

You have our permission to use and/or modify the questionnaire in your research. Please make sure to acknowledge our paper if you publish your research.

---------- Forwarded message ---------

From: Scheel, Samantha <samantha.scheel@und.edu>

Date: Thu, 10 May 2018 at 22:38

Subject: Interested in knowledge, attitude and behavior questionnaire

To: gmleung <gmleung@hku.hk>

Cc: Buscho, Madelin <madelin.buscho@und.edu>, Fox, LaVonne <lavonne.fox@med.und.edu>

Hello Dr. Leung,

    My name is Samantha Scheel and I am an Occupational Therapy (OT) student at the University of North Dakota in Grand Forks, North Dakota. I am conducting a research study on OT Managers' knowledge, attitudes and behaviors towards evidence-based practice. My partner, Madelin Buscho, our advisor, Dr. LaVonne Fox, and I were interested in the tool you developed and validated in 2003. Would you allow us to use and/or modify the items in your questionnaire to address the knowledge, attitudes and behaviors of OT managers regarding evidence-based practice? Naturally we will give credit to you and your original questionnaire as the source for our own questionnaire. I thank you in advance for your consideration of our request and I look forward to hearing from you.

Best,

Samantha Scheel, MOTS

--

Gabriel M Leung

Dean, Li Ka Shing Faculty of Medicine

Master, Chi Sun College

Chair Professor of Public Health Medicine

Helen and Francis Zimmern Professor in Population Health

The University of Hong Kong

21 Sassoon Road, Pokfulam

Hong Kong SAR, CHINA

Tel: (852) 3917 9210

Fax: (852) 2816 1469

http://www.med.hku.hk/

http://www.chisuncollege.hku.hk/

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Dr Janice Johnston

Deputy Director (Education)

School of Public Health

Li Ka Shing Faculty of Medicine

The University of Hong Kong

G05 Patrick Manson Building

7 Sassoon Road

Pokfulam, Hong Kong