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The Prevalence Of Evidence-Based Practice By The Certified Therapeutic Recreation Specialist In The Intervention Planning Process For Client Treatment

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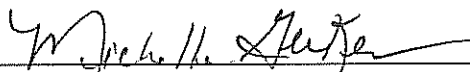
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THE PREVALENCE OF EVIDENCE-BASED PRACTICE BY THE
CERTIFIED THERAPEUTIC RECREATION SPECIALIST
IN THE INTERVENTION PLANNING PROCESS
FOR CLIENT TREATMENT

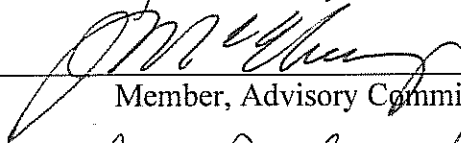
By

Linda Mrkic

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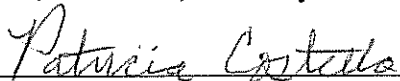
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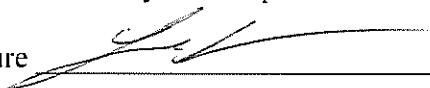
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THE PREVALENCE OF EVIDENCE-BASED PRACTICE BY THE CERTIFIED
THERAPEUTIC RECREATION SPECIALIST IN THE INTERVENTION PLANNING
PROCESS FOR CLIENT TREATMENT

By

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Master of Science
Eastern Kentucky University
Richmond, Kentucky
2007

Submitted to the Faculty of the Graduate School of
Eastern Kentucky University
in partial fulfillment of the requirements
for the degree of
MASTER OF SCIENCE IN PARKS & RECREATION ADMINISTRATION
Dec, 2011

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DEDICATION

This thesis is dedicated to the game of tennis. There will never be a day that passes that I will stop loving what the game of tennis has done for my life. The most important result, out of all my tennis experiences, is the amazing people and extraordinary connections I have made through this sport. If it was not for this game, there is not a chance in this world that I would be where I am today and that I would have met the humble people that I have over the last eight years. The ability to experience living in the magnificent country of the United States of America, the chance to work on this thesis at Eastern Kentucky University, and the gracious blessing of being able to work collaboratively as a strong team with the committee that I had, is simply all because of existence of one incredible sport, Tennis. Tennis and its unique uniting power have brought all these special gifts into my life. This is my truth and I thank God and his precious grace every day for giving me the strength to play the sport. It is because of this sport and the people it has brought into my life that this thesis was made possible. I will forever remain thankful.

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LIST OF ABBREVIATIONS

<u>American Occupational Therapy Association</u>	<u>AOTA</u>
<u>American Physical Therapy Association</u>	<u>APTA</u>
<u>The American Therapeutic Recreation Association</u>	<u>ATRA</u>
<u>Athletic Trainer</u>	<u>AT</u>
<u>Certified Therapeutic Recreation Specialist</u>	<u>CTRS</u>
<u>Commissions on Accreditation of Rehabilitation Facilities</u>	<u>CARF</u>
<u>Evidence Based Medicine</u>	<u>EBM</u>
<u>Evidence Based Practice</u>	<u>EBP</u>
<u>Health Care Professional</u>	<u>HCP</u>
<u>Joint Commission for the Accreditation of Health Care Organizations</u>	<u>JCAHO</u>
<u>National Athletic Trainers' Association</u>	<u>NATA</u>
<u>National Council for Therapeutic Recreation Certification</u>	<u>NCTRC</u>
<u>National Recreation and Park Association</u>	<u>NRPA</u>
<u>Occupational Therapy</u>	<u>OT</u>
<u>Physical Therapist</u>	<u>PT</u>
<u>Prospective Payment System</u>	<u>PPS</u>
<u>Recreation Therapy</u>	<u>RT</u>
<u>Recreation Therapy Evidence Based Practice Survey</u>	<u>RTEBPS</u>
<u>Rehabilitation Professional</u>	<u>RP</u>

CHAPTER 1

INTRODUCTION

In today's competitive health care environment, the decline in client financial investment and health insurance coverage has intensified the need for evidence that particular services are effective. Services that cannot provide supporting evidence are in danger of being eliminated during difficult financial times. In the profession of recreation therapy (RT), it is imperative for practitioners to be competent in consistently providing measurable results in patient care. This can be demonstrated by using evidence-based practice (EBP), also known as evidence-based medicine (EBM).

Sackett, Rosenberg, Gray, Haynes, and Richardson (1996) describe EBP as the "conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients" (p. 71). Currently, there is a paucity of research examining whether EBP is being used by the Certified Therapeutic Recreation Specialist (CTRS). This study, therefore, determined the prevalence of EBP by the CTRS in the intervention planning process. Moreover, this study argues that the concept and implementation of EBP should be embraced by all CTRS professionals because EBP will enable them to deliver quality services to their clients. Not only will EBP contribute to better service to the clients, it will also provide evidence that RT is a valuable and crucial health care service.

The National Council for Therapeutic Recreation Certification (NCTRC) states that, "Recreational therapy, is a systematic process that utilizes recreation and other activity-based interventions that are based upon the assessed needs of individuals with illnesses and/or disabling conditions" (NCTRC, 2010). A CTRS is certified by the

NCTRC, and uses RT to improve or maintain the quality of lives for patients who have a physical, cognitive, social, emotional or spiritual need. Through the RT intervention process, a CTRS aims to facilitate full functioning and participation in life for their clients (NCTRC, 2010). A variety of RT treatments, also known as interventions, are used by the CTRS to accomplish a set goal to meet the client's individualized needs. The CTRS works in several different settings and is expected to be highly adaptable with treatment delivery. Consequently, making the right selection for an effective treatment method (intervention) is a major challenge for the CTRS.

Most experts would agree that to be a proficient CTRS requires a great deal of education, passion, and personal commitment. Great expectations, along with increased pressure, are constantly being placed on CTRS professionals to perform and deliver dependable services to clients and to the agency for which they work. This demonstrates that the CTRS is clearly in the business of providing quality services to people for the purpose of improving their health, functional abilities, and quality of life (Carter, Van Andel & Robb, 2003). The CTRS should apply EBP because it improves day-to-day RT services to clients (Stumbo, 2003a), reduces wide and unintended variations in practice, and uses the best evidence possible to inform and enlighten practice (Stumbo, 2003b).

Kinney, Kinney, & Witman (2004) indicate that if the RT discipline is to remain competitive in today's healthcare climate, the CTRS must base their treatments on EBP. McCullough and Richeson (2002) explain that in order to be viewed as a reputable professional health care practitioner, it is becoming increasingly important for the CTRS to build an EBP, with treatment decisions based on client preference, clinical expertise, and current research in a variety of modalities. Evidence that these services consistently

work should become a driving force for operation for any health care practitioner.

Focusing on using EBP is important for the CTRS, because it illustrates proof (Stumbo, 2003c) of quality of care and can improve client outcomes.

Researchers in RT state that EBP is imperative for the growth of the profession. Carter et al. (2003) suggest that no matter how useful to society, a profession will not survive and grow without a strong theoretical basis for its activity. Thus, the quality and quantity of available research is a key element in forming a profession's foundation. Recent literature for the RT profession indicates that the use of EBP by the CTRS is needed. The question that remains unanswered is do current practicing CTRS use EBP when it comes to selecting interventions to treat their clients?

Purpose of Study

The purpose of this study was to examine the prevalence of EBP used by the CTRS in the National Recreation and Park Association (NRPA) southern district of the United States. Specifically, this observational study investigated the use of EBP in the intervention planning process for client treatment. This population was selected because it was the most readily available. This research encourages future inquiries into other districts' EBP and the comparison of regional trends. By gaining an understanding of the current use of EBP by the CTRS, practitioners will be better able to determine the appropriate steps required towards maintaining and improving their own individual practice and, as a result, the reputation of the RT profession may prosper.

Research Questions:

- Do Certified Therapeutic Recreation Specialists, who are currently employed in the southern district of the U.S, use evidence-based practice in the intervention

planning process of client treatment? In particular, estimate, within a margin of error of 5%, the proportion of Certified Therapeutic Recreation Specialists who use EBP.

- Does the use of EBP among Certified Therapeutic Recreation Specialists differ based on employment setting?

Significance of Study

At the time the study was conducted, an extensive review of the literature found no research examining the use of EBP by the CTRS in the intervention planning process for client treatment. Therefore, this study investigated to what extent EBP was being used by the CTRS working in the NRPA's southern district. These findings will be valuable in assisting and promoting the importance of using EBP for the intervention planning process of client treatment by the CTRS. After an extensive review of the extant research literature, it can be concluded that implementation of EBP is a crucial philosophy that all RT professionals need to embrace for a holistic improvement of their own individual practice and the RT profession as a whole. In addition, these results may also assist in strengthening the profession as a valuable health and human service occupation. Most importantly, the results will ultimately benefit clients because they will be assured that they are receiving better treatments due to EBP. The current research supports this notion.

Research Hypotheses

- Less than 50% of CTRS, who are currently employed in the NRPA southern district of the U.S., use evidence-based practice in intervention selection process for treatment.

- Use of EBP among CTRS will differ for different employment settings.

Operational Definitions

Simple, descriptive and inferential statistical procedures were undertaken to answer the hypothesis/research questions. The study is an observational study. Agresti & Findlay (2009) states that observational studies “observe the outcomes for available subjects on the variables without any experimental manipulation of the subjects... The researcher measures subjects’ responses on the variables of interest but has no experimental control over the subjects.” (p.17) In this study, a survey (questionnaire) is used to acquire responses from the subjects.

General Definitions

- **Recreation Therapy** - Recreation therapy refers to the specialized application of recreation and experiential activities or interventions that assist in maintaining or improving the health status, functional capabilities, and ultimately the quality of life for individuals with special needs (Carter et al., 2003). Specifically, RT takes more of a clinical-outcome orientated approach with services designed to increase the functional abilities (strength, balance, endurance, memory, mood control, and stress management) of clients (Stevens, Murphy, Allen, & Sheffield, 2010).
- **Therapeutic Recreation** – A service which utilizes the facilitation of leisure and a leisure-focused philosophy to treat people with illnesses and disabilities (Stevens et al., 2010). Services are designed to facilitate knowledge, skills, and abilities that lead to satisfying leisure expression (Stevens et al., 2010).
- **Certified Therapeutic Recreation Specialist (CTRS)** – The Certified Therapeutic Recreation Specialist (CTRS) is the most professionally advanced

recreation therapist in the field, combining education and work experience to meet the standards of the National Council for Therapeutic Recreation Certification (NCTRC, 2010). Recertification is required every five years after initial certification, and is based on continuing education and professional practice or re-examination (NCTRC, 2010).

- **Evidence-Based Practice (EBP)** – Evidence-based practice can be described as the selection of best available treatments for which there is some evidence of efficacy; evidence must be gathered through well designed and meaningful research efforts with client groups and be applicable to daily practice (Stumbo & Peterson, 2010).
- **Intervention** – The intervention side (nonleisure state of mind) emphasizes the action taken by the CTRS and the effort of the client to accomplish specific therapeutic goals (Carter et al., 2003). Professional judgment is used by the CTRS to determine the best approach to achieving therapeutic goals (Carter et al., 2003).
- **Research** - A careful and systematic means of solving problems which involves the following five characteristics: systematic, logical, empirical, reductive, and replicable (Thomas et al., 2005).

CHAPTER 2

REVIEW OF LITERATURE

A review of the evidence-based practices performed by Certified Therapeutic Recreation Specialists is broken into seven sections: 1) introduction of evidence-based practice in health care; 2) history of evidence-based practice in health care; 3) implementation of evidence-based practice; 4) evidence-based practice in other rehabilitation fields; 5) evidence-based practice in related health care professions; 6) evidence-based practice in recreation therapy; and 7) evidence-based recreation therapy treatment interventions.

Introduction of evidence-based practice in health care

Treating a patient in the best way possible is important for the health care professional. Edwards (2009) revealed that one of the most prevalent trends in healthcare today is the strong movement of health care professionals to use EBP. Having a clear understanding of what EPB means and how to use it are crucial skills that all health care professionals should possess. Several experts have agreed that EBP is “empirically validated treatment, empirically supported treatment, empirically evaluated treatment, empirical practice, research-based practice, research utilization, evidence-based treatment, and evidence-based health care” Chambless and Ollendick, 2001; Denton, Walsh and Daniel, 2002; Evidence-Based Medicine Working Group, 1992; Kendall, 1998; Lee and McCormick, 2002 (as cited in Stumbo & Peterson, 2010).

The process of EBP uses current research to determine whether or not a particular method or intervention should be used to care for a patient. Stumbo and Peterson (2010) maintain this position, describing EBP as the selection of best available treatments for

which there is some evidence of efficacy; moreover, this evidence must be gathered through well designed and meaningful research efforts with client groups and be applicable to daily practice.

When a practitioner chooses to use EBP it means that they will be treating a patient with a technique that has been proven effective by research (Buettner & Fitzsimmons, 2007), rather than the traditional method which is based on the practitioner's unsystematic observations, knowledge of basic disease and the pathology process, medical training, common sense, and clinical experience (Stumbo, 2003b). While implementation of current research is an important factor in regards to EBP, it is not the only factor. Domholdt (2005) explains that the EBP "does not demand that practitioners be ruled by research evidence; rather, it requires that they integrate research evidence with their own clinical experiences and the values of their patients and clients" (p.401). In other words, EBP is the unique blend of research, practitioner experience, and client values.

Buettner & Fitzsimmons (2007) state that EBP can be demonstrated by asking the right questions, researching what works best for a particular problem or condition, appraising the research, and then finally using the information as the basis for clinical decision making. EBP is based on the concept that requires health care practitioners to use research, get patients' feedback, and then incorporate the professional's own experiences to establish a successful treatment intervention. Law (2002) suggests that EBP is probably one of the most misunderstood concepts in health care today because of its newness and the degree to which it breaks from traditional practice. Reinhardt (2010) indicates that it is important for health care practitioners to have a clear understanding of

both research methodology and clinical issues to be able to successfully increase the development and use of EBP. Law (2002) states that numerous attempts have been made to conclusively define EBP for the health care community. Consequently, it is essential for the health care community to make EBP part of their everyday practice because of the increased pressure of accountability and quality of service that health care professionals face today (Kinney, Kinney, & Witman, 2004).

Jacobson (2003) explains that improving healthcare outcomes is a worldwide concern because it leads to higher economic growth and improved welfare of citizens. Jacobson (2003) states that “with healthcare so intertwined with national economies, the growing interest by the international community in disability and health outcomes is not surprising and certainly logical (p. 49)”.

Kinney et al. (2004) state that “it is evident that healthcare professionals must address the issue of competencies as it relates to accountability and quality of care” (p. 61) and the concept is highly favored by stakeholders in government and healthcare organizations (Buettner & Fitzsimmons, 2003). In particular, EBP has the capacity to advance quality of care and services that the CTRS provides, produce fewer variations in RT, provide cost savings that flow from appropriate and timely RT intervention use, and improve health outcomes in general (Buettner & Fitzsimmons, 2003). In addition, EBP can improve predictability and causality of service outcomes and also provide regulators, payers, and consumers increased assurance of quality care (Stumbo, 2003b). By having a clear understanding of EBP, the health care practitioner is more likely to use EBP, and therefore gain confidence in knowing that the best possible care is being provided for patients (Stumbo, 2003b).

History of evidence-based practice in health care

EBP was derived and then implemented into healthcare from a movement in medicine called evidence-based medicine (EBM). Blitz-Holtz (1999) (as cited in Stumbo, 2003b) documented that the term EBM originated in the early 1900s within a group of Canadian physicians called the Evidence-Based Medicine Working Group. The EBM Working Group led by Gordon Guyatt at McMaster University in Canada officially consolidated the use of EBM in 1992 (Sackett et al, 2000). After the origination of EBM, the term surfaced in England and was purposefully popularized by two physicians, David Sackett and William Rosenberg (Stumbo, 2003b). Sackett and Rosenberg made strong efforts to enforce the term amongst practitioners because they were concerned that (a) many physicians rely on personal judgment rather than research for treatment of patients, (b) there is new knowledge exploding at an almost direct, inverse relationship to the time available to read and absorb it and, (c) managed care can erode the independence of physicians' decisions (Stumbo, 2003b).

Wallace (2010) explains that EBM is the practice of making medical decisions based on best available evidence that is gained from applying a scientific method. Wallace (2010) found that there is a hierarchy of study methods for obtaining the best evidence available. Wallace (2010) concludes that:

The lowest level of evidence for application to humans is animal or in vitro research. Ideas, editorials, and opinions are more directly relevant to human disease and can generate hypotheses. Case reports and case series are useful to describe clinicians' experiences, but these reports cannot establish with certainty the effectiveness of treatment. Case-control studies have the advantage of

including a control or comparison group, but there can be confounding variables that create problems when comparing treatment effectiveness between two groups. Prospective cohort studies are most useful for measuring incidence of disease. The gold standard for establishing causation or a treatment effect is a randomized clinical trial. Finally, when data are available from multiple clinical trials, systematic reviews or meta-analyses are useful to combine results of various trials (p. 2-3)

Implementing evidence-based practice

Evidence-based medicine (EBM) and EBP are terms that are often used interchangeably to describe the same process; EBM is used when referring to the “medical” field, whereas EBP is used in different aspects of health care, which includes rehabilitation (Law, 2002). The interchangeable use of terms may cause confusion among health care professionals who are attempting to learn and use either EBM or EBP. Health care practitioners must understand how the process of EBM or EBP applies to their particular field.

Sackett, Straus, Richardson, Rosenberg, & Haynes (2000) express that the rapid spread of EBM by the medical practitioner has emerged from the realization that (1) there is a need for valid information about diagnosis, prognosis, therapy, and prevention, (2) traditional sources for this information are often out of date or frequently wrong, ineffective, or too overwhelming in their volume and too variable in their validity for practical clinical use, (3) there is a disparity between the practitioners’ diagnostic skills and clinical judgment, which increase with experience, and practitioners’ up-to-date knowledge and clinical performance and, (4) practitioners are unable to afford more than

a few seconds per patient for finding and assimilating the evidence, or set aside more than one-half of an hour per week for general reading and study. Sackett et al. (2000) present a five step process to practicing EBM:

Step 1 – converting the need for information into an answerable question.

Step 2 – tracking down the best evidence with which to answer the question.

Step 3 – critically appraising that evidence for its validity (closeness to truth), impact (size of the effect), and applicability (usefulness in our clinical practice).

Step 4 – integrating the critical appraisal with the practitioner’s clinical expertise and their patients’ unique biology, values, and circumstances.

Step 5 – evaluating the practitioner’s effectiveness and efficiency in executing steps 1-4 and seeking ways to improve them both for next time (p. 3-4)

Evidence-based practice in Rehabilitation

Rehabilitation is defined as “a medical specialty concerned with treating disabling disorders and injuries by physical means” (Merriam-Webster, 2010). Athletic trainers, occupational therapists, and physical therapists are a few of the practitioners considered to be a rehabilitation professional (RP). A RP is an individual who uses a specific type of treatment to help rehabilitate the functioning of an individual in need and as a result will use a variety of interventions to accomplish this. The use of EBP by the RP has been proven important because rehabilitation professionals rely heavily on interventions that are effective and research based. Caldwell (2003) explains that funding for rehabilitation services is predicated on whether or not there is science behind the intervention.

Therefore, EBP is encouraged to be used by the RP.

Domholdt (2005) states that “the purpose of research for rehabilitation professionals is not just to justify what we do, rather, to determine which of the many things we do as a RP can be justified” (p. ix). Long (2002) suggests that awareness, consultation, judgment, and creativity are four key aspects of good EBP in rehabilitation. Long (2002) describes awareness as staying up-to-date with new research in the field, consultation as communicating to clients where the clinical data was found and how they plan to use it, judgment as differentiating how to apply then tailor the recommendation of EBP to each client’s situation, and creativity as melding EBP with the practitioners’ existing body of skills.

The RP who embraces EBP also embraces the challenge of learning about rehabilitation research (Domholdt, 2005). Searching through professional peer-reviewed rehabilitation journals is an important step the RP must make. Several rehabilitation journals are available for the RP to use in the process of obtaining research. Domholdt (2005) states that a working knowledge of research design, methodology, and analysis is a necessity for a RP to acquire, if an evaluation and production of new evidence is desired.

Athletic Training

An Athletic Trainer is described as a health care professional who collaborates with physicians to optimize activity and participation of patients and clients (NATA, 2010). The National Athletic Trainers’ Association (2010) states that “Athletic Training encompasses the prevention, diagnosis, and intervention of emergency, acute, and chronic medical conditions involving impairment, functional limitations, and disabilities.” Studies on the use of EBP in Athletic Training (AT) have been documented.

Porrizzo (2005) conducted a study on the utilization of evidence-based clinical practice by certified athletic trainers. He surveyed a random sample of 1,000 certified athletic trainers in the United States of America. From this, Porrizzo found that that when the level of education increased, the stronger the athletic trainers believed that clinical practices should be based upon research. Porrizzo also found that certified athletic trainers with more education exhibited significantly greater positive attitudes toward evidence-based clinical practice than those with less education.

Occupational Therapy

An Occupational Therapist is a professional who helps patients that suffer from a mentally, physically, developmentally, or emotionally disabling condition and hopefully improves their ability to perform tasks in living and working environments (Bureau of Labor Statistics, 2010). The American Occupational Therapy Association (AOTA) (2010) states that occupational therapists provide services that include: “customized treatment programs to improve one's ability to perform daily activities, comprehensive home and job site evaluations with adaptation recommendations, performance skills assessments and treatment, adaptive equipment recommendations and usage training, and guidance to family members and caregivers.”

Studies on the use of EBP in Occupational Therapy (OT) have also been conducted. Cameron, Ballantyne, Kulbitsky, Margolis-Gal, Daugherty, & Ludwig (2005) conducted a study to examine the use of EBP by registered occupational therapists in the OT intervention process. They surveyed a random sample of 500 members who belonged to the AOTA and found that a minority of registered occupational therapists in the United States use EBP in the intervention process. Interestingly, as the level of academic

education increased, their view as to the importance of research to the OT decreased, and that as the years of practice increased, the use of research evidence in making clinical decisions decreased (Cameron et al., 2005). Cameron et al (2005) concluded the following:

As the occupational therapy profession moves towards the utilization of EBP as a professional standard, it is imperative that the profession examines specific strategies to promote the adoption of such practice by its members, including the promotion of competency in evidence utilization, and the valuing of the established clinical reasoning skills of the practitioner while integrating research evidence into intervention planning to support professional practice. (p. 123)

Zimmerman (2008) explains that occupational therapists understand the need to actively incorporate research evidence into daily practice as a means to continued competency. Taylor (2007) supports Zimmerman, stating that EBP provides the occupational therapist with a systematic framework for reviewing the evidence to support their practice, gives them tools to work with, and then the evidence to justify the use of a particular intervention.

Physical Therapy

The American Physical Therapy Association (APTA) (2010) defines a physical therapist (PT) as a “health care professional who diagnoses and then treats people of all ages who have medical problems or other health-related conditions that limit their abilities to move and perform functional activities in their daily lives.” The role of a PT includes examination, evaluation, diagnosis, prognosis and interventions toward achieving the highest functional outcomes for each patient/client (Mayo Clinic, 2010).

Physical therapists practice in a wide range of settings including hospitals, private practice, outpatient clinics, rehabilitation facilities, skilled nursing facilities, homes, education or research centers, schools, hospices, corporate or industrial health centers, athletic facilities, and other settings (APTA, 2010). The concept of EPB has been demonstrated to be a positive influence in several Physical Therapy studies.

Parker (2000) demonstrated the use of EBP in physical therapy to successfully determine medical and surgical management for an older woman with a fractured femur. Parker desired to establish to what extent medical and surgical management could be evidence based and, where possible, to determine the optimum management using EBM. Parker (2000) used several internet sources to search for publications, reviews, and findings in regards to hip fractures. Some of the internet sources used included Medline, the Cochrane Library and the American Academy of Orthopedic Surgeons. Through an EBP investigation of the current literature, Parker was able to successfully treat a patient with the best possible care known at the time. Whitman, Flynn, and Fritz (2003) also used EBP to review literature that related to non-surgical management of lumbar spinal stenosis and then were successfully able to document a case series using techniques supported in the literature.

Evidence-based practice in related health care professions

In today's society, the rising cost of medical care has greatly affected the way quality of a particular service is measured and therefore consumers are placing a greater emphasis on knowing that their dollar is being well spent (Riley, 1991). Currently, many health care professionals are fighting to prove the importance, and thereby, inclusion, of their services. Stumbo (2003b) states that health care professions are determined to define

quality and identify clinical end points (outcomes), use clinical performance measures, and increase accountability at all points of service. Simultaneously, competence in understanding how to apply research and the importance of outcomes has never before been so vital for the health care professional (HCP) to embrace. Progress in adopting EBP has been made in a number of health care professions including: audiology, health education and promotion, nursing, physician assisting, and respiratory care (Tweed, E., Sauers, E., McLeod, T., Guo, R., Trahan, H., Alpi, K., et al., 2007). However, finding relevant research, and then understanding how to implement the research into practice is another issue that may be a difficult task for the HCP to accomplish. Stumbo (2003b) suggests that EBP demands new skills from HCP. McCluskey and Lovarinin (2005) indicate that health care professionals lack the skills to find and appraise published research. Additionally, the lack of skills and associated knowledge among health care professionals needs to be addressed, and practice habits need to change for EBP to occur (McCluskey & Lovarinin, 2005).

As a solution, McCluskey and Lovarini (2005) evaluated the effects of a multifaceted intervention on the knowledge, skills, attitudes and behavior of allied health professionals. They found that EBP skills and knowledge improved markedly with a targeted education intervention and outreach support. According to McCluskey and Lovarinin, the study showed the importance of not only wanting to use EBP by HCP but also being taught how to effectively conduct EBP.

Because there is an extensive literature review on a selection of health disciplines, it is apparent that EBP is an important and growing concept. One specific discipline, nursing, one of the oldest health care professions, arguably began using EBP in the mid-

19th century (Miller, Ward, & Young, 2010). EBP in nursing was attributed to the move made by Florence Nightingale's desire to improve health (Miller et al. 2010). Since then, "nursing research encompasses a wide scope of scientific inquiry, including clinical research, health systems and outcomes research, and nursing education research" (Miller et al. 2010, p.73). Bostrom, Ehrenberg, Gustavssone, and Wallin (2009) state that several studies report that registered nurses (RNs) use EBP to varying extents in clinical practice (Estabrooks, Kenny, Adewale, Cummings & Mallidou (2007); Squires, Moralejo & Lefort (2007); McCleary & Brown (2002); Bostrom, Kajermo, Nordstrom, & Wallin (2009).

Evidence-based practice in Recreation Therapy

The Joint Commission for the Accreditation of Healthcare Organizations (JCAHO) (as cited in NCTRC, 2010) defines a recreational therapist as qualified in the Comprehensive Accreditation Manual for Hospitals (1995):

An individual who, at a minimum, is a graduate of a baccalaureate degree program in recreational therapy accredited by a nationally recognized accreditation body; is currently a Certified Therapeutic Recreation Specialist (CTRS) by the National Council for Therapeutic Recreation Certification (NCTRC); meets any current legal requirement of licensure, registration, or certification; or has the documented equivalent in education, training and experience and is currently competent in the field.

The CTRS is the primary practicing professional for recreation therapy that falls under the umbrella of the health care delivery system providing a form of rehabilitation. Three specific models of practice (Leisure Ability Model, Health Protection/Health

Promotion Model and Recreation Service Model) guide CTRS practitioners in the organization of their programs and service delivery (Stevens et al. 2010). Furthermore, the CTRS provides therapeutic treatment interventions that are systematically planned and based on recreation to help rehabilitate clients. The CTRS is able to deliver their services in a variety of settings ranging from the medical-clinical approach, custodial or long-term care, milieu therapy, education and training, and community based programs. However, Andel et al. (2003) suggest that the recreation therapy profession as a whole is struggling and continues to struggle with its unique role and function as a human service.

The significance of demonstrating client improvements (outcomes) after an RT intervention (treatment) has never before been so crucial for the CTRS to exhibit. Coyle, Denault, Miller, Pham and Thomas (2008) allude to the fact that the CTRS is often challenged by health care administrators and allied health practitioners to demonstrate that the practice can produce substantial client outcomes. Furthermore, Jacobson (2003) states that “if RT professionals cannot empirically demonstrate the contributions of RT intervention and that those contributions are significant to improving function and quality of life, then who would want it?” (p. 53). Long and Robertson (2008) express that to serve clients in the best way possible and to be taken seriously as health care practitioners, the CTRS must be sure that the interventions they use have measurable outcomes that address the therapeutic needs of clients.

The CTRS should be concerned with measurable outcomes because measurable outcomes demonstrate the use of EBP. Caldwell (2003) explains that EBP is the future of RT. For the CTRS, the effort to implement EBP into their services is important not only for survival of the RT profession but also for the increased effectiveness of treatments

that the CTRS provides. For RT, EBP can be described as the process of applying the results of research outcomes, described as observed changes in the client's status as a result of intervention or interaction (Terry & Long, 2008).

EBP also improves day-to-day services to clients (Stumbo, 2003a). Stumbo and Peterson (2010) state that using research evidence can aid the CTRS by: (1) shortening the time it takes to conceptualize, design, deliver, and evaluate their program, (2) providing more assurance of producing desirable client outcomes, (3) providing the ability to judge whether the same outcomes result from their programs and, (4) showing proof that services are up-to-date, accountable, and based on EBP. In addition, Caldwell (2003) finds that evidence-based interventions are successful in producing desired client outcomes. Furthermore, Stumbo & Peterson (2010) state that the CTRS who use EBP will not only heighten their ability to reach meaningful client outcomes but also will shorten the overall time spent on preparation.

Long and Robertson (2008) explain that the CTRS has an ethical obligation to provide quality care, not just for clients but also for accreditation. Robertson and Long (2008) state:

This process of purposeful intervention is also necessary to maintain accreditation with the Commissions on Accreditation of Rehabilitation Facilities (CARF) and the Joint Commission on Accreditation of Healthcare Organizations (JCAHO). These procedures also allow for fiscal accountability within prospective payment systems (PPS) used in health care today. The PPS is designed to anticipate the costs of particular services associated with a specific health care procedure or service. Regardless of how much an agency spends on treating a patient,

insurance companies pay the agencies based on the pre-established expense, and as a result, the services provided by the CTRS must be facilitated in a competent yet cost-effective manner. (p. 125)

EBP can help the CTRS or RT profession maintain accreditation, achieve fiscal accountability, and solidify a position as an important health care provider. Moreover, Stumbo & Peterson (2010) explain that the CTRS is responsible for the continual upgrading of the RT profession and, as a result, can improve accountability for services, focus on meaningful and measurable client outcomes, provide intervention services based on client need, and use EBP.

Navar (1991) suggests that a CTRS who is aware of current issues affecting the RT profession is demonstrating a measure of quality, especially when the CTRS actually does something about these issues. The CTRS should be aware that “without current information, we attempt to practice from a position of out-datedness or ignorance” (Navar, 1991, p.17). Moreover, Navar explains that it is imperative that the CTRS keeps up with the growth in current technology, body of knowledge, and the initiation and coordination of efficacy research. Navar (1991) states “when we are current and choose the appropriate methods to achieve the goals that will meet our client’s needs within the delimited parameters of our profession, then quality is possible” (p.12). Navar (1991) goes on to state that “when we discover that ‘therapeutic recreation works’ or directly contributes to the improved conditions of clients, this information needs to be readily available by the CTRS” (p. 15).

The profession of RT suffers from a lack of literature in regards to EBP (Stumbo, 2003d) and is known to be a relative beginner in the field of EBP (Buettner &

Fitzsimmons, 2007). Moreover, concentrated research in the area of RT is imperative and requires a paradigm shift to ensure that outcomes are evidence based, integrated, and standardized (Stumbo, 2003a). Since Stumbo's (2003a) call to shift the paradigm, the growth in EBP literature has yet to materialize. Some experts (Buettner & Fitzsimmons, 2007; Caldwell, 2003) state there are limited examples of evidence based intervention studies in the RT literature and that many more are needed. Buettner and Fitzsimmons (2007) state "a challenge to an EBP approach for RT is the lack of research evidence about the effectiveness of specific RT interventions for particular conditions and diseases" (p. 13). This conclusion amplifies the importance of conducting research on RT interventions used by the CTRS and similarly illustrates the importance of using EBP.

Even though there is an absence of research on evidence-based interventions in RT, it is still important to base interventions on theory (Caldwell, 2003). There are several professional journals that provide theoretical frameworks for finding and conducting research including the Annual in Therapeutic Recreation, the Therapeutic Recreation Journal, and the American Journal of Recreational Therapy (Stumbo & Peterson, 2010). In addition, several RT researchers have encouraged the CTRS to adapt and then utilize EBP interventions from other health care related disciplines. Dunn and Foreman (2002) state "to meet the responsibility of knowledge development for evidence-based practice, professionals must also share their emerging insights and broader beliefs with others" (p.16).

Belsey and Snell (2001) (as cited in Stumbo, 2003a) explain that EBP involves four distinct actions on the part of the CTRS:

- (1) production of evidence through research and scientific review, (2)

production and dissemination of evidence-based clinical guidelines, (3) implementation of evidence based, cost effective practice through education and management of change and, (4) evaluation of compliance with agreed practice guidance and patient outcomes (p.29).

Furthermore, Buettner and Fitzsimmons, in their article entitled Evidence-based Recreation Therapy, present a nine step process for adding to the RT EBP literature. The nine step process can be followed by any CTRS willing to implement EBP. The RT EBP process is as follows

- (1) Clearly identify the issue or problem that your recreation therapy program addresses.
- (2) Use a proven template when writing your protocol. In this way you will not forget to include vital information.
- (3) Ask others in the field to critique your protocol or even to try running your protocol with their clients.
- (4) Perform a literature search to determine if someone has done research on an intervention similar to yours.
- (5) Evaluate the current research evidence using established criteria regarding scientific merit.
- (6) If there already is strong evidence for the program you are running, then you are doing an evidence-based intervention.
- (7) If there is no evidence in the literature, consider partnering with an organization who may be interested in testing your intervention.

(8) It is vital to use valid, reliable assessment instruments that other disciplines understand. This means you cannot measure the effect of an intervention using a facility created form or assessment.

(9) When your project is finished, publish and present the findings of research performed, not only in recreation therapy journals and meetings but in other disciplines and practice areas (p. 19).

Prior to Buettner and Fitzsimmons' (2007) nine step process, Stumbo (2003b) presented a five step process on how the CTRS can use easily use the EBP process.

Buettner and Fitzsimmons (2007) state:

Evidence-based practice means that recreation therapists should first try interventions that have some scientific evidence to support them. Completing a literature search on PubMed, reading journals and other publications, attending conferences that include research based intervention sessions and networking with other therapists are a few methods of identifying evidence based interventions (p.15).

Evidence-Based Recreation Therapy interventions

Referring to the current situation of the health care environment, it is imperative that the CTRS have a thorough knowledge of and skills in the purposeful selection of interventions to ensure successful treatment outcomes (Kinney et al. 2004). Kinney et al. (2004) states the purposeful use and appropriate selection of modalities and facilitation techniques is essential to successful outcomes for RT interventions. The focus on conducting research on outcomes after implementation of a treatment intervention may increase the potential impact of the CTRS in the health care field. Focusing on client

outcomes is important for the CTRS because it illustrates an element of care for the clients' well-being and quality in patient service (Stumbo, 2003a; Stumbo, 2003b; Riley, 1991). EBP improves outcomes. Stumbo (2003) agrees, saying that central to health care procedures and efforts, client outcomes are a representation of the differences in the client from the beginning to the end of treatment. Furthermore, valid measurable outcomes must be documented, published, and made available for other RT professionals to use.

The CTRS treats a variety of impairments such as orthopedic, neurological, cerebral vascular accidents, developmental disabilities, and psychiatric illness, and is expected to be highly adaptable with treatment delivery. Efficacy of treatment and effective selection of the right intervention for the specific condition is a major concern for the CTRS. One may conclude that numerous interventions are used by the CTRS. According to Shank and Coyle (2002), the CTRS can use a number of interventions which can vary in focus. Examples of the different types of intervention categories includes mind-body health, physical activity, creative-expressive, self-discovery/self-expression, social skills, nature-based, and education-based.

Shank and Coyle (2002) list mind-body health interventions used by the CTRS as: aromatherapy, breathing, guided imagery, humor, medical play, meditation, massage, relaxation training, sensory stimulation, tai chi, and yoga. Aquatics, exercise, and sports are known to be physical-activity based interventions used by the CTRS (Shank & Coyle, 2002). Creative-expressive interventions are categorized as arts and crafts, music, dance/movement, drama, storytelling and visual arts (Shank & Coyle, 2002).

Self-discovery/self-expression interventions which may be used by the CTRS are: adventure therapy, bibliotherapy, journaling, reminiscence/life review, and values clarification (Shank & Coyle, 2002). Shank & Coyle (2002) also suggest that assertiveness training, anger management, re-socialization, remotivation, and reality orientation are interventions often used to develop social skills. There are also nature-based interventions such as animal-assisted therapy and horticulture, and education-based interventions like assisted technology training, community reintegration, family/caregiver education, and leisure education that are utilized by the CTRS for client treatment (Shank & Coyle, 2002).

In 2004, Kinney, Kinney, and Witman conducted a study to determine the current use of modalities and facilitation techniques in RT practice by the CTRS. In a survey of 276 CTRS nationwide, they found that the top ten modalities used by all respondents were 1) games, 2) exercise, 3) parties, 4) arts and crafts, 5) community reintegration activities, 6) music, 7) problem solving activities, 8) sports, 9) self-esteem experiences, and 10) activities of daily living. In regards to facilitation techniques, the researchers found the top 10 techniques to be 1) social training skills, 2) leisure education/counseling, 3) behavior modification, 4) resocialization, 5) reality orientation, 6) stress management, 7) group therapy, 8) sensory stimulation, 9) cognitive retraining, and 10) reminiscence (Kinney et al. 2004). Surprisingly, little research has been conducted on the effectiveness of these interventions and if any of these interventions are, in fact, evidence based.

There are, however, several RT interventions that have been proven to show efficacy. In 2007, Buettner and Fitzsimmons stated that studies from the following investigators are the limited examples of evidence based intervention studies in the RT

literature: Carruthers & Hood, 2002; Fitzsimmons & Buettner, 2003; Kolanowski, Litaker, & Buettner, 2005; Shalek, Richeson, & Buettner 2004 (Buettner & Fitzsimmons, 2007). It can be concluded that from this low number that many more are needed. Stumbo (2003d) found that there were only three examples (Lee & McCormick, 2002; McCormick & Lee, 2001; Stumbo, 2003b) of RT literature that focused specifically on the term EBP.

Stumbo (2003d) expressed:

We need to continue to yearn – yearn for better ways to assess clients’ needs, yearn for practice processes that help clients meet those needs more quickly and in their preferred mode, and yearn for improved ways to measure and document client outcomes. As long as we yearn, we will progress. When we stop making progress, health care will outpace us and make us incidental (p.39).

All health care providers, including the CTRS, need to base their treatment decisions not only on their own professional experiences and their client’s needs and values, but also on the current quality research outcomes (Edwards, 2009). This would be a true demonstration of EBP.

Summary and Conclusions

Stumbo and Peterson (2010) state that the overall aim of EBP is to reduce wide (and unintended) variations in practice, and, instead, use the best cumulative evidence possible to inform, enlighten, and direct practice of RT. As stated previously, the CTRS, who is the main certified practicing RT professional, must use EBP as a means towards effective client treatment and furthermore, aid in the survival and permanent inclusion of

the RT profession in the health care world. All of the literature and studies mentioned above have examined the issue of recreation therapy and evidence- based practice in some way or form.

CHAPTER 3

METHOD

The purpose of this study was to examine the prevalence of EBP used by CTRS in the National Recreation and Park Association southern district of the United States. The researcher investigated the use of EBP in the intervention planning process for client treatment. Some of the methods and procedures have been derived from earlier reviewed studies and specifically adapted for this study.

Participants

This study incorporated a total of 500 randomly selected Certified Therapeutic Recreation Specialists (CTRS) from the National Council for Therapeutic Recreation Certification (NCTRC). The random sample was generated from the NRPA's southern district region. The southern district includes the following states and territories: Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, Puerto Rico, South Carolina, Tennessee, US Virgin Islands, Virginia, and West Virginia. The criteria for participation in this study included current CTRS certification and current employment in a recreation therapy position located in the NRPA's southern district in the United States of America. Data on age, sex, and race were not considered germane and therefore not obtained.

Instruments

This study required all CTRS to voluntarily complete the Recreation Therapy Evidence-based Practice Survey (RTEBPS) during the month of December 2010. The survey was adapted from one used by Cameron, Ballantyne, Kulbitsky, Margolis-Gal, Daugherty, & Ludwig (2005) in a study entitled, "Utilization of evidence-based practice

by registered occupational therapists.” The principle investigator, of that study; provided consent to use the survey tool. The questionnaire used for this study was adapted from the one used in the previous study and was geared towards identifying the current use, knowledge of, and attitudes towards evidence-based practice by the CTRS.

In particular, references to occupational therapy in the original survey were changed to recreation therapy. Also, several questions were added to the end of the survey to identify types of interventions used by CTRS. Two other questions were added to the survey. One asked “Is anyone within the Recreation Therapy Department/Unit within the agency conducting research?” and the second one was “The recreation therapy interventions I use are based on evidence-based practice.”

The adapted survey was then piloted through a convenience sample of eight CTRS who currently work in the State of Ohio. After feedback was provided, the survey tool was then evaluated by four expert reviewers at Eastern Kentucky University. The original survey was found to be a reliable and valid measure of EBP for occupational therapy by the authors of the original study. Since the adapted RTEBPS survey is very similar to the original survey, it is also considered to be reliable and valid for this study (See Appendices C for RTEBPS).

The survey tool RTEBPS was made available online using the online survey tool Zoomerang. Results were recorded and saved into a folder in Microsoft Excel. No personal identifying information about the respondents was kept. The NCTRC sent out the emails containing the Zoomerang link, and the surveys were filled out anonymously. Only basic demographic information about the respondents was taken and there is no way to identify them from the survey information that was dispersed.

Procedures

The CTRS were invited to participate in the study via an e-mail sent by the NCTRC. In the e-mail, CTRS participants were asked to complete the RTEBPS during the month of December 2010. The CTRS' consent, information and general purpose in relation to the survey were discussed in the e-mail. Through the e-mail, the CTRS were asked to click onto an URL link which directed them to the RTEBPS survey tool located on Zoomerang (see appendix A for email).

Pilot Study

A pilot study was conducted using the adapted survey tool developed by Cameron et al. (2005) with a convenience sample of eight CTRS who were currently employed as CTRS in clinical settings in the state of Ohio. The participants were sent an e-mail and asked to voluntarily complete the RTEBPS and provide any feedback for improving the survey tool.

Design of the Study

This was an observational study which examined the use of evidence-based practice by CTRS in the intervention planning process for client treatment. Both descriptive and inferential statistics were computed.

Statistical Analysis

The researcher performed the statistical analysis of the data using the statistical programs SAS and Minitab. For each question, descriptive statistical analyses included calculating the percentage of respondents who selected each response. Data were summarized in tables or bar graphs. Inferential statistical analyses included constructing 95% confidence intervals for proportions, performing the one-sample test for proportions,

and performing chi-square tests for independence. For more information about these procedures, see Agresti & Findlay (2009).

Limitations

No study related to research is without limitations. Thomas et al. (2005) stated that every study will incur some type of limitation. In this study, several limitations were present. The limitations were: (1) the CTRS was asked to voluntarily participate in the study, therefore responses may have been biased, (2) the CTRS may not have been interested in the study and therefore the response rate may have decreased, (3) the CTRS may have had difficulty with accessing the survey tool on the Zoomerang link and may have felt discouraged to continue with completing the survey, (4) a larger sample size of CTRS within the USA could increase the significance of results, and (5) the sample may not be representative of the population since only 101 of the CTRS who were sent the link to the survey responded.

Delimitations

Delimitations are the variables in the study that could have been controlled differently and may have caused different outcomes. Delimitations are things researchers do in the study by design that could affect the results and therefore limit the findings. In this particular study, the following variables could be considered as delimitations; the date of dispersal for the emails as they were sent out during a time that was nearing the Christmas holidays; this may have affected the availability of time for the CTRS to respond. Length and language used in the survey tool. The fact that the survey was an online tool may have decreased the response rate versus a higher response rate if the survey tool was sent via postal mail or done by phone.

CHAPTER FOUR

RESULTS

This study was an observational study about the use of EBP by CTRS in the intervention planning process for client treatment. The study included a total of 500 surveys which were emailed by the NCTRC to randomly selected Certified Therapeutic Recreation Specialists generated from the NRPA's southern district region. Of those, 102 were completed, which yielded a 20.4% response rate. One follow up email reminder was sent one week after the initial email from the NCTRC. The first email sent out by the NCTRC was on December 2nd 2010. The follow up email was sent on December 10th 2010 (please refer to Appendix A for the email).

Of the 102 responses, 101 (20.2% of the 500 people who received the survey) were characterized as "currently employed" and therefore usable data. All 101 participants met the criteria of being a Certified Therapeutic Recreation Specialist currently employed as a CTRS in the Southern District of the NRPA. One participant's response did not meet the criteria and was deleted from the data analysis.

The RTEBPS survey tool was made up of 23 questions related to EBP for recreation therapy. The first question asked if the respondents were currently employed as a Certified Therapeutic Recreation Specialist (CTRS). As mentioned earlier, 101 participants answered "Yes". On question two, participants specified their current earned educational qualifications. Of the 101 participants currently employed as a CTRS, 65.4% have an earned Bachelor of Science in either Recreation Therapy or Therapeutic Recreation. Table 1, on the following page, presents a detailed summary of the different academic degrees of respondents.

TABLE 1: Degree Type of CTRS	
Degree	Percent
BS in RT/TR	65.4%
Entry Level MS in RT/TR	10.9%
Advanced MS in RT/TR	6.9%
Doctorate	5.9%
BS in RT/TR and Masters in Related Field	5.0%
Other	5.9%

Participants specified on question three how many years they have been practicing as a Certified Therapeutic Recreation Specialist. The data revealed that 54.5% of the participants have at least 10 years or more of experience working as a CTRS. Table 2 provides a summary of the different responses.

TABLE 2: Years of Experience of CTRS	
Years	Percent
0 – 2.9	18.8%
3 – 4.9	9.9%
5 – 9.9	16.8%
10 – 14.9	18.8%
15 – 19.9	12.9%
20+	22.8%

On question four, participants specified in which type of setting they currently practice. For this question, the participant could choose more than one response. The data revealed that 31.7% of the participants were employed in a psychiatric setting, 20.8% in a rehabilitation setting, and 19.8% in a geriatrics setting. While the participants could choose more than one response, there were 66.3% who chose only one setting. However, 19.8% of the participants chose two settings, 6.9% chose three, 5.9% chose four, and 1% chose five settings.

There were 33.7% of the participants who chose the “other” category as one of their settings. These responses included community based centers, day care centers, special needs camps, long-term care facilities, children’s hospitals, military settings, government facilities, parks and recreation facilities, continuing care retirement centers, outpatient oncology centers, teaching institutions, hospital-based hospice/palliative care centers, medical centers, hospital settings, residential mental health facilities, adolescents’ facilities, national non-profit healthcare organizations, non-profit recreation programs for wounded soldiers, short/long term rehabilitation/care centers, RT consultant programs, and day treatment programs. A summary of the different work settings of participants is shown in Table 3.

TABLE 3: Practice Settings of CTRS

Setting	Percent	Setting	Percent
Psychiatric	31.7%	Acute Care	6.9%
Rehabilitation	20.8%	Academics	5.0%
Geriatrics	19.8%	Home Care	2.0%
Inpatient Care	13.9%	School-based	1.0%
Skilled Nursing	11.9%	Private Practice	0.0%
Outpatient Care	8.9%	Other	33.7%

On question five, participants were allowed to choose more than one response on what type of clients they generally work with at their employment setting. Geriatrics (36.6%) and psychiatrics (35.6%) were found to be the most prevalent type of client groups of the participating CTRS. Seven (6.9%) of the respondents who selected “Other” indicated that they worked with patients who had some type of brain injury (TBI and CVA). There was no other pattern in the “Other” responses. A summary of the different types of clients treated is shown in Table 4 on the following page.

TABLE 4: Type of Clients Treated			
Client Group	Percent	Client Group	Percent
Geriatrics	36.6%	Veterans	14.9%
Psychiatrics	35.6%	Pediatrics	12.9%
Multiple Populations	31.7%	Orthopedics	9.9%
At Risk Teens	14.9%	Other	22.8%

On question six, participants responded to how often they sought out research related to their clinical practice and evidence to validate their practice. In the RTEBPS tool, the term research was defined as a careful and systematic means of solving problems and involves the following five characteristics: systematic, logical, empirical, reductive, and replicable.

Almost all of the CTRS (92.1%) seek out research related to their clinical practice and evidence to validate it at least some of the time. In particular, 39.6% of CTRS sought out research related to their clinical practice and evidence to validate it 25% of the time, while 24.7% of the CTRS sought out research related to their clinical practice and evidence to validate it 50% of the time, and 27.7% do this 75% of the time or always. Figure 1, on the following page, provides a summary of the frequency of research use and validation of respondents.

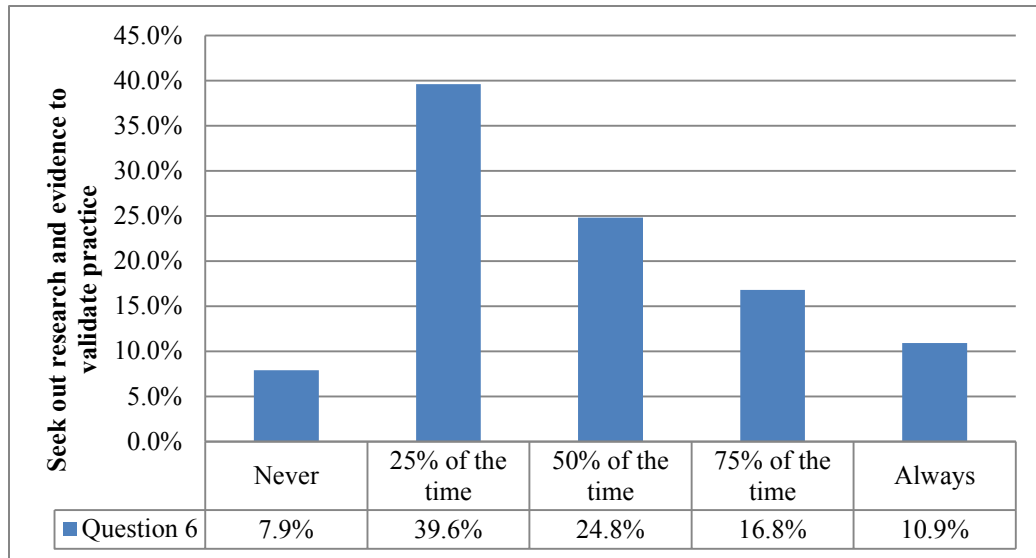


Figure 1: Seek out research and evidence to validate practice.

On question seven, participants responded to how often they apply research results to their clinical practice. A large majority of the CTRS (89.1%) apply research results to their clinical practice at least some of the time. In particular, 35.6% of the participants apply research results to their clinical practice 25% of the time, 21.8% apply research results 50% of the time, and 31.7% do this 75% of the time or always. Figure 2 provides a summary of the responses.

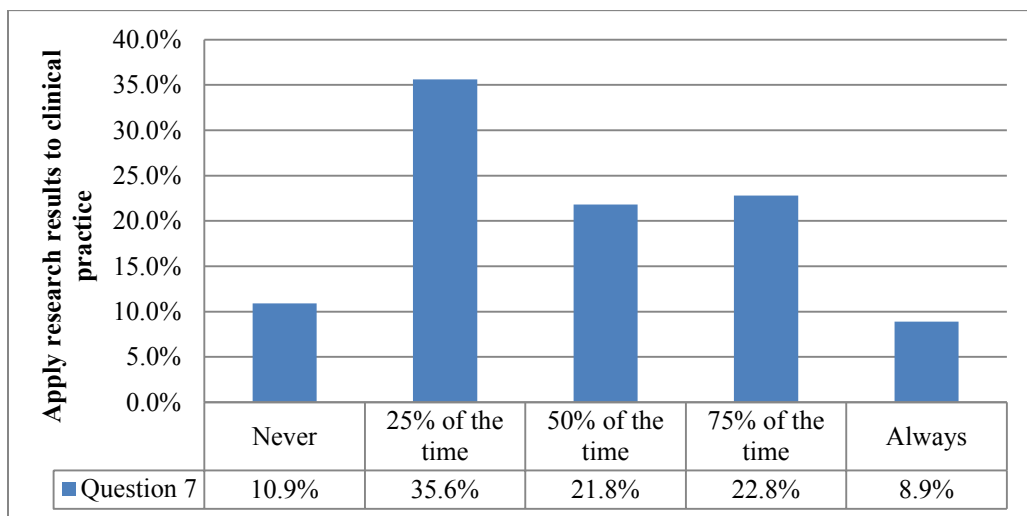


Figure 2: Apply research results to clinical practice

On question eight, participants responded to how often they used research to assist in developing recreation therapy intervention plans for their clients. Almost all (91.1%) of the CTRS used research in developing intervention plans at least some of the time. This includes 33.7% who used research in developing intervention plans 75% of the time or always. Figure 3 provides a summary of the responses.

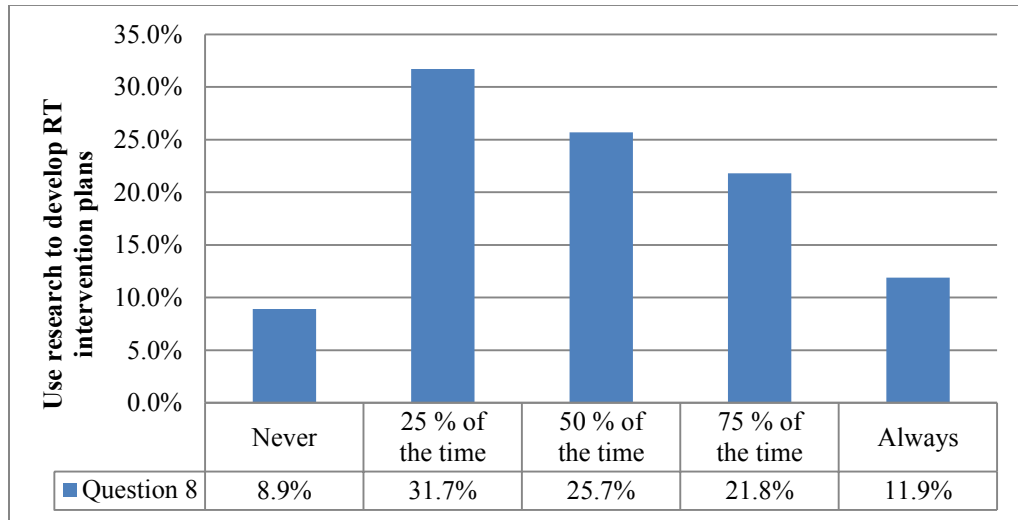


Figure 3: Use research to develop RT intervention plans

On question nine, participants responded to how often their clinical decisions are based on research evidence. A large majority (89.1%) of the CTRS responded that their clinical decisions are based on research evidence at least some of the time. This includes 25.7% who responded that their clinical decisions are based on research evidence 75% of the time or always. Figure 4 on the following page, contains a detailed summary for the responses.

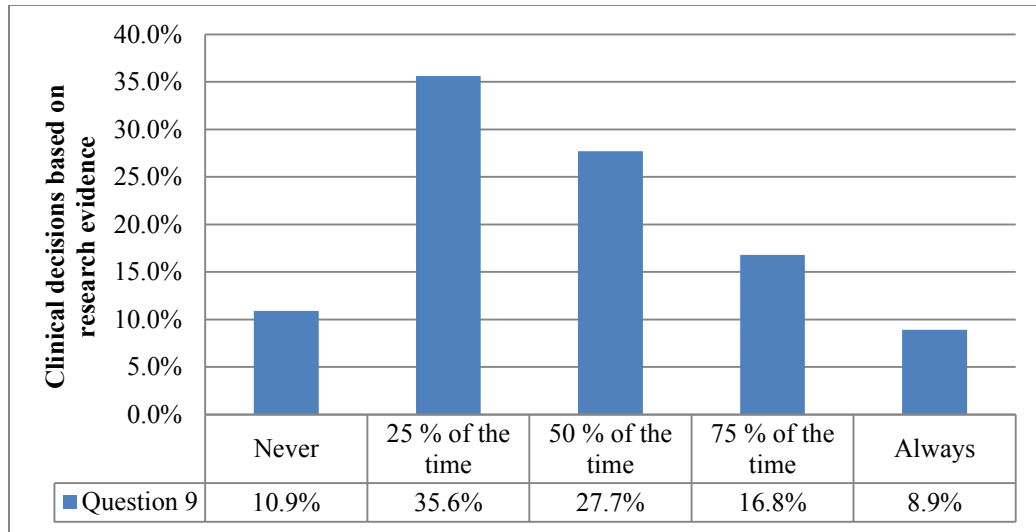


Figure 4: Clinical decisions based on research evidence

On question 10, participants' responded to how often research was conducted at their clinical site. A majority (58.4%) of the respondents said that research was never or rarely conducted at their clinical site. Figure 5 provides a summary of the responses.

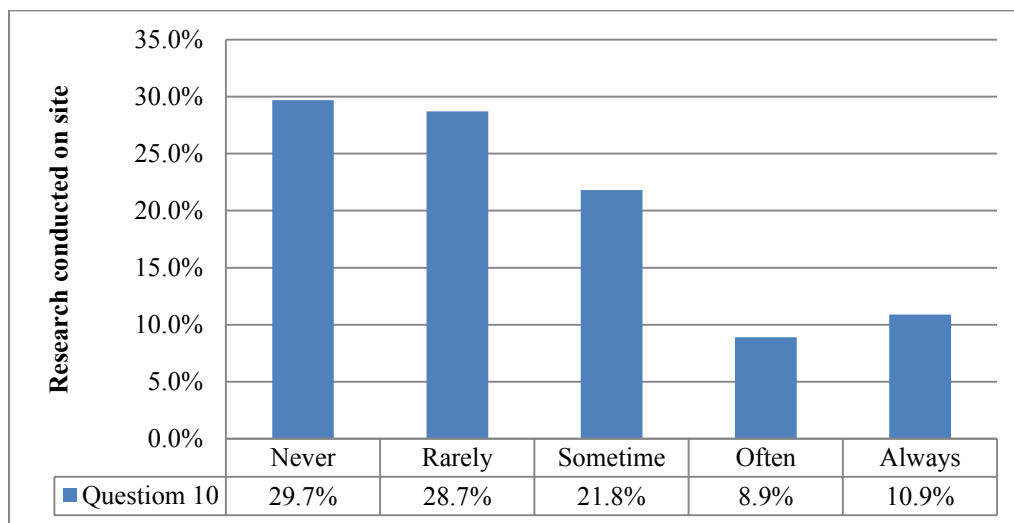


Figure 5: Research conducted on site

On question 11, participants responded to how often they have time to read about research while working. Almost half (47.5%) of the respondents said that they never or rarely have time to read about research while working. Figure 6, on the following page provides a summary of the responses.

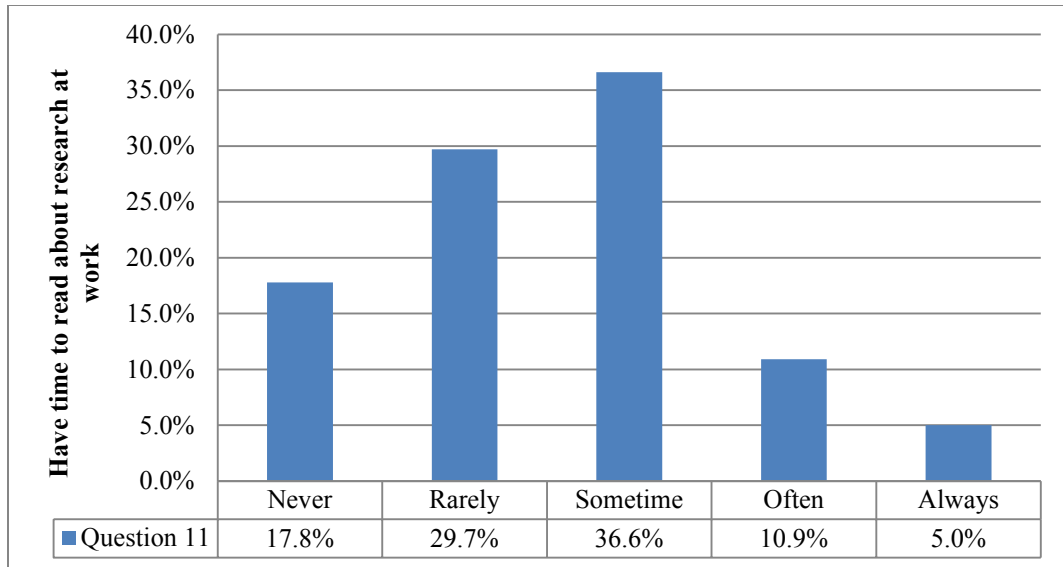


Figure 6: Have time to read about research at work

On question 12, participants responded to how often they have access to research findings and materials at their work place. Approximately one-third (36.6%) of the respondents never or rarely have access to research materials at their work place. Figure 7 provides a summary of the responses.

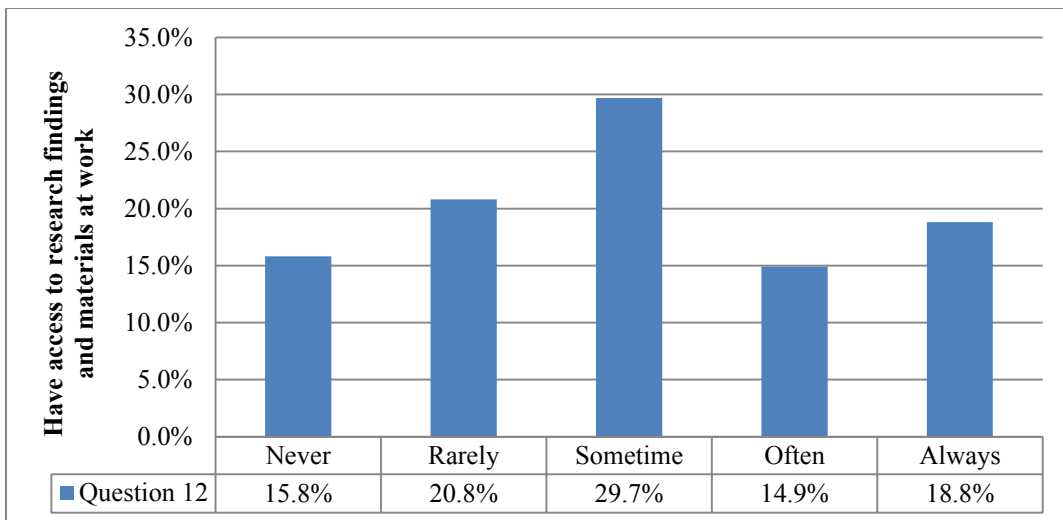


Figure 7: Have access to research findings and materials at work

On question 13, participants responded to if there was anyone within the Recreation Therapy Department/Unit within the agency conducting research. Only 19.8% of the participants responded that research was being conducted by someone. Ten

respondents (9.9%) said the reason no one was conducting research was because they were the only recreational therapist, and nine respondents (8.9%) said it was because they did not have time. Figure 8 provides a summary of the different responses.

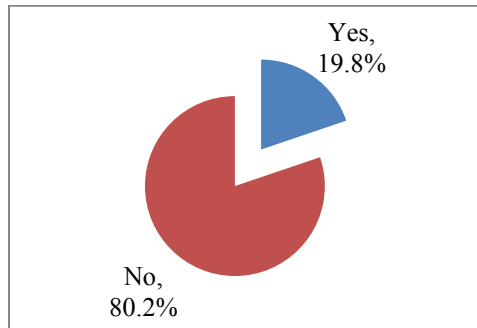


Figure 8: Research conducted within agency

On question 14, participants responded to how often reimbursement administrators are demanding use of research evidence to validate recreation therapy intervention plans. A majority (65.3%) of the participants said that reimbursement administrators never or rarely demand use of research evidence to validate recreation therapy intervention plans. Figure 9 provides a summary of the different responses.

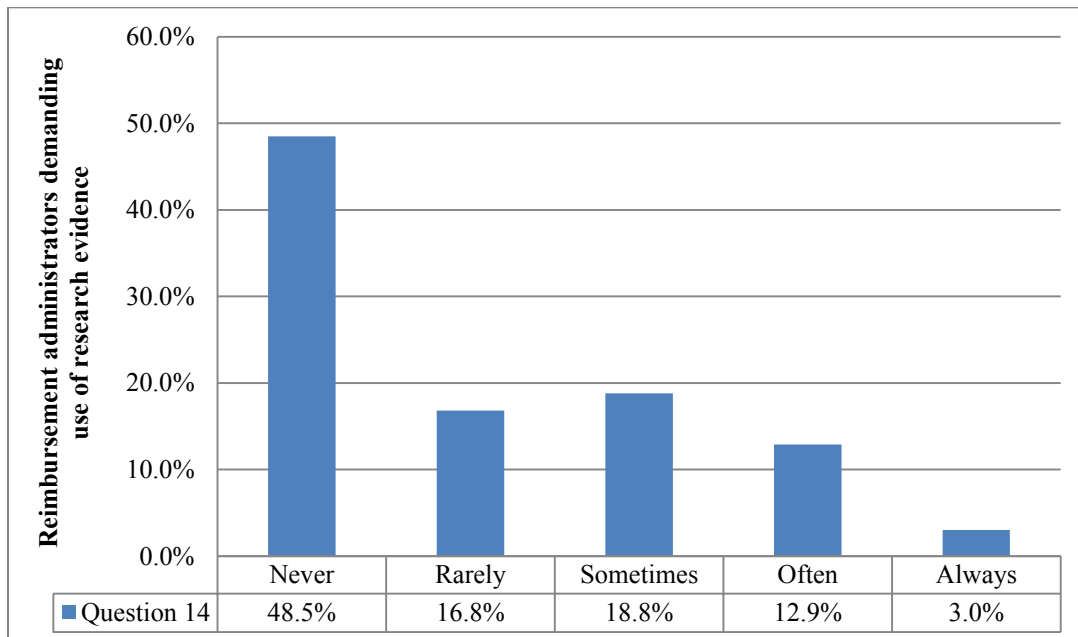


Figure 9: Reimbursement administrators demanding use of research evidence

On question 15, participants responded to if research helps to build a scientific basis for recreation therapy practice. Almost all (91.1%) of the respondents, agree or somewhat agree that research helps to build a scientific basis for recreation therapy practice. Figure 10 provides a summary of the responses.

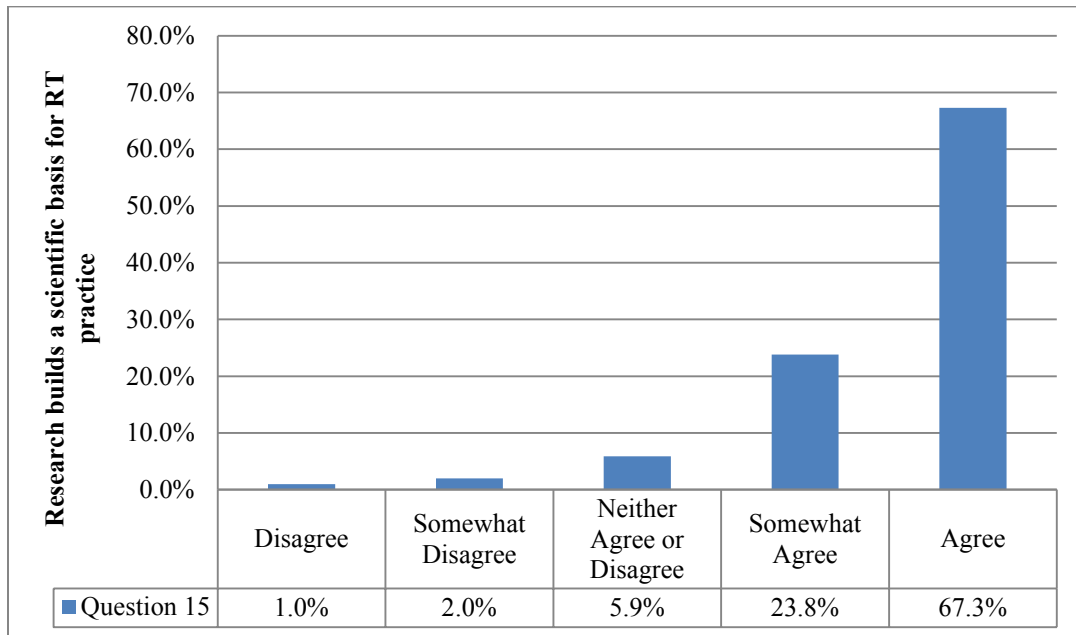


Figure 10: Research builds a scientific basis for RT practice

On question 16, participants responded to how often the recreation therapy interventions they personally use are based on evidence-based practice. Furthermore, the term evidence-based practice was defined as the selection of best available treatments for which there is some evidence of efficacy; evidence must be gathered through well designed and meaningful research efforts with client groups and be applicable to daily practice. Almost all of the CTRS (95.0%) use recreation therapy interventions based on evidence-based practice at least some of the time. In particular, 33.7% of the CTRS use recreation therapy interventions based on evidence-based practice 50% of the time, and 45.6% use them 75% of the time or always. Figure 11 on the following page provides a summary of the responses.

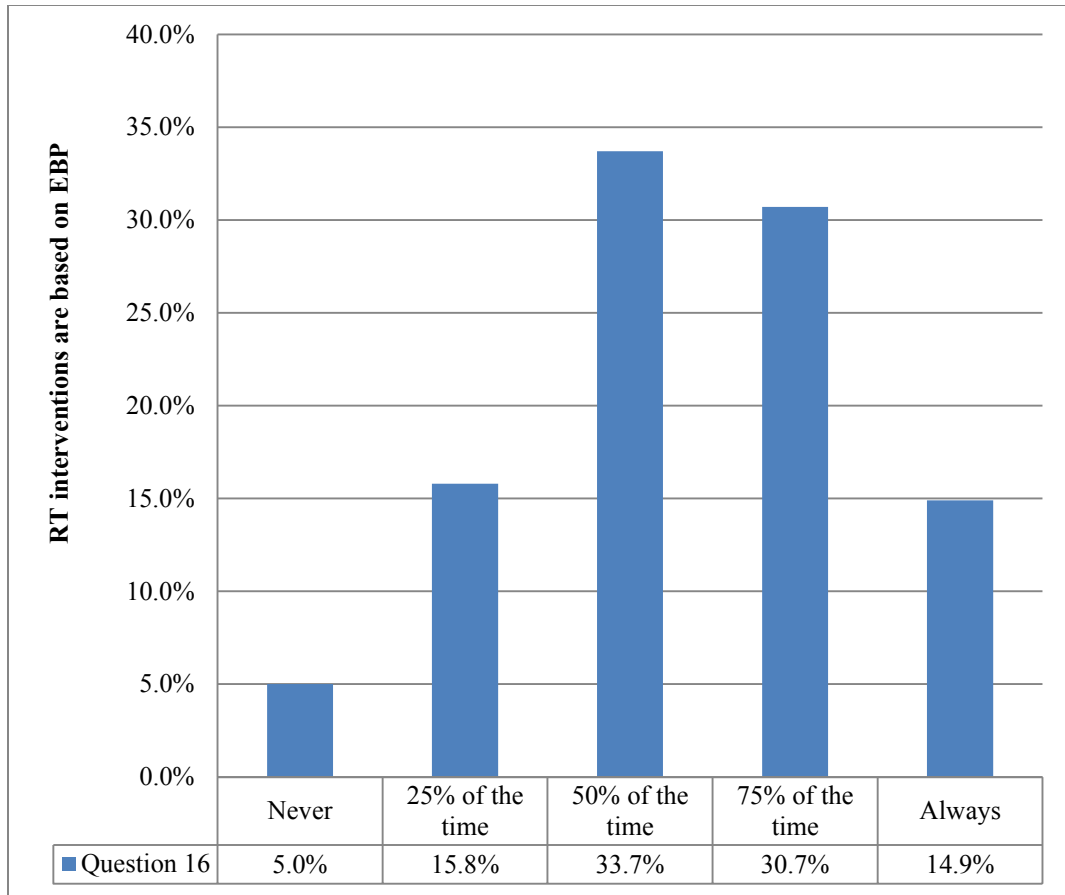


Figure 11: RT interventions are based on EBP

On question 17, participants responded to if they find it difficult to locate recreation therapy interventions that are based on evidence-based practice. Approximately one-third (36.6%) neither agree nor disagree that they find it difficult, while 42.6% somewhat agree or agree that they find it difficult to locate recreation therapy interventions that are based on evidence-based practice. Figure 12, on the following page; provides a comparison of the responses.

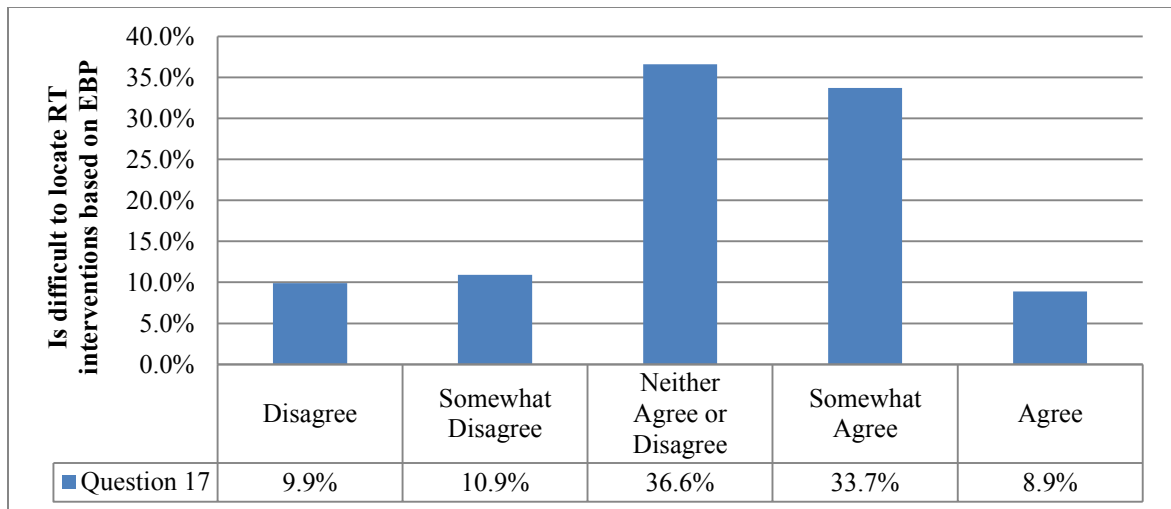


Figure 12: Is difficult to locate RT interventions based on EBP

On question 18, participants specified the mind-body health (recreation therapy) interventions they use with their clients. Participants were able to choose more than one response. Humor was specified by almost three-fourths (73.3%) of the participants. Table 5 provides a detailed summary of the responses.

TABLE 5: Mind-Body Health Interventions			
Intervention	Percentage	Intervention	Percentage
Humor	73.3%	Meditation	20.8%
Breathing	61.4%	Yoga	20.8%
Relaxation Training	56.4%	Medical Play	17.8%
Sensory Stimulation	51.5%	Tai Chi	13.9%
Guided Imagery	40.6%	Massage	11.9%
Aromatherapy	26.7%	Other	10.9%

On question 19, participants specified the physical-activity (recreation therapy) interventions that they use with their clients. Participants were able to choose more than one response. Exercise was listed by almost all (92.1%) of the participants. Table 6 on the following page provides a summary of responses.

Table 6: Physical-Activity Interventions	
Intervention	Percent
Exercise	92.1%
Sports	58.4%
Aquatics	33.7%
Other	10.9%

On question 20, participants specified which creative-expressive (recreation therapy) interventions they use with their clients. Participants were able to choose more than one response. Arts and Crafts were listed by almost all (90.1%) of the participants.

Table 7 provides a summary of responses

Table 7: Creative-Expressive Interventions	
Intervention	Percent
Arts and Crafts	90.1%
Music	77.2%
Visual Arts	45.5%
Dance/Movement	43.6%
Storytelling	36.6%
Drama	18.8%
Other	3.0%

On question 21, participants specified which self-discovery/self-expression (recreation therapy) interventions they use with their clients. The participants were able to choose more than one response. Social skills was selected by three-fourths (75.2%) of the participants. Table 8 provides a summary of the responses.

Table 8: Self-Discovery/Self-Expression			
Intervention	Percentage	Intervention	Percentage
Social Skills	75.2%	Remotivation	38.6%
Reminiscence/ Life Review	55.4%	Assertiveness Training	37.6%
Resocialization	51.5%	Values Clarification	31.7%
Reality Orientation	50.5%	Adventure Therapy	23.8%
Anger Management	48.5%	Bibliotherapy	13.9%
Journaling	39.6%	Other	5.9%

On question 22, participants specified which of the following nature-based (recreation therapy) interventions they use with their clients. The participant was able to choose more than one response. Table 9 provides a summary of the responses given.

Table 9: Nature-Based	
Intervention	Percent
Animal Assisted Therapy	68.3%
Horticulture	60.4%
Other	5.0%

On question 23, participants specified which of the following education-based (recreation therapy) interventions they use with their clients. The participant was able to choose more than one response. Table 10 provides a summary of the responses.

Table 10: Education Based	
Intervention	Percent
Leisure Education	87.1%
Community Reintegration	60.4%
Family/Caregiver Education	44.6%
Assisted Technology Training	22.8%
Other	5.0%

Summary of findings

There are two research questions asked in this thesis. They are:

- Do Certified Therapeutic Recreation Specialists, who are currently employed in the southern district of the U.S, use evidence-based practice in the intervention planning process of client treatment? In particular, estimate, within a margin of error of 5%, the proportion of Certified Therapeutic Recreation Specialists who use EBP.
- Does the use of EBP among Certified Therapeutic Recreation Specialists differ based on employment setting?

The corresponding research hypotheses are:

- Less than 50% of CTRS, who are currently employed in the NRPA southern district of the U.S., use evidence-based practice in intervention selection process for treatment.
- Use of EBP among CTRS will differ for different employment settings.

The first research question is answered by looking at the responses to questions 6, 7, 8, 9, and 16. Table 11 contains the values of the 95% confidence interval for the proportion of all CTRS who use EBP at least some of the time as asked by each of these five questions. With 95% confidence for each statement, between 87% and 97% of all CTRS seek out research related to their clinical practice and evidence to validate their practice, between 83% and 95% of all CTRS apply research results to their clinical practice, between 86% and 97% of all CTRS use research to assist in developing recreation therapy intervention plans for their client, between 83% and 95% of all CTRS make clinical decisions based on research evidence, and between 91% and 99% of all CTRS use RT interventions based on EBP, at least some of the time. Clearly, a large majority of CTRS are using research results and EBP in their work at least some of the time.

The research (or alternative) hypothesis is that less than 50% use EBP in intervention selection at least some of the time, as asked in various ways by questions 6, 7, 8, 9, and 16. Performing the one-sided one-sample hypothesis test for proportions (Agresti & Findlay, 2009) yields a *P*-value of 1.000 for each test. The corresponding values of the test statistic *Z* are listed in Table 11. At the 5% significance level for each question, there is not enough evidence to conclude that less than 50% of all CTRS currently employed in

the NRPA southern district use EBP in intervention selection at least some of the time, as asked in various ways by questions 6, 7, 8, 9, and 16.

Table 11: Proportion who use EBP at least some of the time			
Question	95% Confidence Interval	Z	P-value
6. I seek out research related to my clinical practice and evidence to validate my practice.	(.868, .973)	8.46	1.000
7. I apply research results to my clinical practice.	(.830, .952)	7.86	1.000
8. I use research to assist in developing recreation therapy intervention plans for my clients.	(.855, .966)	8.26	1.000
9. My clinical decisions are based on research evidence.	(.830, .952)	7.86	1.000
16. The recreation therapy interventions I use are based on evidence-based practice.	(.908, .993)	9.05	1.000

* Significant at a significance level of .05.

The second research question is that the use of EBP among CTRS will differ for different employment settings. To answer this question, the responses to question 4, “What type of setting do you currently practice in?” and the responses to question 16, “The recreation therapy interventions I use are based on evidence-based practice” were compared. The results are given in Table 12. Respondents could choose more than one setting that they practiced in. The number of respondents who chose each setting is listed in the sample size column. Three settings were not included in the table (home care, school-based, and private practice) since there were fewer than five respondents in each of these settings.

The five respondents who work in an academic setting all use interventions based on EBP at least 50% of the time. A large proportion (87.6%) of the 32 respondents who work in a psychiatric setting use interventions based on EBP at least 50% of the time, as well as 88.8% of the 9 respondents who work in outpatient care, and 85.7% of the 7 respondents who work in acute care. In contrast, the 21 respondents who work in a

rehabilitation setting were less likely to use interventions based on EBP, with no one always using them and 14.3% never using them.

Table 12: RT Interventions used are based on EBP						
Setting	Sample size	Never	25% of the time	50% of the time	75% of the time	Always
Psychiatric	32	3.1%	9.4%	43.8%	31.3%	12.5%
Rehabilitation	21	14.3%	23.8%	38.1%	23.8%	0.0%
Geriatrics	20	5.0%	25.0%	35.0%	30.0%	5.0%
Inpatient Care	14	7.1%	21.4%	35.7%	28.6%	7.1%
Skilled Nursing	12	0.0%	25.0%	41.7%	25.0%	8.3%
Outpatient Care	9	0.0%	11.1%	22.2%	44.4%	22.2%
Acute Care	7	0.0%	14.3%	71.4%	14.3%	0.0%
Academics	5	0.0%	0.0%	20.0%	40.0%	40.0%

In addition to the research hypotheses, several other questions were considered. To compare the type of setting the CTRS practices in and the type of interventions they use, the responses to question 4 and the responses to questions 18 to 23 were compared. The results are given in Table 13. For each setting, the proportion of respondents who use at least one of the interventions (excluding other) listed in question 18 (mind-body health), 19 (physical-activity), 20 (creative-expressive), 21 (self-discovery/self-expression), 22 (nature-based), and 23 (education based) was calculated. Three settings were not included in the table (home care, school-based, and private practice) since there were fewer than five respondents in each of these settings.

Except for the five respondents who work in an academic setting, the six types of interventions are individually used by at least 75% of the respondents for the remaining settings. The type of intervention that is used by almost all of the respondents is

education-based interventions (assisted technology training, community reintegration, family/caregiver education, and leisure education). There was only one respondent (who works in an academic setting) who does not use education-based interventions. The prevalence of the use of this intervention is not surprising because it possibly requires the least amount of personnel and is readily available for any type of client. The type of intervention that is used by the fewest number of respondents is nature-based. However, it is still used by most of the respondents, including all of the respondents in rehabilitation, geriatrics, and acute care.

All of the respondents who work in the acute care setting use each of the six types of interventions. In acute care, a variety of interventions are typically used to meet the diverse needs of the client. Of the 20 respondents who work in geriatrics, all use mind-body, creative-expressive, self-discovery/self-expression, nature-based, and education based interventions, while all but one uses physical-activity interventions. In geriatric settings, a variety of interventions are used and required by regulations (i.e. long term care). However, the only type of intervention used by all of the five respondents in academics is physical-activity. Only 60% of these respondents use nature-based interventions and only 60% use mind-body health. Table 13, on the following page; provides a summary.

Table 13: Interventions used by CTRS							
Type of Intervention							
Setting	Sample size	Mind-Body Health	Physical-Activity	Creative-Expressive	Self-Discovery/Self-Expression	Nature-Based	Education Based
Psychiatric	32	100.0%	96.9%	100.0%	100.0%	81.3%	100.0%
Rehabilitation	21	95.2%	100.0%	90.5%	95.2%	100.0%	100.0%
Geriatrics	20	100.0%	95.0%	100.0%	100.0%	100.0%	100.0%
Inpatient Care	14	92.9%	100.0%	92.9%	92.9%	92.9%	100.0%
Skilled Nursing	12	100.0%	91.7%	100.0%	100.0%	91.7%	100.0%
Outpatient Care	9	88.9%	100.0%	100.0%	100.0%	77.8%	100.0%
Acute Care	7	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Academics	5	60.0%	100.0%	80.0%	80.0%	60.0%	80.0%

To determine if the highest degree earned by all CTRS is related to their use of EBP, chi-square tests for independence (Agresti & Findlay, 2009) were performed and an exact *P*-value was calculated. The degree earned was given as the answer to question 2 of the RTEBPS survey, and the use of EBP was addressed by questions 6, 7, 8, 9, and 16. In order to get reliable *P*-values, it was necessary to combine the highest degree earned to two categories and delete the five respondents whose degree earned was other. The two categories that were used were “BS in RT/TR”, and “Masters or Doctorate” which included respondents who indicated that their degree earned was 'Entry level MS in RT/TR', 'Advanced MS in RT/TR', 'BS in RT/TR and Masters in Related Field', or 'Doctorate'. The results of the exact chi-square test for independence are given in Table 14 on the following page.

Table 14: Relationship with earned degree		
Question	Chi-square	P-value
6. I seek out research related to my clinical practice and evidence to validate my practice.	14.56	.0048 *
7. I apply research results to my clinical practice.	15.82	.0027 *
8. I use research to assist in developing recreation therapy intervention plans for my clients.	9.07	.0577
9. My clinical decisions are based on research evidence.	6.98	.1375
16. The recreation therapy interventions I use are based on evidence-based practice.	3.10	.5691

* Significant at a significance level of .05.

There is a statistically significant relationship between the highest degree earned and the use of EBP as measured by questions 6 and 7. CTRS with a BS in RT/TR are less likely to seek out research to validate their practice than CTRS with a Masters or Doctorate. In the survey results, 12.1% of the respondents who have a BS in RT/TR never seek out research to validate their practice and only 3.0% always seek out research. For the respondents who have a Masters or Doctorate, 0% never seek out research while 24.1% always seek out research. The percentages who seek out research either 25% of the time or 50% of the time are approximately the same for both education groups. Twice as many (21.2%) of the respondents with a BS degree seek out research 75% of the time, compared to 10.3% of the respondents with a Masters or Doctorate. These results are given in Table 15.

Table 15: Seek out research to validate my practice					
Degree	Never	25% of the time	50% of the time	75% of the time	Always
BS in RT/TR	12.1%	40.9%	22.7%	21.2%	3.0%
Masters or Doctorate	0.0%	37.9%	27.6%	10.3%	24.1%

CTRS with a BS in RT/TR are less likely to apply research results to their clinical practice than CTRS with a Masters or Doctorate. In the survey results, 16.7% of the

respondents who have a BS in RT/TR never apply research results to their clinical practice and only 3.0% always apply research results. For the respondents who have a Masters or Doctorate, 0% never apply research results while 20.7% always apply research results. The percentages who apply research results 50% of the time are approximately the same for both education groups. These results are given in Table 16.

Table 16: Apply research results to my clinical practice					
Degree	Never	25% of the time	50% of the time	75% of the time	Always
BS in RT/TR	16.7%	33.3%	19.7%	27.3%	3.0%
Masters or Doctorate	0.0%	44.8%	24.1%	10.3%	20.7%

To determine if the number of years of experience as a CTRS is related to the use of EBP, chi-square tests for independence (Agresti & Findlay, 2009) were performed and an exact *P*-value was calculated. The number of years of experience as a CTRS was given as the answer to question 3 of the RTEBPS survey, and the use of EBP was addressed by questions 6, 7, 8, 9, and 16. In order to get reliable *P*-values, it was necessary to combine the participants into three categories (less than 5 years, 5 years to less than 15 years, and 15 years or more) based on their amount of experience. The results of the exact chi-square test for independence are given in Table 17 on the following page. There were no statistically significant relationships (at a significance level of .05) between the number of years of experience as a CTRS and the use of EBP (as measured by questions 6, 7, 8, 9, and 16).

Table 17: Relationship with years of experience		
Question	Chi-square	P-value
6. I seek out research related to my clinical practice and evidence to validate my practice.	14.10	.0764
7. I apply research results to my clinical practice.	8.89	.3516
8. I use research to assist in developing recreation therapy intervention plans for my clients.	9.13	.3408
9. My clinical decisions are based on research evidence.	11.62	.1700
16. The recreation therapy interventions I use are based on evidence-based practice.	4.20	.8550

* Significant at a significance level of .05.

To determine if the use of specific types of interventions is related to the use of EBP, chi-square tests for independence (Agresti & Findlay, 2009) were performed and an exact *P*-value was calculated. The use of EBP was addressed by question 16 which stated “The recreation therapy interventions I use are based on evidence-based practice. The types of interventions used were determined by the answers to question 18 (mind-body health), 19 (physical-activity), 20 (creative-expressive), 21 (self-discovery/self-expression), 22 (nature-based), and 23 (education based) where “yes” was recorded if the respondent used one of the interventions listed for the particular question (excluding other). Since a large proportion of all respondents used the six types of intervention, in order to get reliable *P*-values, the exact chi-square test was used. The results of the exact chi-square test for independence are given in Table 18 on the following page.

Table 18: Relationship of EBP use with type of intervention		
Question	Chi-square	P-value
18. I use the following Mind-body health (recreation therapy) interventions with my clients: Aromatherapy, Breathing, Guided imagery, Humor, Medical play, Meditation, Massage, Relaxation training, Sensory stimulation, Tai chi, Yoga	14.12	.0067*
19. I use the following Physical-activity (recreation therapy) interventions with my clients: Aquatics, Exercise, Sports	2.69	.7913
20. I use the following Creative-expressive (recreation therapy) interventions with my clients: Arts and crafts, Music, Dance/movement, Drama, Storytelling, Visual arts	8.95	.0525
21. I use the following Self-discovery/self-expression (recreation therapy) interventions with my clients: Adventure therapy, Bibliotherapy, Journaling, Reminiscence/life review, Values clarification, Social skill interventions, Assertiveness training, Anger management, Resocialization, Remotivation, Reality orientation	7.28	.1110
22. I use the following Nature-based (recreation therapy) interventions with my clients: Animal-assisted therapy, Horticulture	12.11	.0170*
23. I use the following Education-based (recreation therapy) interventions with my clients: Assisted technology training, Community reintegration, Family/caregiver education, Leisure education	7.28	.1110

* Significant at a significance level of .05.

There is a statistically significant relationship between the use of EBP and whether or not the CTRS use mind-body health interventions. In the survey results, only 80% of the respondents who never use EBP, use mind-body health interventions and only 73.3% of the respondents who always use EBP, use mind-body health interventions. However, all of the respondents who use EBP 25% of the time or 50% of the time use mind-body health interventions. These results are given in Table 19.

Table 19: Use Mind-body health interventions		
RT interventions used are based on EBP	Yes	No
Never	80.0%	20.0%
25% of the time	100.0%	0.0%
50% of the time	100.0%	0.0%
75% of the time	93.6%	6.5%
Always	73.3%	26.7%

There is also a statistically significant relationship between the use of EBP and whether or not the CTRS use nature-based interventions. CTRS who use EBP more often are less likely to use nature-based interventions. In the survey results, all of the respondents who never use EBP or who use EBP 25% of the time, use nature-based interventions, while 88.2% who use EBP 50% of the time, 87.1% who use EBP 75% of the time, and only 60% who always use EBP, use nature-based interventions. These results are given in Table 20.

Table 20: Use Nature-based interventions		
RT interventions used are based on EBP	Yes	No
Never	100.0%	0.0%
25% of the time	100.0%	0.0%
50% of the time	88.2%	11.8%
75% of the time	87.1%	12.9%
Always	60.0%	40.0%

CHAPTER FIVE

DISCUSSION

Conclusion

The researcher investigated the use of EBP by CTRS in the intervention planning process for client treatment. As discussed in Chapter One, the issue of paucity in research examining whether EBP is being used by the Certified Therapeutic Recreation Specialist (CTRS) was presented. This study was able to successfully determine the prevalence of EBP utilization by the CTRS in the intervention planning process. Two specific research questions were stated and able to be efficaciously answered. *Research Questions:*

- Do Certified Therapeutic Recreation Specialists, who are currently employed in the southern district of the U.S, use evidence-based practice in the intervention planning process of client treatment? In particular, estimate, within a margin of error of 5%, the proportion of Certified Therapeutic Recreation Specialists who use EBP.
- Does the use of EBP among Certified Therapeutic Recreation Specialists differ based on employment setting?

Demographically, the majority (65%) of employed CTRSs had a Bachelor of Science degree and the majority (55%) had at least 10 years or more of experience working as a CTRS. The most prevalent work settings were psychiatric setting, rehabilitation, and geriatrics while the most common types of clients treated were geriatrics, psychiatrics, and multiple populations.

In the study, 91% of the CTRS agree or somewhat agree that research helps build a scientific basis for RT practice. However, 58% said that research is never or rarely

conducted at their research site, 48% said that they never or rarely have time to read about research while working, and only 34% said they often or always have access to research materials at their work place. The CTRS understands that research is an important component for the RT practice; therefore CTRS need to make it a professional priority to conduct research.

In the study, the CTRS has indicated that 65.3% of reimbursement administrators never or rarely demand use of research evidence to validate RT intervention plans. In order for recreation therapy to become an integral therapy component of the treatment plan, RT must use reliable and valid interventions in order to become a reimbursable service for clients.

Ninety-two percent (with a margin of error of 5%) of the CTRS did seek out research related to their clinical practice and evidence to validate at least some of the time. Eighty-nine percent (with a margin of error of 6%) of the CTRS applied research results to clinical practice. Ninety-one percent (with a margin of error of 6%) use research to assist in developing RT intervention plans. Eighty-nine percent (with a margin of error of 6%) base their clinical decisions on research evidence, and 95% (with a margin of error of 4%) use RT interventions based on EBT. In testing the first research hypothesis, there was not enough evidence to conclude that less than 50% of all CTRS currently employed in the NRPA southern district use EBP in the intervention selection at least some of the time.

Clearly EBP is used at least some of the time by CTRS much more than hypothesized in this thesis. However, this survey indicates that EBP is not being used by most CTRS a majority of the time. In particular, only 27.7% of the respondents seek out

research related to their clinical practice and evidence to validate it 75% of the time or always, 31.7% apply research results to clinical practice 75% of the time or always, 33.7% use research to assist in developing RT intervention plans 75% of the time or always, 25.7% base their clinical decisions on research evidence 75% of the time or always, and 45.6% use RT interventions based on EBT 75% of the time or always. The goal of the RT profession should be to increase the use of research results and EBP so that all practicing CTRS are using them almost all of the time.

At the present time there is evidence that in the fields of nursing {Estabrooks, Kenny, Adewale, Cummings & Mallidou (2007); Squires, Moralejo & Lefort (2007); McCleary & Brown (2002); Bostrom, Kajermo, Nordstrom, & Wallin (2009)} and physical therapy {Parker (2000); Whitman, Flynn, & Fritz (2003)} EBP has been documented for its use.

Furthermore, progress in adopting EBP has been made in a number of other health care professions including: audiology, health education and promotion, nursing, physician assisting, and respiratory care (Tweed, E., Sauers, E., McLeod, T., Guo, R., Trahan, H., Alpi, K., et al., 2007). Consequently, it is imperative that the profession of RT replicate a similar movement.

The second research question on the use of EBP among CTRS in different employment settings is partially met with psychiatric setting, outpatient care and acute care using EBP more prevalently and rehabilitation less prevalently. A possible explanation is the possible co-treating with other disciplines in psychiatric, outpatient and acute care. The disciplines are typically focused on the overall patient and the best treatment possible in order to expedite the services for discharge.

There is a statistically significant relationship between the highest degree earned and the use of EBP. A CTRS with a bachelor degree is less likely to seek out research to validate their practice and is less likely to apply research results to their practice, thereby giving justification to the need for further education to validate practice of the CTRS for the employment setting. There was no statistically significant relationship between the number of years of experience as a CTRS and the use of EBP.

There is a statistically significant relationship between the use of EBP and whether or not the CTRS use mind-body health interventions with a smaller proportion of CTRS who never use EBP or who always use EBP using mind-body health interventions than the CTRS who use EBP 25%, 50%, or 75% of the time. A possible explanation for this result is all CTRS have gained some benefit using mind-body health interventions with their client. Mind-body health intervention is then included as an intervention in the CTRS practice. There is also a statistically significant relationship between the use of EBP and whether or not the CTRS use nature-based interventions. In particular, CTRS who use EBP more often are less likely to use nature-based interventions. A possible explanation is that the CTRS may not know how to incorporate nature-based interventions in the treatment of a client or the client does not express an interest in nature-based interventions.

Implications for future research

The study identified the potential need for improving or providing more in depth education classes or access to material at work for the purpose of delivery of the interventions. The research also identified the continual need to be a reimbursable service based upon 65.3% of the CTRS never or rarely having reimbursement administrators

demand use of research evidence to validate RT intervention plans. Last, the research identified the need for CTRS to perform evidence based research to propel the profession forward alongside other disciplines as indicated by 42.6% of CTRS somewhat agree or agree they find it difficult to locate RT interventions based upon evidence.

The recreation therapy profession has taken steps forward, but will need to continue to base services on proven results. McCluskey and Lovarnin (2005) addressed the need for health care professionals to change for EBP to occur. Consequently, the next step for the profession could be to ensure that all practicing CTRS hold a completed entry level master's degree. The expectation of a master's degree completion is to safeguard that the student/CTRS has gained thorough exposure, experience, and knowledge on conducting research and EBP.

It appears that a major difference between an undergraduate degree in Recreation Therapy compared to an entry level Master's degree in Recreation Therapy is the absence of conducting research. In comparison, a recent requirement in the occupational therapy field is the requirement of a Master's degree prior to practice in the Occupational Therapy field.

Recommendations

The following recommendations should increase the amount of EBP among CTRS:

1. Practicing CTRS professionals should continue offering workshops through the American Therapeutic Recreation Association (ATRA) national conference on EBP for RT interventions. In particular, the workshops should include sessions on

how to use the EBP RT interventions, why to use the inventions, how to evaluate the interventions, the costs of using, and which specific population target.

2. There should be increased implementation of EBP theory at the collegiate level. The NCTRC and ATRA should ensure that this is happening at the college level by conducting randomized testing through survey tools to seek out student's responses on their current level of knowledge.

3. The NCTRC should continue to write practice exam questions on evidence-based practice, testing the participant's knowledge on what it is, how to use it, and why to use it. The content area of EBP is addressed and appears in both the Practice of TR/RT: Implementation Section (13%) or the Advancing the Profession (research) for 6.7% of the exam (Riley, 2011). To encourage the student to have a deeper understanding, the NCTRC should consider increasing the percentage content of questions on the qualifying exam that focus on EBP.

4. The profession should promote the monthly Recreation Therapy Journal devoted to evidence based practice among its members. The CTRS and any RT students can successfully demonstrate this by using search portals such as Medline and Cochrane Library to successfully locate EBP research.

5. Funding for research for CTRS to conduct studies on EBP should be sought. Once again the NCTRC and ATRA can emphasize the importance of conducting research among organizations which employ CTRS in their facilities.

6. More emphasis should be displayed by the NCTRC and ATRA in encouraging collaboration between the work force and the university settings. In regards to the collaboration among work force (practitioners) and university

settings (professors, administrative staff, and students), this recommendation has already successfully been demonstrated in the profession of nursing. Missal et al (2010) created a unique partnership model between a university and health care organizations for teaching graduate nursing research from a framework of evidence-based practice. In the Missal et al (2010) study, nurses from health care organizations identified specific topics for graduate students to search through literature and then synthesize the evidence for guiding nursing practice. This could be demonstrated in the profession of RT by allowing the CTRS and the graduate student to uniquely work together.

A partnership like this could create the opportunity for the CTRS in practice to identify current, real-world RT problems for exploration of evidence on best practices that students could then use to learn about searching, critiquing, and making practice recommendations based on evidence (Missal et al, 2010). In their study Missal et al, found that health care organizations benefit from collaboration with educators who bring their research skills to the practice arena.

7. The profession should encourage the use of Web 2.0 tools to increase interaction, information sharing and collaboration amongst practicing CTRS via the World Wide Web. Through social networking sites, blogs, and video sharing sites, this may become more prevalent.

Edwards (2009) states that all health care providers need to base their treatment decisions not only on their own professional experiences and their client's needs and values, but also on the current quality research outcomes (Edwards, 2009). Stumbo and Peterson (2010) state that the overall aim of EBP is to reduce wide (and unintended)

variations in practice, and, instead, use the best accumulated evidence possible to inform, enlighten, and direct practice. The CTRS, who is the main practicing RT professional, must use EBP as a means towards effective client treatment which furthermore may aid in the survival and permanent inclusion of the RT profession in the health care world.

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APPENDIX A:
Email sent to the CTRS by NCTRC

APPENDIX A

Email sent to the CTRS by NCTRC

December 2, 2010

NCTRC has been requested to send this research survey to you for your participation.

Please click on the following link to access the survey:

<http://www.zoomerang.com/Survey/WEB22BKLC5B6AS/>

Any questions pertaining to the research survey should be sent to Linda.Mrkic@EKU.EDU

Thank you for your consideration of this request.

This email was sent to linda.mrkic@eku.edu by nctrc@nctrc.org.
[Update Profile/Email Address](#) | Instant removal with [SafeUnsubscribe™](#)
| [Privacy Policy](#).
NCTRC | 7 Elmwood Dr. | New City | NY | 10956

Email Marketing
by

December 10, 2010

If you have already responded to this request, THANK YOU!

If not, please complete the survey prior to 12/16/10.

NCTRC has been requested to send this research survey to you for your participation.

Please click on the following link to access the survey:

<http://www.zoomerang.com/Survey/WEB22BKLC5B6AS/>

Any questions pertaining to the research survey should be sent to Linda.Mrkic@EKU.EDU

Thank you for your consideration of this request.

APPENDIX B:
Cover letter for survey

APPENDIX B

Cover letter for survey

The Prevalence of Evidence-Based Practice by the Certified Therapeutic Recreation Specialist in the Intervention Planning Process

Dear Certified Therapeutic Recreation Specialist,

My name is Linda Mrkic, and I am a therapeutic recreation graduate student at Eastern Kentucky University conducting a study as partial fulfillment of a Master's degree. I am requesting your help in obtaining crucial and valuable information for my research study. I invite you to participate in this research study because your opinion is valuable to me and the study and has potential to aid in the growth of our profession.

The purpose of this study is to investigate the prevalence of evidence-based practice by CTRS in the NRPA southern district of the U.S. Please read this entire message to complete an anonymous, online survey which will take approximately 10-15 minutes.

When you participate in the study, you will not be asked to provide any identifying information. Your response will be compiled in a database so that I will not be able to identify your specific responses. There are no costs associated to participate in this study. If you participate in the study by completing and submitting the online survey, this indicates that you have read this information and have given consent to participate. If you have any questions in regards to participation in this study or any other relevant questions, please feel free to contact me, the primary investigator, at linda.mrkic@eku.edu. You may also contact my faculty advisor, Dr. Michelle Gerken, at michelle.gerken@eku.edu or by phone at (859) 622-2314.

The survey can be found below, and it will remain effective from December 2nd, 2010 to December 16th, 2010. If you would like to receive results from this study please e-mail me at linda.mrkic@eku.edu and I will forward you the results once completed. If you are no longer employed as a CTRS or received this email in error, please be sure to complete the section of the survey that asks you this question. I wholeheartedly believe that this research can help create small steps towards further growth of our profession. I want to thank you for your voluntary participation in this study and truly appreciate your time and feedback!

Gratefully,

Linda Mrkic, M.S. and Dr. Michelle Gerken

APPENDIX C:
Recreation Therapy Evidence Based Practice Survey (RTEBPS)

APPENDIX C

Recreation Therapy Evidence Based Practice Survey (RTEBPS)

Dear Participant,

Thank you kindly for your willingness to participate in this research study by completing this survey. You are encouraged to complete the following 23 questions as openly and honestly as you can. Click, or fill in, the response(s) which best represents your answer. All responses will remain confidential. This survey will take approximately 10 - 15 minutes to complete.

*** Are you currently employed as a Certified Therapeutic Recreation Specialist (CTRS)?**

¹ If **YES**, please continue, if **NO**, you are finished with the survey, thank you.

*** Check one:**

I have a Bachelor of Science degree in Recreation Therapy/Therapeutic Recreation

I have an entry level Masters degree in Recreation Therapy/Therapeutic Recreation

² I have an advanced Masters degree in Recreation Therapy/Therapeutic Recreation

I have a BS in Recreation Therapy/Therapeutic Recreation and a Masters Degree in a related field

I have a Doctorate degree

Other, please specify

*** How many years have you been practicing as a Certified Therapeutic Recreation Specialist?**

³

*** What type of setting do you currently practice in? (please click all that apply)**

⁴

School-based setting

- Outpatient Care
- Home Care
- Skilled Nursing
- Private Practice
- Psychiatric
- Inpatient Care
- Acute Care
- Rehabilitation
- Academic
- Geriatrics
- Other, please specify

*** What type of clients do you typically see?** (please click all that apply)

- Pediatrics
- Multiple populations
- Geriatrics
- 5 Orthopedics
- Psychiatric
- At risk teens
- Veterans
- Other, please specify

Please note: *for the purpose of this survey, **research is defined as:** a careful and systematic means of solving problems and involves the following five characteristics: systematic, logical, empirical, reductive, and replicable.*

*** I seek out research related to my clinical practice and evidence to validate my practice** (please select the answer that is closest to your experience)

- 6
- | | | | | |
|-------|-----------------|-----------------|-----------------|--------|
| Never | 25% of the time | 50% of the time | 75% of the time | Always |
| 1 | 2 | 3 | 4 | 5 |

*** I apply research results to my clinical practice** (please select the answer that is closest to your experience)

- 7
- | | | | | |
|-------|-----------------|-----------------|-----------------|--------|
| Never | 25% of the time | 50% of the time | 75% of the time | Always |
|-------|-----------------|-----------------|-----------------|--------|

1 2 3 4 5

*** I use research to assist in developing recreation therapy intervention plans for my clients (please select the answer that is closest to your experience)**

8

Never 25% of the time 50% of the time 75% of the time Always

1 2 3 4 5

*** My clinical decisions are based on research evidence (please indicate the answer that it closest to your experience)**

9

Never 25% of the time 50% of the time 75% of the time Always

1 2 3 4 5

*** Research is conducted at my clinical site**

10

Never Rarely Sometimes Often Always

1 2 3 4 5

*** I have time to read about research while working**

11

Never Rarely Sometimes Often Always

1 2 3 4 5

*** I have access to research findings and materials at my work place**

12

Never Rarely Sometimes Often Always

1 2 3 4 5

*** Is anyone within the Recreation Therapy Department/Unit within the agency conducting research?**

13 If NO, please indicate why.

*** Reimbursement administrators are demanding use of research evidence to validate recreation therapy intervention plans**

14

Never Rarely Sometimes Often Always

1 2 3 4 5

*** Research helps to build a scientific basis for recreation therapy practice**

15 Disagree Somewhat disagree Neither agree or disagree Somewhat agree Agree
1 2 3 4 5

Please note: for the purpose of this survey, **evidence-based practice** is defined as: the selection of best available treatments for which there is some evidence of efficacy; evidence must be gathered through well designed and meaningful research efforts with client groups and be applicable to daily practice.

*** The recreation therapy interventions I use are based on evidence-based practice (please select the answer that is closest to your experience)**

16 Never 25% of the time 50% of the time 75% of the time Always
1 2 3 4 5

*** I find it difficult to locate recreation therapy interventions that are based on evidence-based practice**

17 Disagree Somewhat disagree Neither agree or disagree Somewhat agree Agree
1 2 3 4 5

Please note: For questions 18 to 23 please click all that apply.

*** I use the following Mind-body health (recreation therapy) interventions with my clients:**

- 18
- Aromatherapy
 - Breathing
 - Guided imagery
 - Humor
 - Medical play
 - Meditation
 - Massage
 - Relaxation training
 - Sensory stimulation
 - Tai chi
 - Yoga

Other, please specify

*** I use the following Physical-activity (recreation therapy) interventions with my clients:**

- 19 Aquatics
 Exercise
 Sports
 Other, please specify

*** I use the following Creative-expressive (recreation therapy) interventions with my clients:**

- 20 Arts and crafts
 Music
 Dance/movement
 Drama
 Storytelling
 Visual arts
 Other, please specify

*** I use the following Self-discovery/self-expression (recreation therapy) interventions with my clients:**

- 21 Adventure therapy
 Bibliotherapy
 Journaling
 Reminiscence/life review
 Values clarification
 Social skill interventions
 Assertiveness training
 Anger management
 Resocialization
 Remotivation
 Reality orientation

Other, please specify

*** I use the following Nature-based (recreation therapy) interventions with my clients:**

- 22 Animal-assisted therapy
 Horticulture
 Other, please specify

*** I use the following Education-based (recreation therapy) interventions with my clients:**

- 23 Assisted technology training
 Community reintegration
 Family/caregiver education
 Leisure education
 Other, please specify

Thank you for participating in this survey. If you would like to obtain completed results of the study, please feel free to e-mail me at linda.mrkic@eku.edu and I will forward them to you.

