

**The Perceived Attitudes, Knowledge and Barriers towards
Evidence-Based Practice (EBP) amongst Physiotherapists in the United
Republic of Tanzania**

Elias Peterson Maigeh

**A Mini-thesis submitted in partial fulfillment of the requirement for the
degree of Master of Science in Physiotherapy in the Faculty of Commu-
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Supervisor:

Mrs. Anthea Rhoda

**The Perceived Attitudes, Knowledge and Barriers towards Evidence-Based Practice
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E. P. Maigeh

KEY WORDS:

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Awareness

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ABSTRACT

There has recently been an increased pressure in all-healthcare disciplines to provide interventions that are scientific, safe, efficient and cost-effective. Evidence-Based Practice (EBP) is said to be the current best approach to address these attributes. All healthcare professionals including physiotherapists need to adopt it. Numerous physiotherapy studies have been carried out to ascertain the attitudes towards, knowledge of, engagement in as well as the barriers of EBP. These studies were mostly carried out in the developed countries and almost none in the developing African countries. By means of an exploratory cross-sectional study, deploying both quantitative and qualitative methods, this study investigated the Tanzanian physiotherapists' attitudes towards the concept of EBP. The study also examined the knowledge that they possess, that could enable them engage in EBP-related activities. In addition, this study explored the barriers they experience while practicing EBP. Descriptive and inferential analysis of the data was carried out using Excel as well as the Statistical Package of Social Sciences (SPSS). The results indicated that the majority (91.3%) of the respondents have a positive attitude towards EBP as they considered EBP to be useful in their day-to-day practice. The results further indicated that the majority of the respondents have good knowledge of EBP and also engage in activities related to EBP. A number of barriers, including lack of access to professional literature, however, limited the respondents in this study from practicing EBP. A statistically significant relationship was found between socio demographic variables and certain barriers. Several recommendations are made to the Ministry of Health in Tanzania, the Association of Physiotherapists in Tanzania, as well as the only School of Physiotherapy in Tanzania.

DECLARATION

I declare that “The Perceived Attitudes, Knowledge and Barriers Towards Evidence-Based Practice Amongst Physiotherapists in Tanzania” is my own work and that it has not been submitted to any other university for such a purpose or a publisher, and that all sources used or quoted have been indicated and acknowledged by means of references.

ELIAS PETERSON MAIGEH



SIGNATURE: _____

WITNESS: _____

DEDICATION

This Mini-thesis is dedicated to the following people:

i) First and far most is to my late mother, Mrs. Evelyne Pendo Maigeh. Mother, I want you to know that there is one thing that I've never experienced in my life and which no one else would have given me except you! IT IS THE MOTHER'S LOVE!

I would like to believe that it was god's wish that your life ended just like that, at a very tender and young age of your late twenties, while I was only three years old and in need of your love at most. May the almighty god rest your soul in eternal piece, amen!

ii) To my wife, Mrs. Happiness Robbie de Maigeh. Your love to the family is unconditional and so natural. I sometimes wonder what my life could have been if I had not met you. I truly believe that you were created for this family. I am so grateful to have you in my life not only as my wife but also as my closest friend.

iii) To our two beautiful daughters, Evelyne B. E. Maigeh and Madeline B. E. Maigeh. I am so proud of you little fellows and grateful to have you as daughters and also as good family members.

iv) To all dedicated and diligent health workers in Tanzania and physiotherapists in particular, in both public and private health facilities across Tanzania who, since the inception of the profession in the 1940s, have been and are still working hard to deliver quality physiotherapy services to all Tanzanians, despite the poor working conditions and salary schemes.

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Secondly, I'd like to thank the Directorate of Human Resource Development under the Ministry of Health in Tanzania for granting me sponsorship for my studies. I would in particular, like to sincerely thank Dr Gilbert Mliga, who heads the said Directorate and who always made himself available and listened to me, despite his busy schedules. He also offered me invariable guidance when I went back home for data collection towards the end of November 2003 and came back to UWC at the beginning of February 2004.

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TABLE OF CONTENTS**PAGE**

Title page	i
Key Words	ii
Abstract	iii
Declaration	iv
Dedication	v
Acknowledgements	vi
Table of Contents	viii
List of Tables	xiii
List of Figures	xiv
List of Appendices	xv



CHAPTER ONE: Introduction

1.1	Background and rationale of the Study	1
1.2	Over all aim and specific objectives of the Study	4
1.3	Significance of the study	5
1.4	Abbreviations	6
1.5	An outline of chapters	7

CHAPTER TWO: Literature Review

2.1	Introduction to the chapter	8
2.2	Evidence-Based Practice (EBP): Conceptual definitions and theoretical base	8
2.3	Evidence-Based Practice: A New Paradigm Shift in Healthcare Practice	11
2.4	Steps in Practicing Evidence-Based	12
2.5	Benefits of Evidence-Based Practice	13
2.6	Barriers encountered in Evidence-Based Practice	14
2.7	Attitudes, Knowledge and Practice	15

**CHAPTER THREE: Methodology**

3.1	Introduction to the chapter	19
3.2	Research Settings	19
3.3	Research Design	21
3.4	Research Population and Sampling	22

3.4.1	Sample for the Quantitative Data	22
3.4.2	Sample for the Qualitative Data	23
3.5	Instruments for Data Collection	25
3.5.1	Instrument for the Quantitative Data	25
3.5.2	Instrument for the Qualitative Data	26
3.6	Procedure	26
3.7	Data Analysis	27
3.7.1	Quantitative Data Analysis	27
3.7.2	Qualitative Data Analysis	28
3.8	Ethical Considerations	28

CHAPTER FOUR: Results



4.1	Introduction to the chapter	30
4.2	Socio-demographic characteristics of the respondents	30
4.3	Attitudes of Respondents towards EBP	32
4.4	Respondents' Knowledge of EBP	33
4.5	Respondents' engagement in practicing EBP	34
4.5.1	Searching and reading literature	34
4.5.2	Current physiotherapy practice in respect to EBP	34
4.6	Barriers experienced by respondents while practicing EBP	36
4.7	Relationship between demographic variables versus attitudes, knowledge, engagement and barriers towards EBP	39

CHAPTER FIVE: Discussion

5.1	Introduction to the chapter	40
5.2	Response rate	40
5.3	Socio demographic status	40
5.4	Factors influencing EBP	41
5.4.1	Attitudes	41
5.4.2	Knowledge of EBP	42
5.4.3	Engagement in EBP	43
5.4.4	Barriers experienced in practicing EBP	44
5.4.4.1	Lack of Knowledge and Skills in Research-related activities	44
5.4.4.2	Lack of Physiotherapy Policy, Practice Standards and Guidelines	46
5.4.4.3	Working conditions of the respondents	47
5.5	Summary	48

CHAPTER SIX: Limitations, Recommendations and Summary and Conclusions

6.1	Introduction	49
6.2	Limitations	49
6.3	Recommendations	50
6.3	Summary and Conclusions	53
7.	References	55
8.	Appendices	65



LIST OF TABLES

Table No.	Title	Page No.
Table 2.1	Barriers experienced in an evidence-based practice	18
Table 3.1	Health facilities in Tanzania	21
Table 4.1	Respondents socio demographic characteristics	31




LIST OF FIGURES

Figure No.	Title	Page No.
Figure 3.1	Participants of focus group discussion	24
Figure 4.1	The percentage of physiotherapists in respect to5 evidence-based practice	35
Figure 4.2	Barriers experienced by Tanzanian physiotherapists in practicing evidence-based	37



LIST OF APPENDICES

Appendix No.	Title	Page No.
Appendix I	The Survey Questionnaire used in this study (2 versions)	65
Appendix II	The information letter to all participants	71
Appendix III	Invitation to take part in focus group discussions	73
Appendix IV	The consent form for officials participating in the focus group discussion	75
Appendix V	The interview guide 	77
Appendix VI	The permission letter from the Ministry of Health	79
Appendix VII.	The permission letter from MOI	80

CHAPTER ONE

INTRODUCTION

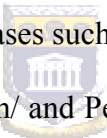
1.1 Background and rationale of the study

Over the past few decades tremendous advances have been made in health sciences by the development of new knowledge and technology through research (Gray, 2001). This knowledge has been used as evidence to support clinical decision-making and practice, and has led to the concept of evidence-based medicine. Evidence-based medicine is defined as “the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients” (Sackett, Rosenberg, Gray, Haynes & Richardson, 1996, p. 71). These authors further stated that “the practice of evidence-based medicine involves the integration of individual clinical expertise with the best available external clinical evidence from systematic research and patient values”.

This concept has been heavily promoted (Turner, 2001) and has thus been diffused in most healthcare disciplines and professional educational programmes (Law, 2002). As a result, there is a consensus among healthcare disciplines for a generic term that encompasses all such practices; thus the term evidence-based practice (Swinkels, Albarran, Means, Mitchell & Stewart, 2002; French, 1999).

Like most other healthcare disciplines, the physiotherapy profession has embraced this concept (Baxter, 2003). This is reflected by a number of measures taken by both the World Confederation for Physical Therapy (WCPT), the National Physiotherapy Professional As-

sociations and Regulatory Bodies of respective states that are members to the WCPT and the academic institutions. Such measures include:

- (i) The WCPT's declaration of a position statement (policy) on evidence-based Practice in both training as well as practice (WCPT, 2003).
- (ii) Development of 398 physiotherapy evidence-based clinical practice guidelines (Maher, Sherrington, Elkins, Herbert & Moseley, 2004) including those on selected rehabilitation interventions in conditions such as knee, neck, shoulder, and low back pain (Philadelphia Panel, 2001) as well as Manual Therapy approaches (Moore, 2003).
- (iii) An increase in the publication of research-related activities as indicated in Pedro (Maher et al., 2004; Moseley, Herbert, Sherrington & Maher, 2002).
- (iv) Establishment of physiotherapy databases such as  physiobase.com [Online], Available: <http://www.physiobase.com/> and Pedro, a physiotherapy evidence-based database managed by a group of Australian physiotherapists at the University of Sydney in Australia [Online], Available: <http://www.pedro.hfs.usyd.edu.au/> and,
- (v) An increase in engagement in research-related activities amongst certain physiotherapists in Sweden (Kamwendo, 2002) and in the United Kingdom (Bury, 1997).

All these initiatives are aimed at increasing the use of research evidence among clinicians in the course of their daily clinical decision-making. The use of research evidence among clinicians will, in turn, reduce practice disparities and consequently improve the standards and quality of physiotherapy services. A number of studies relating to the attitudes, knowl-

edge, and engagement of physiotherapists towards evidence-based practice as well as the barriers encountered by physiotherapists practicing EBP have been conducted (Maher et al., 2004; Jette et al., 2003; Kamwendo, 2002; Connolly, Lupinnaci & Bush, 2001; Herbert, Sherrington, Maher & Moseley, 2001; Turner, 2001; Walker-Dilks, 2001; MacIntyre, 1999; Bury, 1997). These studies have all mainly been conducted in the developed countries.

There is however, a lack of literature relating to evidence-based practice activities in developing countries and in particular, African countries such as Tanzania, South Africa, Nigeria, Kenya, Ethiopia, Uganda and Rwanda. Further, it could not be established whether the National Physiotherapy Professional Associations and Regulatory Bodies, if at all present in these countries, have a policy regarding evidence-based practice. Although this is the case, certain physiotherapists in Tanzania have been engaging in activities related to evidence-based practice. Two papers concerning EBP were presented at the 4th Scientific Conference of the Association of Physiotherapists in Tanzania that was held in Dar-es-salaam (APTA, 2002). In addition, a number of these physiotherapists have attended international conferences and post-graduate courses and workshops relating to EBP. Further, the only school of physiotherapy in the United Republic of Tanzania reviewed its curriculum in February 2002 and has established a module on EBP. It can therefore, be envisaged that there are some EBP-related activities among physiotherapists in the United Republic of Tanzania.

As with any new concept, the introduction of evidence-based practice in physiotherapy has faced some serious challenges that are also experienced by other healthcare disciplines.

Physiotherapists attempting to implement EBP have encountered a significant number of barriers. These include lack of knowledge pertaining to EBP, lack of access to research findings, heavy patient workload, insufficient evidence, insufficient time, and resistance from the institutions to initiate EBP (Herbert et al., 2001).

With reference to the aforementioned challenges it is envisaged that not all physiotherapists in developing countries such as Tanzania are aware of the EBP concept. It is further envisaged that these physiotherapists do not have the necessary knowledge and skills as well as the resources to enable them to incorporate EBP into their daily clinical practices. The overall aim of the present study was therefore to explore the Tanzanian physiotherapists' attitudes, knowledge, engagement, and barriers towards evidence-based practice.



1.2 Specific objectives

The following were the specific objectives of this study

- (i) To determine the attitudes of physiotherapists in Tanzania towards evidence-based practice.
- (ii) To determine the knowledge pertaining to evidence-based practice amongst Tanzanian physiotherapists.
- (iii) To determine the engagement of Tanzanian physiotherapists in evidence-based practice.
- (iv) To determine the perceived barriers towards the use of evidence-based practice amongst Tanzanian physiotherapists, and

- (v) To identify the relationship between socio-demographic variables namely gender, age, professional qualification, area of practice, number of years in practice and the attitudes knowledge, engagement and barriers towards EBP among physiotherapists in Tanzania.

1.3 Significance of the study

The World Confederation for Physical Therapy has recognized and declared evidence-based practice as one of its priority areas (WCPT, 2003). WCPT has therefore, endorsed a position policy on evidence-based practice, which need be fully or partly adopted by its member states.

Although the Association of Physiotherapists in Tanzania is a member of the WCPT, no research has been done to ascertain Tanzanian physiotherapists' attitudes, knowledge, engagement and barriers towards EBP. The results of this study could thus, be used by APTA as a basis to further promote evidence-based practice among Tanzanian physiotherapists. Continuous professional development courses (CPDs) to improve knowledge and skills about EBP could be organized and presented to physiotherapy clinicians should the need arise. This could lead to a change in attitudes about EBP among Tanzanian physiotherapists. An increased utilization of research evidence in their daily clinical decision-making could lead to improved patient care. Areas needing further research in the field of EBP could also be identified by this study.

1.4 Abbreviations

APTA:	Association of Physiotherapists in Tanzania
BAKITA:	National Council for Swahili (Baraza la Kiswahili la Taifa)
CPDs:	Continuous Professional Development Courses
DAR:	Dar-es-salaam
EBM:	Evidence-based medicine
EBP:	Evidence-based practice
KCMC:	Kilimanjaro Christian Medical Center
NHS:	National Health Service
MCH:	Maternal and Child Health
MOI:	Muhimbili Orthopedic Institute
MOH:	Ministry of Health
PTs:	Physiotherapists
UK:	United Kingdom
USA:	United States of America
UWC:	University of the Western Cape
WCPT:	World confederation for physical therapy



1.5 An outline of the chapters

Chapter one introduced the background to and rationale of the present study. It clearly stated the overall aim, the specific objectives as well as the significance of this study.

Chapter two will present a review of the literature relevant to the concept of evidence-based practice. It will present and discuss the conceptual definitions of EBP as well as its historical origin. The steps to follow in practicing EBP, the benefits of EBP as well as the barriers encountered when adopting an EBP approach are also discussed. In addition, the chapter will also highlight the relationship between attitudes, knowledge and practice, which are considered as interdependent pillars of clinical excellence.

Chapter three narrates the methodological issues relevant to this study. In so doing it describe the research settings, the design, the study population and sampling. The instruments used in collecting data, the procedure that was followed in obtaining data, how the data was analyzed together with the ethical considerations are presented. The results of this study are presented in chapter four in respect to the specific objectives of this study.

This enables the researcher to ascertain the respondents' attitudes towards and knowledge of EBP. In addition the respondents' engagement in EBP as well as their experiences of barriers while practicing EBP is also presented in this chapter.

Chapter five compares and discusses the findings of the present study with other similar studies. A summary of the findings of the present study is presented in chapter six. Chapter six also offers various limitations as observed in this study as well as the necessary recommendations to respective parties.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter present and discusses the concept of evidence-based practice (EBP) in respect to the different scholarly definitions. This will be followed by a description (i) in respect to its theoretical base, (ii) as a paradigm shift, and (iii) in regard to conceptual origin and its diffusion into other healthcare disciplines. Questions such as ‘why EBP now?’ will be explained. The required steps in practicing EBP, the benefits of practicing EBP, as well as the barriers encountered in practicing EBP will be presented and discussed. Finally a triad pillar of knowledge, attitudes and practice will be discussed.




2.2 Evidence-based practice (EBP): Conceptual definitions and theoretical base

Evidence-based practice has been defined in different ways and by different authors (Maher et al., 2004; Gray, 2001; Herbert et al., 2001). The definition by Gray (2001, p.17) for example, define evidence-based practice as “an approach to decision-making in which the clinician uses the best available evidence, in consultation with the patient, to decide upon the option that suits that patient best”. Another definition comes from an account titled “Evidence-based practice-imperfect but necessary” by Herbert et al (2001, p. 201). These authors defined evidence-based practice as the systematic use of the best evidence, usually in the form of high quality clinical research, to solve clinical problems. Maher et al. (2004, p. 644) on the other hand defined evidence-based practice as “the integration of the best research evidence with clinical expertise and patients’ values”.

All three definitions above acknowledge the use of the “best evidence” in clinical decision-making. It should however, be pointed out that not all research evidence is equal. This means that some evidence is of high quality and should therefore, be given greater consideration while making decisions about the care of patients, than those that are of low quality.

The hierarchy or strength of evidence has been established and published by different authors in many research-related literatures (Swinkels et al., 2002; Ritchie, 2001; Bury & Mead, 1998). The Randomized Controlled Trials (RCTs) are reported as the gold standard of evidence in most literature. A summary of the hierarchy or levels of evidence is provided below in order of the strongest to the weakest evidence.

- I Strong evidence from at least one systematic review of multiple well designed Randomized Controlled Trials 
- II Strong evidence from at least one properly designed Randomized Controlled Trial of appropriate size
- III Evidence from well-designed trials without randomization, single group pre-post, cohort, time series or matched case-controlled studies
- IV Evidence from well-designed non-experimental studies from more than one center or research group
- V Opinions of respected authorities, based on clinical evidence, descriptive studies or reports of expert committees.

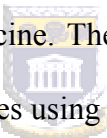
The definitions offered by the aforementioned authors (Gray, 2001; Herbert et al., 2001; Maher et al., 2004,) further complement each other in different ways. Gray, for example, further expanded the definition by stating that using the best available evidence is just not enough. He stated that one should also incorporate the patients' preferences into the whole process of decision-making.

Maher et al. (2004) stated that clinical expertise should be harnessed and must therefore be integrated into the process whilst Herbert et al. (2001) report that the evidence should be of high quality, especially that evidence which has been delivered from clinical research, hence, it is patient centered. Straus and Sackett (1998) considered patient centered evidence as scientifically acceptable evidence since this type of evidence usually evaluates the accuracy and precision of diagnostic tests, prognostic markers, and the efficacy and safety of therapeutic/rehabilitative/preventive regimes.

From the above three definitions, evidence-based practice can thus be described as a generic term that describes a scientific and systematic process of decision-making about healthcare practices that takes into account three core elements, namely clinical research evidence, clinicians' expertise, and patients' values. It could therefore be argued that a practice can only be referred to as evidence-based practice if the practice takes into consideration the above-mentioned three components when determining patient's optimal interventions. This practice (evidence-based practice) is thus modeled on the concept that an identified clinical problem becomes a question, which has to be systematically answered

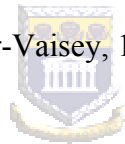
through a process that involves searching for and appraising of relevant literature (Turner, 2001; Sackett & Rosenberg, 1995).

2.3 Evidence-based practice: a new paradigm shift in healthcare practice

This new approach to clinical decision-making and practices, generically referred to as evidence-based practice (Swinkels et al., 2002; French, 1999), has been regarded as a paradigm shift (Kuhn, 1970) towards healthcare practice. The conceptual philosophical idea of evidence-based practice emerged from evidence-based medicine (Tod, Palfreyman & Burke, 2004) and dates back to the 19th century (Sackett, Rosenberg, Gray, Haynes & Richardson, 1996). However, the Mac Master University in Ontario in Canada actively promoted evidence-based practice during the early 1990s (Turner, 2001) and claimed it as a paradigm shift towards the practice of medicine.  The Evidence-Based Medicine working Group (1992) stated that a change that involves using the current best literature more effectively in guiding clinical decision-making is profound enough to be called a paradigm shift.

Evidence-based practice is therefore a new shift to decision-making about patients care, that de-emphasizes intuitions, routine and unsystematic clinical experiences which, by its nature, relies on decisions based upon past experiences and or knowledge that was acquired years ago in the undergraduate and continuous professional development courses, as sufficient grounds for clinical decision-making (O'Brien, 2001). Rather, it stresses the use of the best high quality evidence from clinical research, incorporated with clinical expertise and patients' values (Jette et al., 2003; Haynes, Devereaux & Guyatt, 2002; Lankshear, 2002; Horsley, Kelly & Epstein, 1999; Rosenberg & Donald, 1995).

Although the Mac Master University in Canada pioneered evidence-based practice in the early 1990s, the change itself was driven by a series of factors that could be considered as the natural derivative of contemporary economic, social and political trends and concerns (Swinkels et al., 2002). These factors include (i) shrinking resources for health care, (ii) recognition of the gap between research and clinical practice, (iii) emphasis on cost-effectiveness by payers, (iv) focus on consumer/client expectations, (v) advent and proliferation of clinical trials, (vi) availability of computer databases and, (vii) increased professional competency. Another driving force behind this shift is (viii) the realization that the traditional approach of relying on continuing educational courses for keeping clinical knowledge and practice up-to-date does not lead to improvements in clinical performance (Davis, O'Brien, Freemantle, Wolf & Taylor-Vaisey, 1999).



2.4 Steps in implementing evidence-based practice

Evidence-based practice is a multi-step process (Straus & Sackett, 1998) that begins with an acknowledgement of an uncertainty. This implies that one feels that there are knowledge gaps (Wiebe, 2000), which need to be filled. In order to fill these gaps the healthcare practitioner is obliged to ask questions, search for evidence, find and appraise the relevant data and harness the information in day-to-day healthcare practice. This process therefore, involves doing research (Rosenberg & Donald, 1995) and using the research findings in clinical practice (Haines & Donald, 1998).

Five systematic steps are involved in an evidence-based practice (Miller, McKibbin & Haynes, 2003; Herbert et al., 2001; Sackett, Straus, Richardson & Haynes, 2000; Horsley et al., 1999; Bury & Mead, 1998). The initial step is that of converting a clinical problem into an answerable clinical question. Systematically finding and locating the current best evidence from the literature to answer the question follows the initial step. This is done by conducting searches in the bibliographic databases. Healthcare professionals therefore, need easy access to databases as well as effective searching skills.

The third step involves critically appraising and scrutinizing the located research evidence in order to ascertain its validity and applicability. This step is crucial in that it informs the clinician about deciding whether the evidence can or cannot be trusted and applied to the prevailing clinical problem. Fourthly, the appraised contemporaneous research evidence is finally put into practice, i.e. the evidence is applied to the clinical problem. The last step in practicing EBP is that of evaluating and recording the impact of the change.

2.5 Benefits of evidence-based practice

The application of the concept of EBP into clinical decision-making and practice has been reported to have potential benefits. Bury and Mead (1998) reported one of such benefits as improved patient care, which is an ultimate goal for all healthcare professionals. These authors stated that improved patient care could be achieved in many ways. One such way by invalidating previously accepted diagnostic tests and treatments/rehabilitation techniques and replacing them with the new ones that are more powerful, accurate, efficacious, and safer. Sackett et al. (2000) also saw the thoughtful identification and use of individual pa-

tients' predicaments, rights, and preferences in making decisions about their care. All such decisions are aimed at maximizing the health gains to patients.

Other benefits of evidence-based practice lie on the part of the health professionals themselves (Straus & Sackett, 1998). It allows them to keep up with the rapidly growing body of knowledge in the entire healthcare sector and, the professional knowledge in particular. Hereby it improves their skills in asking answerable clinical questions as well as finding, retrieving and critically appraising the best evidence to address these questions (Sackett, Richardson, Rosenberg & Haynes, 1997). This promotes self-directive learning to clinicians, therefore ensuring continuous professional development. In addition, evidence-based practice further identifies research areas and also promotes networking amongst professionals. Lastly, evidence-based practice can help health care providers make better use of limited resources in providing effective treatments/services (Kader, 2000).

2.6 Barriers encountered in evidence-based practice

Despite the aforementioned benefits of an evidence-based practice approach, significant barriers to practicing EBP have been reported by healthcare disciplines. These disciplines include Physiotherapy (Maher et al., 2004; Herbert et al., 2001), Internal Medicine (Straus, McAlister & Finlay, 2000), Emergency Medicine (Horsley et al., 1999), Dentistry (McGlone, Watt & Sheiham, 2001) and Nursing (Adamsen, Larsen, Bjerregaard & Madsen, 2003; Melnyk, 2002).

The importance of conducting such studies cannot be emphasized especially if incorporation of high quality research evidence into day-to-day clinical decision-making and practices is to become a reality amongst many distinguishable healthcare professionals. Bury (1996) further indicated the importance of such studies by stating that healthcare disciplines need to prove the need for their survival in these times of competitive healthcare funding. Table 2.1 summarizes such barriers into five grouped categories:

2.7 Attitudes, Knowledge, and Practice

In his influential article titled “Knowledge, attitude and practice the three pillars of excellence and wisdom: a place in the medical profession” Badran (1995) reported that the three dimensions of knowledge, attitudes and practice constitute a triad of interactive factors which are characterized by dynamism and unique interdependence. Badran conceives knowledge as the capacity to acquire, retain and use information, hence a mixture of comprehension, experience, discernment and skill.

The acquisition of knowledge rests on the different models through which knowledge is acquired (James & Alexander, 1989). This however, requires two basic ingredients which are (i) the concept of requiring an intellect through which an object is thought of, and (ii) the perception of requiring power of sense by which the concept is acquired.

Attitudes on the other hand refer to inclinations to react in a certain way to certain situations, to see and interpret events according to certain predispositions, or to organize opin-

ions into coherent and interrelated structures. Attitudes are said to have three components. These are (i) the cognitive part, (ii) the affective part and, (iii) the behavioral part (Rosenberg, Hovland, McGuire, Abelson & Brehm, 1960). One's attitude is thus regarded as a reality, at least until one can introduce new facts or concepts, leading to a change in a person's mind. They could, therefore, be acquired as a result of a personal experience or a social attribute resulting from an educational programme.

By practice Badran (1995) meant the application of rules and knowledge that leads to action. He considers good practice as being an art, which is linked to the progress of knowledge and technology. He further stresses that the practice should be guided by a special ethical code and be executed in an ethical manner.



From Badran's account it can be stated that for each component of the triad, the value of ethical conduct is emphasized by raising the application of the component in real life to a peak. Badran (1995) however, acknowledges that several factors can influence or control the course of the healthcare practice. These factors include information, education, communication and human resources development, socio-humanistic elements of practice, modern technologies and technology transfer systems, environmental factors, and the capability of science and technology to forecast and assess.

In summary the researcher considers knowledge and attitudes to govern all aspects of clinical decision-making and practices, and that the two pillars together should make up the dynamic system of day-to-day clinical decision-making. It is in this context that the ensuing

discussion builds up a thesis, which among other things, focuses on the attitudes towards and knowledge of evidence-based practice and their relevance to physiotherapists in the United Republic of Tanzania.



Table 2.1 Barriers encountered in an evidence-based practice approach (Bury, 1996)

No	Group category	Characteristics
1	Barriers related to practitioners' attitudes	practitioners frequently report that they lack the necessary knowledge and skills related to research methodology, that they lack time for such a practice, that they are overloaded with the overwhelming information, and that they are influenced by leaders' opinion.
2	Barriers related to patient factors	demand for specific care or treatment technique from the patients, as well as the perceptions and believe about compliance with appropriate guidelines.
3	Barriers related to practice environment	practice organizations not willing to initiate EBP, time constraints, and failure to provide practitioners with access to appropriate information
4	Barriers related to wider health system	lack of financial support for innovation, inappropriate funding system.
5	Barriers related to social environment	treatments and commercial concerns of promoting products and equipments.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter discusses the research setting as well as the methodology used in this study. The presentation follows the subheadings which are (i) the research settings, (ii) the research design, (iii) the research population and sampling, (iv) study instruments, (v) procedure, (vi) data analysis, and (vii) ethical consideration.

3.2 Research setting

This study was carried out in the United Republic of Tanzania, a country located in the eastern part of Africa. The country has a population of 34,569,232 million people of which approximately 51% (17,658,911) are females and the remaining 49% (16, 910,321) are males (Tanzania census, 2002). The country is divided into 4 zones namely the Eastern, the Northern, the Southern, and the Western zones. Each zone is formed by several administrative regions. There are 26 administrative regions in total; each being divided into several districts, hence a total of 130 districts. Several wards form a district and several villages form a ward. The final administrative structures are the cells, each comprising ten houses.

Both the public and private sectors deliver health services in Tanzania, using the national standards and guidelines that are administered and supervised by the Ministry of Health of the United Republic of Tanzania. The public health system in Tanzania assumes a pyramidal pattern of a referral system (World Bank, 1993; MOH, 2000). Each zone, region and

district has a referral, regional and district hospital facility respectively. Rural medical aiders as well as medical and nursing assistants provide basic health care services at the dispensaries and community health centers. A patient needing medical attention that cannot be provided at this level is referred to the district and/or regional hospital. Specialist care is provided mainly at the referral hospital and occasionally at the regional hospitals. In addition specialists provide outreach services to the community by conducting clinics at the community health centers and district hospitals.

The private sector houses health facilities that are owned either by religious institutions or a group of companies or sometimes even by individuals. Facilities owned by religious institutions can be found at almost all government administrative hierarchy levels. Among the four-referral hospitals, two are owned by religious institutions. In addition to this a considerable number of religious hospitals have been designated as district hospitals in districts that lack public district hospital facilities. This usually follows special agreements between the government and the respective religious institution that owns that facility. The government subsidizes the costs of day-to-day management in such hospitals. Hospitals owned by individuals are mostly found in cities and town centers, since they primarily operate on a business basis.

The majority of physiotherapists in Tanzania are placed at referral and regional hospitals with very few having permanent positions at district hospitals and none at all in the community health centers. The physiotherapy services rendered include clinical work in the hospitals (in and out patients), academic tutorials at the school (mostly done by permanent

and part-time university staff), and clinical supervision of students, which is done by both the tutors and the clinical instructors. Other services include community outreaches, private clinics, and research.

Table 3.1 Health facilities in Tanzania (MOH, 2000)

NAME OF THE FACILITY	PUBLIC SECTOR		PRIVATE SETOR	
	Government	Parastatal	Group	Individuals
Referral Hospitals	4	2	2	2
Regional Hospitals	19	-	-	-
District Hospitals	55	-	13	-
Health Centers	409	12	104	36
Dispensaries	2450	202	612	663
Specialized Clinics	75	-	4	22
Total	3012	216	735	723

3.3 Research design

An exploratory cross-sectional design, using both quantitative and qualitative methods was used in this study. Peil, Mitchell and Rimmer (1982) stated that an exploratory study design aims to explore a new area, or at least one about which little is known in the local context. They further reported that in an exploratory study, one sets out a few preconceptions to examine a phenomenon from many points of views, looking for new ideas and insights that

will not only explain what is happening but also what is hindering the acceptance of the new technique.

Ritchie (2000) and Creswell (2003) reported that it is becoming increasingly acceptable to seek to enhance knowledge development by using mixed research methods. This is further supported by Treece and Treece (1986) who reported that combining the two methods of quantitative and qualitative could uncover a unique variance that might not have appeared in a single method of investigation. The design was therefore thought valid and appropriate in determining the information relating to the attitudes, knowledge, engagement, and barriers towards evidence-based practice amongst Tanzanian physiotherapists.

3.4 Research population and sampling



3.4.1 Sample for the quantitative data

The study population for the quantitative part of the study data included all practicing physiotherapists in the United Republic of Tanzania. Although there were 150 physiotherapists in the country, only 132 were practicing (APTA, 2002). Twelve of these practicing physiotherapists could not be included in the study since their addresses were not available. The final study sample for the quantitative part of the study therefore consisted of 110 physiotherapists.

3.4.2 Sample for the qualitative data

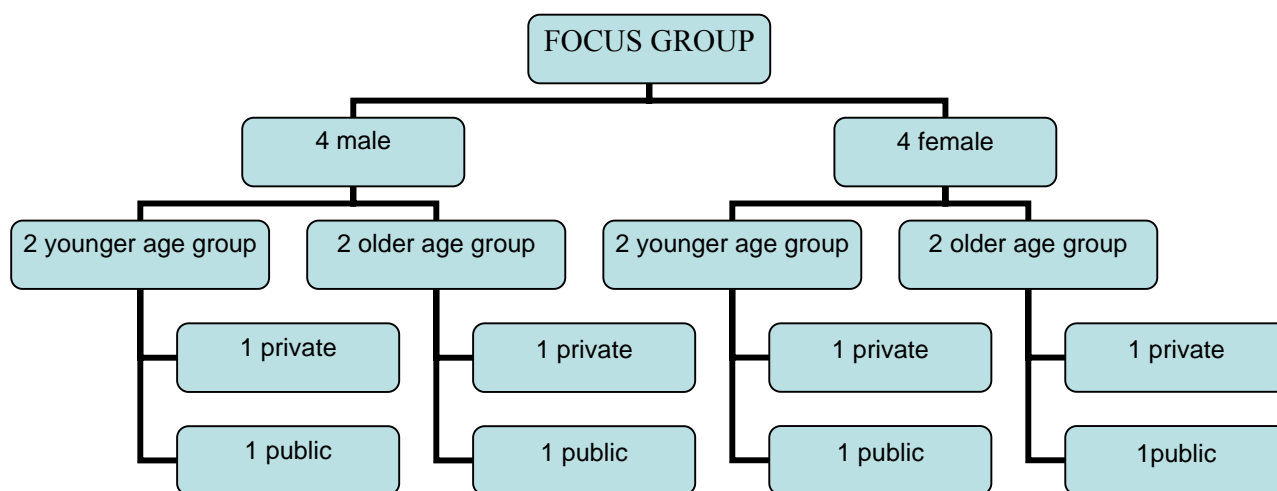
A list of addresses of all physiotherapists with their respective areas of practices was initially reviewed. This led to purposively selecting Dar-es-salaam and Kilimanjaro regions to be used for the qualitative data collection. The non-probability purposive sampling method was used in selecting the two regions. This method is often used in research for community studies whereby the researcher judgmentally selects one or few communities, because they are considered either typical or outstanding examples of the variables with which the researcher is concerned (Bless & Higson-Smith, 2000; Peil et al., 1982). The two regions therefore, were considered suitable for yielding qualitative data. Dar-es-salaam is a business city with many health facilities, including both public (one referral and three district hospitals) and private hospitals. The Kilimanjaro region on the other hand, also has health facilities that include public health facilities (one regional and six district hospitals) and several private health facilities including a private referral hospital facility. The only School of Physiotherapy in Tanzania is also situated in the Kilimanjaro region, and is incorporated under the Kilimanjaro Christian Medical College of the Tumaini University. The sample for qualitative data collection therefore included physiotherapists working in different institutions.

After selecting the areas, all health facilities with physiotherapy services in the two regions were then divided into two major strata, i.e. public and private stratum. A list of names of physiotherapists in each stratum (i.e. public and private) was drawn. Members in each stratum were once again divided into four sub strata of younger (≤ 34) and older (>34) age

groups as well as males and females. According to Sarantakos (2000) stratified random sampling is a special form of random sampling that ensures the representation of all groups of the targeted population. This is achieved by dividing the population into a number of strata and a sample is drawn from each stratum. The simple random sampling method was finally used to obtain the participants from each stratum. The sample from each stratum was thereafter combined to form the final sample of 16 participants.

The sample for the qualitative part of the study consisted of two groups, each having 8 physiotherapists. One group of physiotherapists was from the Kilimanjaro region and the other from the Dar-Es Salaam. The selection of members in each of the aforementioned groups ensured that the demographic characteristics namely gender, age and area of practice were addressed (see figure 3.1).

Figure 3.1 Participants of focus group



3.5 Data collection

Two instruments (a self-administered questionnaire and an interview guide) were used to collect data in the present study.

3.5.1 Instrument for quantitative data

A combination of questions from two published questionnaires used to determine attitudes, knowledge, engagement and barriers towards EBP (Fritsche, Greenhalgh, Falck-Ytter, Neumayer & Kunz, 2002; McColl, Smith, White & Field, 1998) was used to construct the questionnaire used in this study. The validity and reliability of the questionnaire developed by Fritsche et al is documented while McColl et al used literature and previous focus group discussions to develop their questionnaire.



The constructed questionnaire comprised two sections. The first section captured information relating to socio-demographic characteristics (gender, age, professional qualifications, area of practice, and number of years in physiotherapy practice) whilst the second section of the questionnaire contained questions related to attitudes, knowledge, engagement and barriers towards EBP (See Appendix 1). The questionnaire consisted of (i) Likert-scale, (ii) Dichotomous or Yes/No) questions and (iii) open-ended questions. Oskamp (1991) reported that the Likert-scale allows the researcher to measure the intensity of the respondents' agreement or disagreement with each item, rather than obtaining a "yes/no" response. Through this method, a large number of opinion statements on a given question (i. e. attitudes, knowledge, engagement, and barriers for this study) were collected.

In order to avoid errors that could occur due to language barriers the survey questionnaire, which was prepared in English, was given to the National Council for Swahili (BAKITA) so as to have the questionnaire translated from English into a local language and which is Swahili. This would enable those participants wishing to respond to the survey questionnaire in their local language do so without fear of English mistakes.

3.5.2 Instrument for qualitative data

An interview guide (Appendix III) was developed and used to collect qualitative data using focus group discussions. This guide was developed by the researcher using questions from the survey questionnaire that was used in this study (Appendix 1), which investigated the respondents' attitudes, knowledge, engagement and barriers towards evidence-based practice. This was done after reviewing responses from the survey questionnaires that had been returned by respondents and which were completed in full. The guide was therefore developed in a manner that ensured that each of the aforementioned dimensions would be explored by at least one guiding question. The interview guide further allowed the researcher to probe and ask more questions pertaining to attitudes, knowledge, engagement and barriers towards EBP, with the aim of generating rich data, which could not be captured in a survey questionnaire.

3.6 Procedure

The Association of Physiotherapists in Tanzania was approached to obtain the addresses of all physiotherapists in the country. The researcher thereafter, mailed the questionnaires (i. e Swahili and English versions), including an information letter (Appendix II), to a sample of

110 physiotherapists. Respondents were asked, through the information letter, to mail back their questionnaires, whether completed or not, in no longer than six weeks from the day they received them. Follow-up phone calls were made to some participants to remind them to return the questionnaires.

An invitation was sent to the respondent's who had been randomly selected to be part of the focus group. The focus group discussions were conducted six weeks after mailing the survey questionnaire. The time of the focus group discussions were determined by the participants.. The researcher facilitated the discussions using the interview guide. Each focus group discussion lasted for 90 minutes and was audio taped.

3.7 Data analysis



3.7.1 Quantitative data analysis

The analysis of quantitative data was carried out by means of the Microsoft Excel Package and Statistical Package for Social Sciences (descriptive statistics) and non-parametric tests (inferential statistics). All responses pertaining to variables (i) demographic characteristics and (ii) attitudes, knowledge, engagement as well as barriers to evidence-based practice were first classified as nominal and ordinal data categories. The categories were then transformed into the numerical format or codes and entered into the Microsoft Excel Spread Sheets. Although most of the descriptive statistics were carried out within Microsoft Excel, both packages were used to ascertain the frequencies for the variables in the sample. This therefore, enhanced the reliability of the descriptive data. Non-parametric Chi-Square (χ^2) Statistical Tests were used to identify the relationships between demographic variables

(gender, age area of practice, number of years of physiotherapy practice) and attitudes towards, knowledge of, engagement in and barriers of EBP.

3.7.2 Qualitative data analysis

Permission to conduct the research was obtained from the research higher degree and senate committees of the University of the Western Cape (UWC) as well as the Ministry of Health (MOH) in Tanzania. In addition, permission to hold focus group discussions was obtained from the management of the Kilimanjaro Christian Medical Center (KCMC) and the Muhimbili Orthopedic Institute (MOI).

The Qualitative data analysis involved three stages. The initial stage consisted of cycles of playing, listening and then transcribing the data from the taped audiocassettes (verbatim) into the written form. No additional insights that were observed by the researcher were added at this stage. In the second stage, the written data was classified into small meaningful and manageable sets of themes, categories and finally codes were established. Additional insights (body language) that were observed and noted by the researcher during the discussion were included at this stage. The third and final stage was the interpretation stage whereby some sense of the data as well as lessons learnt were reached and then presented.

3.8 Ethical consideration.

Permission to conduct the research was obtained from the research higher degree and senate committees of the University of the Western Cape (UWC) as well as the Ministry of Health (MOH) in Tanzania. In addition, permission to hold focus group discussions was

obtained from the management of the Kilimanjaro Christian Medical Center (KCMC) and the Muhimbili Orthopedic Institute (MOI).

As for the survey an information letter clearly stated that participation in the study was voluntary, hence completing the questionnaire was regarded by the researcher as a passive consent from the participant. Participants were ensured of confidentiality and anonymity and the right to withdraw from the study at any stage. Upon successful completion of the study, results will be made available to the participants as well as to all institutions involved in the study.



CHAPTER FOUR

RESULTS

4.1 Introduction

The results of the study are presented in this chapter under the headings socio-demographic characteristics, attitudes, knowledge, engagement, barriers, and relationship. One hundred and ten (110) questionnaires were mailed to all practicing physiotherapists. A total of 80 questionnaires were returned, yielding a response rate of 72.7%.

4.2 Socio demographic characteristics of the respondents

Table 4.1 represents the socio demographic characteristics of the respondents. These results indicate that the study sample consisted of slightly more males than females with the majority of the respondents falling in the age category between 25-34 years. Further, the majority of the respondents in this study possess a diploma as their highest professional qualification. In addition, seventy percent of the respondents in this study work in different hospitals owned by the public sector whilst the remaining thirty percent work in the hospitals owned by the private sector. These results further indicate that the majority of the respondents in this study have been practicing physiotherapy for the duration not exceeding 10 years.

Table 4.1 Respondents Socio-demographic characteristics (N=80)

Variable name	Characteristic	Number	Percentage
Gender	Male	45	56.2%
	Female	35	43.8%
Age	25-34 years	47	58.8%
	35-44 years	27	33.7%
	≥45 years	6	7.5%
Professional qualification	Diploma	74	92.5%
	Bachelor degree	3	3.75%
	Master degree	3	3.75%
Area of practice	Referral hospital	41	48.75%
	Private hospital	22	27.5%
	Regional hospital	13	16.25%
	District hospital	4	5%
	Private practice	2	2.5%
Years of Physiotherapy practice	1-10 years	52	65%
	11-20 years	26	32.5%
	>20 years	2	2.5%

4.3 Attitudes of respondents towards evidence-based practice (N=80)

The majority (91.3%) of the respondents agreed that research evidence was useful (34) or very useful (39) in their daily clinical decision-making. In addition the majority (98.7%) agreed (22) or strongly agreed (57) that research evidence need be incorporated into clinical practices. Although the majority (77.5%) agreed that EBP improves the quality of patient care, 22.5% of the respondents disagreed. Included in this 22.5% were an equal number of males and females consisting of younger respondents (10) and older respondents (8). This group also consisted of physiotherapists working in referral (10), regional (6) and private (2) hospitals.

Positive attitudes towards the concept of EBP were further indicated by respondents who took part in the group discussions as indicated by the quotations below:

“An evidence-based practice approach to clinical practice takes into consideration many aspects such as current best research findings, incorporation of clinical guidelines, clinical expertise and patients’ preferences. By so doing, it enhances the quality of care, thereby maximizing the health gains to patients. It also enables clinicians to become more competent in their practice”

“Evidence-based practice requires one to base all clinical decisions on sound scientific evidence”

“There is proper and systematic patients’ record keeping in an evidence- based practice approach. This can in turn help managers, administrators, researchers as well as clinicians themselves to evaluate the outcomes of the care provided”

4.4 Respondents' knowledge of evidence-based practice

All the respondents (100%) agreed or strongly agreed with the two broad definitions of evidence-based practice. In addition to this the majority (95%) agreed (26) or strongly agreed (50) with the list of resources that could be used in keeping ones EBP knowledge up-to-date.

The responses that were provided during the focus group discussions further supported the findings as reported by the respondents in the survey questionnaire. This is indicated in the following quotations.

“Evidence simply means proof. Evidence-based practice is therefore, that practice which is systematic and that uses scientifically acceptable proofs, usually from current best research findings”.



“Evidence-based practice implies making the right decisions about the care of patients. These decisions are supported with scientific proofs from sound clinical research”

“Evidence-based practice means doing the right thing to the right client in the right way and at the right place and time and, above all, having the right results”

“I would consider EBP as a practice that basis on scientifically accepted proofs referred to as research evidence”

“Evidence-based practice is about being critical in all decisions about all spheres of healthcare practices”

4.5 Respondents' engagement in evidence-based practice

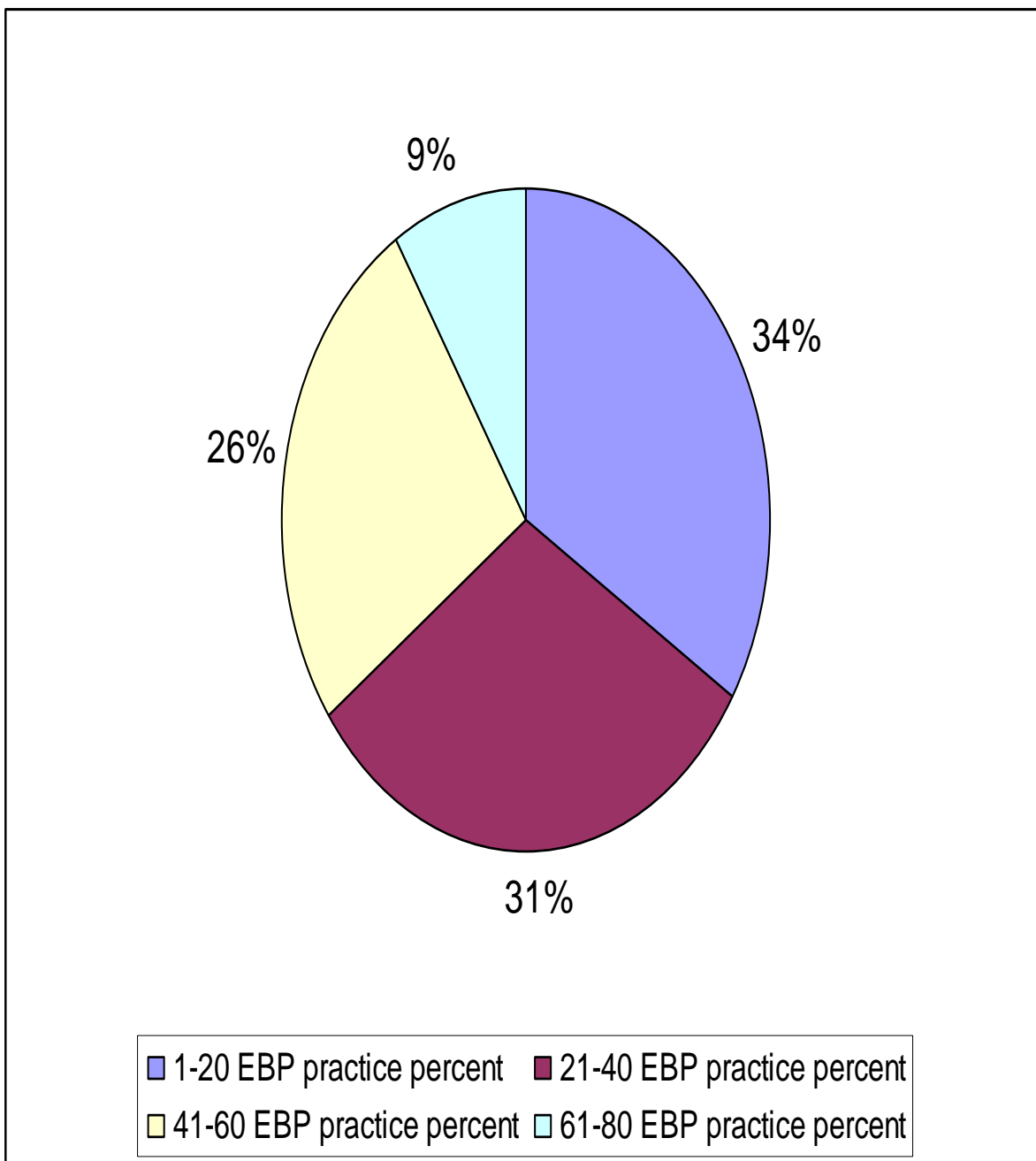
4.5.1 Searching and reading literature.

The results of the present study indicates that the majority of the respondents were engaging in evidence-based related activities that include searching (65%) and reading (56.3%) of medical related literature as well as physiotherapy literature (83.7%). In addition, the majority (96.3%) of the respondents used resources such as journals and books to improve their clinical knowledge.

4.5.2 Current physiotherapy practice in relation to EBP

The majority (65%) of respondents in this study rated their current physiotherapy practice as being between 1- 40 percent evidence-based (see figure 4.1). Included in this 65% are 27 respondents who rated their current physiotherapy practice as being between 1-20% evidence-based and, 25 respondents who consider their current physiotherapy practice as being between 1-40% evidence-based. None of the respondents rated their current physiotherapy practice as being between 81-100% evidence-based.

Figure 4.1 Percentage of physiotherapists' practice relating to EBP



The engagement of participants of this study in EBP related activities is further illustrated in the quotes below as extracts from the participants of the two focus group discussions.

“I usually spare and spend some little time in the library to browse professional literature and other scientific publications”

“As a physiotherapy tutor at the school, I am required to prepare before hand prior to any lecture. This obviously involves extensive searching and reading of literature.”

“I sometimes go to the internet to surf information that is not accessible in our library”

“If I were to rate my current practice in respect to evidence-based practice, I think I would rate it as being 40% only. This is so because though I often read both professional literature and other scientific publications in the Internet and library, or ask opinion from colleagues, I still feel that I don’t have the necessary knowledge to critique scientific papers”



“When I am faced with a clinical problem that needs an immediate solution I normally ask opinion from my colleagues in the department”

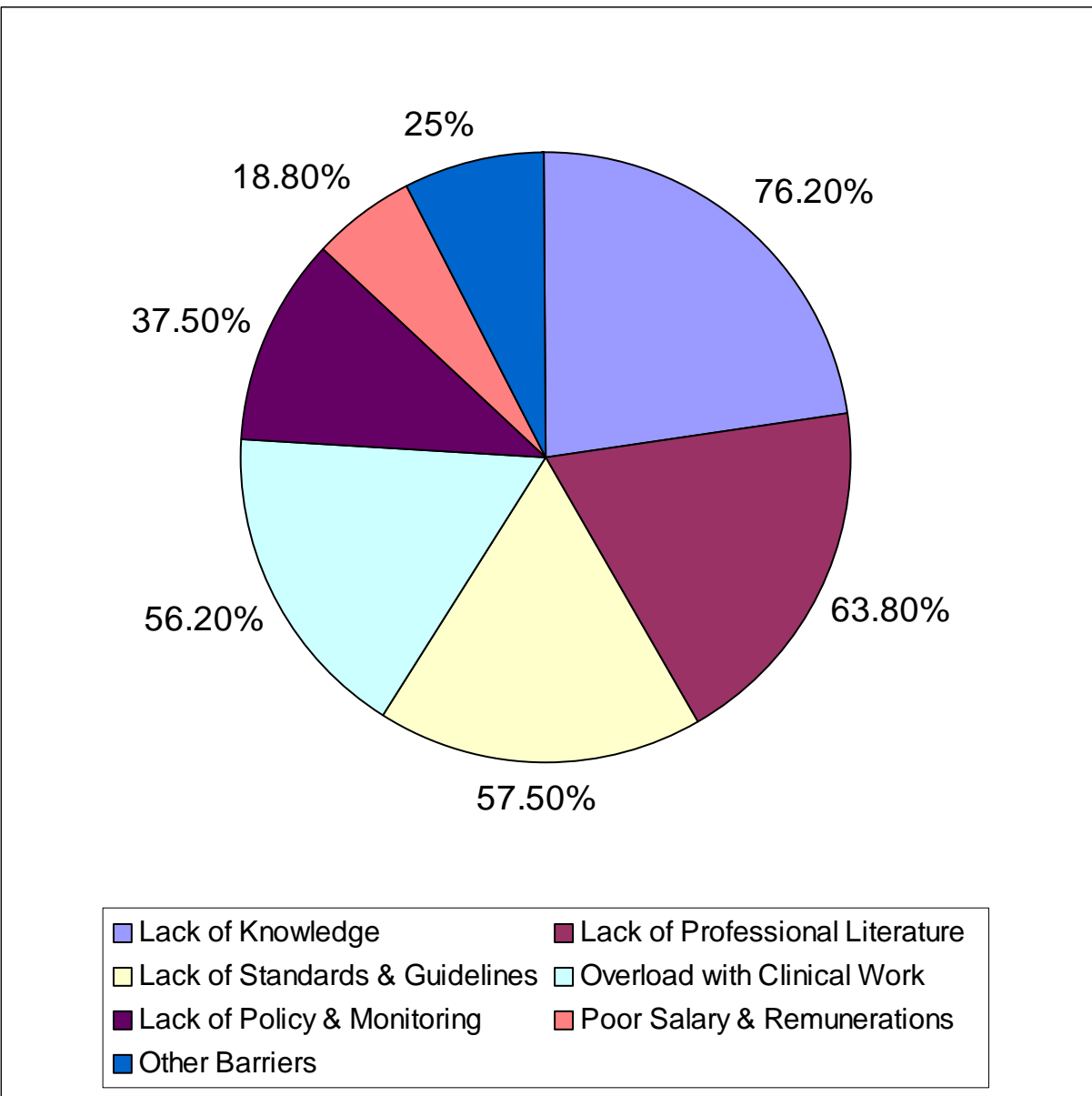
4.6 Barriers experienced by the respondents while practicing EBP

Approximately half (51.2%) of the respondents in this study spend between 30 minutes and 12 hours walk to the library. Only 35% of the respondents make use of databases to improve their knowledge. Those who have access to medical-related databases such as Medline and Pedro are only 28.7%.

Figure 4.2 illustrate additional barriers in practicing evidence-based as reported by respondents of this study. The category ‘other barriers’ includes barriers such as low professional

educational level, poor working infrastructures and lack of communication among physiotherapists.

Figure 4.2 Barriers experienced in practicing EBP (N=80)



The following quotations further support the results of this study in respect to the barriers experienced by the respondents while practicing EBP.

“Physiotherapy as a profession in Tanzania still lacks practice guidelines and standards. It is therefore, difficult to evaluate the quality of care provided”

“There is no library in our hospital; hence access to literature is a nightmare”

“Most of us lack knowledge and skills related to research activities; hence we are unable to engage in research activities or make sense of research findings”

“The salaries and other remunerations that are paid to physiotherapists are too poor. As a result many of us spend our extra time for other extra income generating activities so as to compensate the financial gap, than spending it in searching and or reading professional literature”

“Physiotherapists are few in number as compare to patients. This therefore, imposes heavy clinical workload”



“The ministry of health in Tanzania has not done enough to up-lift both the standards as well as the quality of physiotherapy services in the country. This is due to the lack of a policy on physiotherapy issues”

“There is few number of physiotherapists in the country, with qualifications other than diploma, who could carry out research to enable the profession to have its own body of knowledge that is relevant, and which could be applicable to our own circumstances and locally accessed”

4.7 Relationship between socio demographic variables versus attitudes, knowledge, engagement and barriers.

The results of the present study indicate that certain statistical significance relationships existed between and within certain variables. A statistically significant relationship was found between socio demographic variables namely gender, age, area of practice, duration of physiotherapy practice and certain barriers encountered.

In the proportion of respondents that indicated low salaries as a barrier there were higher number of females than males ($\chi^2 = 14.8722$, $p = 0.0001$). A statistically significant relationship ($\chi^2 = 15.3264$, $p = 0.0041$) was also found between the area of practice and distance walked to the library. Physiotherapists working in referral hospitals spent less time getting to the library.



A statistically significant relationship ($\chi^2 = 5.8113$, $p = 0.0159$) was found within the age variable with regard to the lack of physiotherapy practice guidelines. More of the respondents in the younger age group (≤ 34) reported that the lack of guidelines was a barrier to implementing EBP than those in the older group (> 34). Similarly, a statistically significant ($\chi^2 = 4.1479$, $p = 0.0417$) relationship was found within the gender variable where more males indicated the lack of guidelines was a barrier to implementing EBP.

No statistically significant relationship was found between the variables attitudes, knowledge, and engagement and socio demographic variables.

CHAPTER FIVE

DISCUSSION

5.1 Introduction

The purpose of the present study was to explore the attitudes, knowledge, engagement and barriers towards evidence-based practice among Tanzanian physiotherapists. This chapter discusses the results of this study as it relates to the above-mentioned concepts, comparing it with findings in similar studies. It first present and compares the socio demographic information of the participants of this study, with findings reported in other similar studies.

5.2 The response rate of the study

The response rate achieved in the present study (72.7%) is lower than what is considered by other authors as acceptable, which is between 75% - 85% (Treece & Treece, 1986). This does, however, compare well with rates found in other studies relating to evidence-based practice. These other studies include Jette et al. (2003) who reported a 71% response rate, Pomeroy (2003) who reported a 72% response rate and Kamwendo (2002) who had a 61.7% response rate. The response rate in this study, as it is only slightly lower than 75%, can thus be regarded as acceptable.

5.3 Socio-demographic status

The greater number of males in the present study differs from what Jette et al (2003) and Kamwendo (2002) reported in their studies that also investigated attitudes, knowledge, engagement and barriers towards EBP. Approximately 70.6% of the respondents in a study by

Jette et al were females whilst the remaining 29.4% were males. In Sweden, a survey by Kamwendo found that 81.6% of the respondents were females whilst the remaining 18.4% constituted males. The age for the majority of the participants in this study (≤ 34 years) however, is within the age range (30 - 49 years) for the majority of participants in a study by Jette et al.

The majority of respondents in this study possess diploma as their highest professional qualification. This is in contrary with findings from a study by Jette et al. (2003) and Kamwendo (2002). Authors of these two studies reported that majority of respondents in their respective studies possessed professional postgraduate degrees (Master or PhD). This could be attributed by the fact that physiotherapy is a new profession in Tanzania, with its only School, which offers diploma only, being founded in 1980 (APTA, 2002). On the contrary, physiotherapy as a discipline was implemented in the United States of America over a century ago (Thornton, 1994) and is credible enough.

Contrary to what is found in other countries like the USA (Jette et al., 2003) and Norway (Kamwendo, 2002) the majority (70%) of physiotherapists in Tanzania are employed by the public sector whilst the remaining 30% is employed by the private sector.

5.4 Factors influencing EBP

5.4.1 Attitudes

As has been found in other studies relating to EBP, which were conducted by different health care professionals (Stevenson, 2004; Jette et al., 2003; Kamwendo, 2002; Hamzat,

2002; Metcalfe, 2001), the majority of respondents in the present study have a positive attitude towards EBP. Similarly to the results in the present study, the respondents in the aforementioned studies also agreed that EBP improved the quality of patient's care, and should therefore be incorporated into day-to-day clinical decision-making. The respondents further agreed that research evidence is useful to their clinical practices.

5.4.2 Knowledge of EBP

Although only 57.5% of the respondents in the present study have had training related to evidence-based practice through activities such as workshops, seminars, and conferences, the majority had good knowledge relating to the broader definitions of evidence-based practice and the list of resources that could be used to keep their knowledge up-to-date.



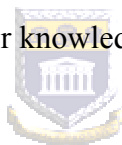
These results are similar to the findings by Jette et al. (2003) who reported that 42% and 40% of respondents respectively agreed and strongly agreed that they had participated in several educational sessions concerning EBP activities, which included literature search strategies. They further reported that the majority of respondents agreed or strongly agreed that they had skills to search databases such as Medline and CINAHL.

The above statements indicate that knowledge about EBP is mainly disseminated through workshops and seminars. The emphasis of these workshops and seminars however, seems to be on the use of resources and databases available to acquire new knowledge.

5.4.3 Engagement in EBP

Walker-Dilks (2001) stated that engaging in evidence-based practice means making a concerted effort to find the answers to clinical questions that continually arise in one's clinical practice. According to Ebell (1999) clinical questions are the results of critical reflection on the part of the clinician, on his/her practice.

The results of the present study indicate that a large number of respondents in this study were engaging in activities related to evidence-based practice which include searching (65%), reading of medical related literature (56.3%), physiotherapy literature (83.7%) in particular as well as using resources (96.3%) such as books, journals, and the Internet in accessing evidence in light of improving their knowledge.



The findings in the present study are similar to the findings in several other studies with respect to engagement with activities related to EBP. These other studies include a survey by Kamwendo (2002) who reported that Swedish physiotherapists considered themselves as engaging with EBP-related activities that include reading of research literature (83.3% written in their own language and 41.3% written in English), using research findings and also initiating research projects. A study by Jette et al. (2003) also found that the majority of physiotherapists in the USA were engaging with activities related to evidence-based practice such as using literature to inform clinical decision-making (70%), reading literature related to clinical practice (66%) and searching for relevant literature (65%) using on-line databases. Further, approximately 39.1% of Kuwait based physiotherapists were found

found to be engaging in activities related to evidence-based practice, that included of regular subscribing to and consequently the reading of the professional journals as well as doing and publishing research reports (Hamzat, 2002).

5.4.4 Barriers experienced in practicing EBP

Herbert et al. (2001) reported that even in most evidence-based practice settings, the implementation of an evidence-based approach to clinical decision-making and practice faces significant practical challenges. The results of the present study indicate that the majority of the respondents in this study experienced a huge number of barriers while implementing evidence-based practice. These barriers mostly are similar to those reported from other similar studies conducted by healthcare disciplines including physiotherapy (Maher et al., 2004), Nursing (Adamsen et al., 2003; McKenna, Ashton & Keeney, 2004; Melnyk, 2002; Young & Ward, 2001; Kader, 2000; Wyatt, 1994), Internal medicine (Straus & McAlister, 2000; Haynes & Haines, 1998), Emergency medicine (Horsley et al., 1999), and Dentistry (McGlone et al., 2001). These barriers include:

5.4.4.1 Lack of knowledge and skills in research-related activities.

Approximately three quarter (76.3%) of the respondents in this study rated lack of knowledge and skills pertaining to research-related activities as the highest amongst several other barriers. This is to be expected as the majority (92.5%) of respondents in the present study has a diploma as their highest professional qualification. The School of Physiotherapy in Tanzania only started offering research methodology from 2000. Those physiotherapists

who had obtained their diplomas before 2000 had therefore, not received training in research.

The results in the present study further indicate that the majority (66.3%) of respondents have access to the Internet. Very few (35%) however, used databases to improve their knowledge. Those who had access to medical-related databases such as Medline and Pedro were even fewer (28.8%).

The failure to use the Internet to access literature could thus arise from lack of knowledge and skills in literature retrieval. This is therefore, not only considered as a barrier to accessing the literature but also as a barrier to the implementation of an evidence-based approach to clinical decision-making and practice among respondents in the present study.



These findings differ from those reported in a survey by Gosling and Westbrook (2004) who investigated the use of and the barriers towards online evidence system among allied health professionals (N=790) working in the Public Health Systems in Australia. The author found that 82% of the respondents had access to online evidence but only 76% reported to make use of the online evidence. Further, the two studies significantly differ in that a great number of respondents in allied health professionals in Australia used the online evidence, implying that they could retrieve the literature, as opposed to respondents in the present study.

Connolly et al. (2001) further reported that the majority of American physical therapists not only consider that they have the necessary knowledge about research activities but frequently engage in research-related activities.

Barriers relating to lack of knowledge and skills in research that have been identified in other studies include the inability to interpret research (Maher et al., 2004), the inability to distinguish between high and low quality studies (Herbert et al., 2001) as well as problems in understanding the literature (Metcalf, 2001).

5.4.4.2 Lack of physiotherapy policy, practice standards and guidelines

The lack of physiotherapy standards and guidelines were identified by the respondents as a potential barrier to the implementation of an evidence-based approach to clinical decision-making. Clinical guidelines are systematically developed statements to assist both clinicians and patients in decision-making about appropriate healthcare for specific circumstances (Field & Lohr, 1992). Guidelines also provide clinicians with a synthesis of the best available evidence, and are therefore the tools that operationalize the implementation of evidence-based practice (Mead & Paula, 2000).

Practice standards are a collection of documents that describe the professional consensus on the practice of physiotherapy (CSP, 2000). According to CSP these standards reflect the collective judgment of the profession at a given point in time, and that as the practice of physiotherapy is constantly developing, the standards will consequently change, over time, to reflect these developments. The CSP further stated that the standards are necessary to (i)

demonstrate to the public that physical therapists are concerned with the quality of the services provided and are willing to implement self-regulatory programmes to maintain that quality; (ii) guide the development of physiotherapy professional education, (iii) guide physiotherapy practitioners in the conduct and evaluation of their practices and, (iv) provide governments, regulatory bodies and other professional groups of background information about the nature of physical therapy as a profession

The implementation of a physiotherapy policy and monitoring mechanism will assist in the planning, appraising, financing, implementing and evaluating both the impact of physiotherapy services and the role of physiotherapy as a health discipline in the entire healthcare system in Tanzania. It could also assist with the implementation of an evidence-based practice approach and the development of physiotherapy as an independent and credible healthcare discipline in Tanzania.



5.4.4.3 Working conditions of the respondents

A large patient load and low salaries were also mentioned by the respondents as barriers to implementing evidence-based practice. The physiotherapist-patient ratio in Tanzania is estimated to be 1:230, 667 (Tanzania census, 2002; APTA, 2002). This therefore explains an increased patient load as reported by 56.3% of the respondents in this study.

The findings in this study (patient overload) are similar with those reported from the United States of America (Jette et al., 2003) and Sweden (Kamwendo, 2002). Both Jette et al and

Kamwendo reported that patient's overload was the most prevailing barrier to implementing evidence-based practice.

Poor salaries on the other hand were reported to have forced Tanzanian physiotherapists to engage in other income generating activities, thereby limiting the time they would have to search for and read literature in order to improve their physiotherapy knowledge. This is in contrary to physiotherapists in the United States of America and Sweden. In these two countries, (though not reported in the respective studies) working conditions and salaries in particular, are considered better. These obviously enabled physiotherapists to engage in EBP activities and were not complaining of poor salaries.

5.6 Summary



This chapter has discussed the results of the present study with other similar studies that investigated attitudes, knowledge, engagement and barriers towards EBP (Maher et al., 2004; Jette et al., 2003; Kamwendo, 2002). The majority of participants in this study not only demonstrated positive attitudes towards EBP but also indicated that they are knowledgeable about EBP related activities. Although the majority of respondents consider their practice not to be evidence-based, they are engaging in activities related to EBP. Participants of this study, like those in other similar studies, also encounter significant barriers while practicing EBP. Several statistically significant relationships have been found to exist between demographic variables and barriers towards EBP.

CHAPTER SIX

LIMITATIONS, RECCOMENDATIONS AND SUMMARY & CONCLUSIONS.

6.1 Introduction

As with all research processes some limitations were identified in this study. It is therefore, important to point out and emphasize such limitations. This chapter will thus present the limitations as observed in this study. Recommendations to the respective authorities are made based on the results of the present study. A summary of this study and conclusions are also presented in this chapter.

6.2 Limitations of this study

6.2.1 Small number of participants



APTA (2002) reported a population of 150 Tanzanian physiotherapists across the country. Although a total of 80 physiotherapists participated in the present study (constituting 53.3% of the population) the researcher considers this, as a limitation, since the views of 47.7% of the physiotherapists in Tanzania (which is a significant percent) are not included in the results of this study.

6.2.2 Professional literature

Another weakness of the present study is the failure of the researcher to explore, through the focus group discussions, which professional literature the respondents reported to read and how they obtained it, as well as the literature that they felt is inaccessible. This is considered so following a contradiction, in the results of this study, relating to access and read-

ing of professional literature. While 83.7% of the respondents in this study reported to read the professional literature, 63.8% of them mentioned lack of access to professional literature as being among the barriers underpinning the implementation of EBP.

6.2.3. Self-reporting

The use of self-reporting in the present study is a limitation as the respondents could have chosen responses that they perceived to be acceptable to the researcher.

6.2.4 Trustworthiness of qualitative data

To improve the trustworthiness of the qualitative data the researcher should have used member checks to verify the findings. This could have been done by holding follow-up focus group discussions.



6.3 Recommendations

The following recommendations are made on the basis of the findings in this study.

6.3.1 Recommendations to the Ministry of Health in Tanzania and APTA

Being the top-most body that make policies about healthcare practices in Tanzania and also establishes, supervises and monitors the implementation of the national standards and guidelines for healthcare practices, the Ministry of Health has the due responsibility of ensuring that all healthcare disciplines in Tanzania including physiotherapy, have practice standards and guidelines and which conforms with the National Healthcare Practice Standards and Guidelines.

The first recommendation is thus made to both, the Ministry of Health and the Association of Physiotherapists in Tanzania to ensure establishment of physiotherapy policy, including practice standards and guidelines, in a matter of urgency and in line with the on-going health sector reforms, which were initiated in 1993 following the appraisal of health sector performance (MOH, 1994). The reforms are aiming at raising strategies to improve the quality of health services to Tanzanian citizens, as well as increasing equity in health accessibility and utilization.

The researcher argues that the failure to establish professional practice standards and guidelines and consequently monitor the practice of physiotherapy in Tanzania will not only underpin the implementation of an evidence-based practice approach to clinical decision-making and practices but will also hinder the realization of the aims of the health sector reforms.



Secondly, it is further recommended that the Association of Physiotherapists in Tanzania provide its members with the necessary knowledge and skills related to research, including literature retrieval using Internet. This could be done as part of the continuous professional development training programmes, through activities such as seminars and workshops. This will help the majority (66.3%) of respondents in this study that include its members and that reported to have access to Internet but were unable to search and retrieve research evidence. It is hoped by the researcher that upon acquisition of such skills, those majority with access to the Internet, will eventually be able to access the best evidences to support their day-to-day clinical decisions and practices.

Thirdly, according to APTA (2002) the physiotherapist patient ratio is 1:230, 6667. With such a huge number in ratio the researcher argues that it is very unlikely for physiotherapists in Tanzania to provide quality and cost effective physiotherapy services to their clients, as narrated in the steps in practicing EBP. This is therefore, another potential area that needs an immediate attention. Recommendation is made to all those concerned such as the training department of the Ministry of Health, the School of Physiotherapy and the Association of Physiotherapists in Tanzania, to critically look at this and propose strategies to increase the enrolment of physiotherapy students. This could lead to more students graduating from the school; consequently more could be employed. This could eventually reduce the huge difference in the ratio, thereby improving the quality of physiotherapy services in the country.



6.3.2 School of Physiotherapy

This study has found several barriers to practicing EBP that include among many, the lack of knowledge on research related activities. Much emphasis is currently being given on the use of best evidence in making decisions about healthcare practices. This therefore, requires the healthcare practitioners including physiotherapists, to have knowledge and skills on research activities as well as critical appraisal of evidence.

A recommendation is therefore, made to the only school of physiotherapy in Tanzania to up-grade its physiotherapy training to a degree level where by basic research methods are taught at this educational level.. It is further recommended that the school should introduce, as part of the training in the current diploma programme, a module on research methodolo-

gies. This will enable modules related to research methods and critical appraisal of evidence to be taught. This could lead to a culture of utilization of research evidence among new graduates and diplomats in the near future.

6.3.3 Further research on evidence-based physiotherapy practice is indicated

Further research using a different research design e.g. longitudinal study follow-up study could be implemented ascertain the in-depth knowledge of EBP of Tanzanian physiotherapists. Testing their knowledge before and after and an educational programme relating to the concepts of EBP could be done.

6.4 Summary and conclusions

Recent attempts to improve clinical decision-making and practices through the use of best available evidence have led to the wide spread use of the term evidence-based practice among healthcare professions including physiotherapy. The practice of evidence-based constitutes five systematic steps that include searching for, critically appraising, and consequently applying the evidence to the patient as appropriately and evaluating the impact.

Healthcare practitioners that include physiotherapists therefore, need to have knowledge and skills as tools that will enable them implement evidence-based practice. By the use of quantitative and qualitative research methods, this study investigated the Tanzanian physiotherapists' attitudes, knowledge, engagement, and barriers towards evidence-based practice. The results indicate that the majority of respondents in this study have positive attitudes towards the concept of evidence-based practice. In addition, the results indicate that

the majority of respondents have good knowledge of evidence-based practice. Although the majority of respondents in this study consider their physiotherapy practice as not evidence-based, the results indicate that the majority is engaging in activities related to evidence-based practice that include searching for and reading of literature.

This study further established several barriers that limit respondents from practicing evidence-based. These barriers include lack of knowledge related to research activities, lack of professional literature, lack of physiotherapy standards and practice guidelines, patient's overload and poor salary and remunerations.

This study also established certain statistically significant relationships between demographic variables namely age, gender, area of practice, number of years in practice and questions that explored barriers towards evidence-based practice. On the basis of the findings in the present study it is thus concluded that the majority of respondents in this study have positive attitudes towards the concept of evidence-based practice. The majorities have good knowledge about EBP and are engaging in activities related to EBP including searching for and reading of literature. Respondents in this study however, experience a number a barriers while implementing EBP.

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APPENDIX I

EVIDENCE-BASED PRACTICE (EBP) QUESTIONNAIRE

THE PERCEIVED ATTITUDES, KNOWLEDGE, ENGAGEMENT AND BARRIERS
TOWARDS EBP AMONG PHYSIOTHERAPISTS

First, we would like to ask you a few questions about yourself and your current area of physiotherapy practice (demography)

1) What is your gender?

(i) Male



(ii) Female

2) What is your age?

(i) Between 25-34 yrs

i) between 35-44 yrs

(iii) Between 45-54 yrs

v) 55 yrs and above

3) Please indicate the highest physiotherapy qualification you have attained

(i) Diploma certificate

ii) Bachelor degree

(iii) Master degree

iv) Doctoral degree

4) Please indicate your current area of practice

(i) Referral hospital

ii) Regional hospital

(iii) Designated district hospital

v) Private hospital

(v) Private practice

5) How long have you been practicing physiotherapy?

(i) Between 1 to 5 years

(ii) between 6 to 10 years

(iii) Between 11 to 15 years

(iv) between 16 to 20 years

(v) A period of more than 20 years

Second, we would like to ask you about your attitudes, knowledge, engagement and barriers towards evidence-based practice. Please tick the box in front of the sentence that explains your most appropriate response (See the example below)



Evidence-based practice is another perspective of clinical effectiveness

(i) Strongly agree

(ii) Agree

(iii) Disagree

(v) strongly disagree

6) Evidence-based practice is the term used to denote the act of clinical decision-making and practices using information derived from current systematic research

(i) Strongly agree

(ii) Agree

(iii) Disagree

(iv) Strongly disagree

7) Evidence-based practice is the heart of clinical effectiveness

(i) Strongly agree **ثف**

(ii) Agree **ثف**

(iii) Disagree **ثف**

(iv) Strongly disagree **ثف**

8) There is a need to incorporate evidence-based practice in our day-to-day clinical practice

(i) Strongly agree **ثف**

(ii) Agree **ثف**

(iii) Disagree **ثف**

(iv) Strongly disagree **ثف**

9) How useful are research evidences in your everyday management of patients?

(i) Very useful **ثف**

(ii) Useful **ثف**

(iii) Not useful **ثف**

(iv) Don't know **ثف**

10) How long does it take you to get into the staffed medical/healthcare library?

(i) Less than 15 minutes **ثف**



(ii) Between 30 and 45 minutes **ثف**

(iii) About one hour **ثف**

(iv) Half-a day walking distance **ثف**

(v) Not applicable **ثف**

11) How many times have you searched literature in form of published evidence over the last one-month?

(i) None **ثف**

(ii) between 1-5 times **ثف**

(ii) Between 6-10 times **ثف**

(iii) between 11-15 times **ثف**

(iv) 16 times and above **ثف**

12) On average, how many journal articles (Medical disciplines) do you look at or read through per month?

- (i) None **ث** (ii) 1-3 articles **ث**
 (iii) 4-6 articles **ث** (iv) 7-9 articles **ث**
 (v) 9 and above articles **ث**

13) On average how many hours per week do you spend reading your professional literature (Physiotherapy literature)?

- (i) None **ث** (ii) between 1-3 hours **ث**
 (iii) Between 4-6 hours **ث** (iv) between 7-9 hours **ث**
 (v) 10 hours and above **ث**

14) What percentage of your clinical practice do you think is currently evidence-based?

- (i) 1-20% **ث** (ii) 21-40% **ث**
 (iii) 41-60% **ث** (iv) 61-80% **ث**
 (v) 81-100% **ث**



15) Evidence-based practice improves patients' care

- (i) Strongly agree **ث** (ii) Agree **ث**
 (iii) Disagree **ث** (iv) Strongly disagree

16) The adoption of evidence-based practice, though worthwhile as an idea, imposes another demand on already overloaded clinicians

- (i) Strongly agree **ث** (ii) Agree **ث**
 (iii) Disagree **ث** (iv) Strongly disagree **ث**

17) The following is the list of resources that one can use to keep up to date, “journals, textbooks, internet, colleagues, clinical guidelines, Cochran library”

(i) Strongly agree **ثف**

(ii) Agree **ثف**

(iii) Disagree **ثف**

(iv) Strongly disagree **ثف**

18) How often do you make use of research evidences from such resources in light of improving your clinical decision-making and practices?

(i) Very often **ثف**

(ii) Often **ثف**

(iii) Not often **ثف**

(v) Not at all **ثف**

19) Do you have access to World Wide Web?

(i) YES **ثف**



(ii) NO **ثف**

20) Do you have access to any bibliographic databases (e.g. Pedro, Medline, etc)?

(i) YES **ثف**

(ii) NO **ثف**

21) Do you make use of these databases to improve your knowledge?

(i) YES **ثف**

(ii) NO **ثف**

22) Have you attended any training on evidence- based practice? (Seminar, course, workshop, conference, etc)

(i) YES **ثف**

(ii) NO **ثف**

The following is the last bit of the survey. In this Last bit we are going to ask you to give a detailed account, based on your own views and experiences. Please feel free to use the back of this page should you need more space

23) What do you think are the major barriers towards evidence-based practice?

(i) At your area of practice

(ii) At the national level.



24) Can you please describe how evidence-based practice could be facilitated?

(i) At your area of practice

(ii) At the National Level Practice

APPENDIX II

University of the Western Cape

Private Bag X17 Bellville 7535 South Africa
Telephone: (021) 959 2542 Fax: (021) 959 2804

04th of December 2003.

DEPARTMENT OF PHYSIOTHERAPY**INFORMATION LETTER**

Dear Participants, greetings.



I am a postgraduate student, currently pursuing a Master degree in Physiotherapy at the University of The Western Cape (UWC) in Cape Town, Republic of South Africa. As part of the programme I am expected to conduct a research project to fulfill the requirement for the Master of Science degree in Physiotherapy.

The Title for my research topic is “The perceived attitudes, knowledge and barriers towards evidence-based practice amongst physiotherapists in Tanzania”. Ethical clearance from the faculty’s higher degree committee at UWC was obtained. Permission to conduct the study has also been granted by the Ministry of Health here in Tanzania. I would therefore, be

very grateful to you if you could complete the attached questionnaire and return it to me using the address provided herewith in the enclosed envelope, at least by the 15th of January 2004. Please complete only one of the two questionnaires (i.e. the one you feel much comfortable).

Your participation is voluntary. If you agree to participate but later on find unable to do so, you may withdraw your consent and discontinue your participation at any time. If you have any questions either before or after the study, you may contact me either by email (elipemason@yahoo.com or 2347101@uwc.ac.za) or by the cell phone numbers +255 0744 831640 or +27 731 601838.

Results of this study will be availed to all participants.



Wishing you a very cheerful x-mass and a prosperous new year (2004). I am also looking forward to meeting some of you, especially those who will take part in focus group discussion.

I thank you very much for your co-operation.

Elias P Maigeh.

CC The Permanent Secretary, Ministry of Health-Tanzania.

The Executive Directors: - MOI and KCMC.

APPENDIX III

University of the Western Cape

Private Bag X17 Bellville 7535 South Africa
Telephone: (021) 959 2542 Fax: (021) 959 2804

DEPARTMENT OF PHYSIOTHERAPY**18th Dec. 2003**

To _____

Sir /Madame,



RE: Invitation to participate in the focus group discussion as part of study that you were sent a survey questionnaire regarding the attitudes, knowledge, engagement and barriers towards EBP amongst physiotherapists in Tanzania.

Reference is made to the topic above.

You will recall to have received a survey questionnaire that was sent to you at the beginning of December 2003, in respect to the study as indicated above. As part of the study, I am supposed to conduct two focus group discussions to reinforce the survey.

It is my privilege, therefore, to inform you that you have been randomly selected to take part in the discussion, to be held on the 24th day of January 2004 at the premises of the Mu-

himbili Orthopedic Institute. The discussion will start at exactly 10:00 am and will last for only one hour and a-half. A total of eight participants will form the group. The discussion will be audio taped so that no information provided is missed.

Your participation is again voluntary. Attached herewith is a consent form for officials participating. If you agree 2 participate please sign it and return it to me using the stamped envelope enclosed. Other details will be communicated to you on arrival.

Thanking you in advance and looking forward for your cooperation

Sincerely yours,

E. P. Maigeh



- CC.**
1. Directors at KCMC & MOI – Grateful if you could grant permission for the discussion to take place in your premises as scheduled
 2. The Principal Secretary for the MOH – For information

APPENDIX IV

University of the Western Cape

Private Bag X17 Bellville 7535 South Africa
Telephone: (021) 959 2542 Fax: (021) 959

DEPARTMENT OF PHYSIOTHERAPY**4th of December 2003.**

Consent form for officials participating in the study on “The perceived attitudes, knowledge, engagement and barriers towards evidence-based practice among physiotherapists in Tanzania”

**Principal investigator: Mr. Elias P Maigeh**

1. I have read the information sheet that explains the reasons for the study and all the procedures that I am being asked to participate in.
2. All the questions I had about this study have been answered.
3. I clearly understand what I will be required to do if I agree to participate in this study

4. I also know that I have the right to withdraw from the study at any time if I do not want to continue.
5. I am aware that all the information that I give and all the findings of the study are for the use of this study.
6. I am guaranteed confidentiality for the information that I may provide as well as the findings of this study.
7. I therefore, voluntarily agree to take part in this study.

Title and Name of the participant: Prof. /Dr. /Mr. /Mrs. /Ms.



Signature: _____

Date: ____/____/____

APPENDIX V

University of the Western Cape

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DEPARTMENT OF PHYSIOTHERAPY

The guide for the group discussions on the “perceived attitudes, knowledge, engagement and barriers towards evidence-based practice”.

**A: PRE DISCUSSION (15 Minutes)**

1. Self introduction of Discussants
2. Familiarization of the place
3. Briefings on purpose of this discussion (Principle researcher)
4. Norms during the discussions
 - 4.1 Either Swahili or English language to be used in the discussion
 - 4.2 Talking will be done by one member at a time
 - 4.3 Active participation throughout the discussion
 - 4.4 You are advised to raise your hand before engaging in the discussion
 - 4.5 No interruption to the member while talking
 - 4.6 The facilitator (Principle researcher) may, from time to time, probe between

talking if need be.

- 4.7. Cell phones need be put at silence if not switched off during the discussion.

B: DISCUSSION PHASE (1 HRS 15 Minutes)

1. What comes to your mind when you hear the word Evidence-Based Practice?
What exactly it is meant by this word?
2. It is said that evidence-based practice improves patients' care! How?
3. Are there hindrance to practicing evidence-based at both our local areas of
pracices as well as at the national level? If so, what are they?
4. Is there anything that can be done to ensure that our day-to-day clinical
decision-making and practices become evidence-based?
5. How would you describe your current clinical decision-making and
practices in respect to evidence-based practice?