Hanzehogeschool groningen | opleiding fysiotherapie

Evidence-Based Practice: Attitudes, Knowledge and Behaviors of Physiotherapists in Botswana

practical research



**Student: Ronja Warona van der Geest**

**Student number: 355719**

**Supervisor: Caspar Mijlius**

**Date: 5thJuly 2021**

Table of Contents

[Preface 2](#_Toc76383459)

[Abstract 3](#_Toc76383460)

[Introduction 4](#_Toc76383461)

[Method 5](#_Toc76383462)

[Research design and participants 5](#_Toc76383463)

[Procedure 5](#_Toc76383464)

[Instrument 5](#_Toc76383465)

[Statistical analysis 6](#_Toc76383466)

[Results 6](#_Toc76383467)

[Participant characteristics 6](#_Toc76383468)

[Attitude towards EBP 8](#_Toc76383469)

[Knowledge of EBP 8](#_Toc76383470)

[Behavior towards EBP 9](#_Toc76383471)

[Perceived barriers to the use of EBP 10](#_Toc76383472)

[Discussion 11](#_Toc76383473)

[Strengths and limitations 13](#_Toc76383474)

[Conclusion 14](#_Toc76383475)

[Recommendation 14](#_Toc76383476)

[Bibliography 15](#_Toc76383477)

[Appendix 1 – The Questionnaire 17](#_Toc76383478)

# Preface

This thesis was written to fulfill the graduation requirement for the Bachelor of Physiotherapy at the Hanze University of Applied Sciences in Groningen. This cross-sectional study investigates the Attitudes, knowledge, behaviors, and barriers experienced by physiotherapists in Botswana towards to implementation of evidence-based practice.

As part of my physiotherapy education, I received lessons in EBP. Initially I was not a fan! I didn’t want to spend time doing research and reading articles, I wanted to be treating patients. However, as I continued down the road to becoming a physiotherapist, I realized the vital role that EBP plays in our profession, enabling us to provide the best current evidence-based care for our patients. My first internship was conducted in a private practice in Botswana, during this time I observed treatment interventions which are no longer practiced or even taught in the Netherlands. Botswana seemed to be lagging in the research and practical developments being made in physiotherapy. I therefore wanted to investigate the current EBP situation in Botswana. I hope that this research will be able to shine a light on the EBP situation in Botswana and contribute to enhance it.

Writing this thesis was an entirely new experience for me, I imagined my experience would just be me slaving behind my laptop day after day, but I surprisingly found myself digging through paper archives and contacting institutions to try and gather any extra information I could.

I would like to thank my supervisor Caspar Mijlius for his guidance during this process, and for putting up with my endless amount of questions. To my family and friends: I would like to thank you for your endless support, for always being there to keep me motivated and for being a listening ear to the somewhat incoherent ramblings of a thesis writer. I also wish to thank all the respondents of this study; without their cooperation I would not have been able to conduct this research.

Ronja Warona van der Geest

Gaborone (Botswana)

1st July 2021

# Abstract

***Introduction:*** Evidence-based practice (EBP) is the integration of the current best evidence, with clinical expertise and patient values in the decision making about the care of individual patients. This concept has been widely adopted by the profession of physiotherapy. The application and practice of EBP by physiotherapists varies across the globe, high income countries typically have the infrastructure and financial means to support the implementation of EBP. In contrast, Botswana does not have this organizational structure and support. The level of engagement of EBP by physiotherapists in Botswana is unknown as to date there has been no research conducted into this topic in Botswana. The aim of this study was to investigate the self-reported attitudes, knowledge, and behaviors of physiotherapists in Botswana towards evidence-based practice.

***Method:*** A cross-sectional study was conducted using a customized questionnaire about the attitudes, knowledge, behavior, and barriers towards the implementation of EBP. The questionnaire was distributed among physiotherapist practicing in Botswana via WhatsApp, email and telephonically. The results were collected over a 2-week period and analyzed using SPSS.

***Results:*** A total of 12 physiotherapists participated in the questionnaire. Respondents held a positive attitude towards EBP, stating that the application of EBP is necessary (91.7%), that EBP improves patient care (100%) and that applied interventions should be supported by evidence (100%). 66.6% of the respondents stated they were confident in their abilities to efficiently search medical databases and 66.6% of respondents reported they were confident in their ability to critically appraise literature. All participants reported using social media as a tool to keep up to date with research. The largest reported barriers to the implementation of EBP were lack of access to resources and lack of interest, lack of time was rated as the 5th most important barrier.

***Conclusion:*** The respondents of this study hold a positive attitude towards EBP. However, limited self confidence in the performance of the 5 steps of EBP, reliance on social media and the lack of access to resources are significant factors which cause difficulties with the incorporation of EBP into daily practice.

***Key words:*** Evidence-based practice, physiotherapy, Botswana, cross-sectional study

# Introduction

Evidence-based practice (EBP) is an internationally recognized concept adopted by various health care professions. EBP is defined as “the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients.” (David Sackett, 1996). Practicing EBP “means the integration of best research evidence with clinical expertise and patient values.” (MirellaVeras, 2016). The profession of physiotherapy has embraced the EBP process to enhance their clinical practice, reduce the improper use of techniques and improve patient outcomes (Laura Scurlock-evans, 2014) (Ross Iles, 2006).

In order to effectively and efficiently treat patients, every individual physiotherapist has the responsibility to keep up to date with the newest developments in their field. To effectively use EBP to improve patient outcomes, practitioners must understand the process of EBP, as well possess the skills to accomplish it (Ross Iles, 2006). Various education institutions teach the 5 steps of EBP as a technique to improve patient care, they are as follows: 1) ASK: an answerable clinical question, 2) ACQUIRE: the best available evidence, 3) APPRAISE: the evidence, 4) APPLY: the evidence, 5) ASSESS: the evidence (Johnson, 2008).

It is widely known the EBP improves patient care (Laura Scurlock-evans, 2014) (Greta Castellini, 2020). However, not every country in the world applies or practices EBP in the same manner. EBP is commonly implemented in high-income countries (HICs), where “evidence forms the foundation of clinical practice through guidelines, policies and health services infrastructure” (Claire Tiley, 2018). Unfortunately developing nations “have barely no access to appropriate evidence-based decision support or tools to apply evidence” (Alan Pearson, 2010). Given the differences in financial access and support between HIC and developing countries, this current study hypothesized that differences in culture, education, access, support, and assistance from associations could all possibly contribute to the variations in which EBP is applied by physiotherapists across the globe.

It has been clearly established that EBP improves patient care, however, very little is known about the EBPs of physiotherapists in Botswana as there has been no previous research conducted into the EBPs of physiotherapists in Botswana. Each individual physiotherapy practice in Botswana is responsible for defining their own mission, creating, and implementing strategic plans and policies to fulfil their mission. Therefore, there is no nationwide EBP policy or guidelines in Botswana. The policy statement from the Botswana Physiotherapy Association (BPA) states that every individual practice has the responsibility to support its personnel in opportunities which continue their education and training to ensure they remain up to date with the current best evidence (council, 2017). This support “may be given through tuition support, scheduled time away from work, recognition for achievement and in other ways.” (council, 2017). Therefore, in principle every practice should be operating in an EBP manner. Botswana offers one local program for a bachelor’s degree in physiotherapy, which was recently established in 2016. However, the program has not been professionally accredited, students who graduate from this program can therefore not be registered as physiotherapists and cannot be employed by the government or the private sector, both nationally and internationally. To advance professional growth, support and increase the utilization of EBP at an individual and national professional level, it is crucial to understand the current state and factors that influence the implementation of EBP by physiotherapists in Botswana.

Various studies among physiotherapists in several countries have been conducted to identify the barriers physiotherapists experience towards the implementation of EBP. A systematic review by Silvia et al (Tatiane Mota da Silva, 2015) reported that the most frequently reported barrier was lack of time, followed by the inability to understand statistical data and lack of support from employer.

To date there has been no research examining the evidence-based practices of physiotherapists in Botswana. The only research conducted in Botswana which investigated the attitudes of physiotherapists was by Kambole et al (M, 2009), looked into the attitudes of physiotherapists in Botswana when providing treatment to people with HIV/AIDS. This brings forth the question: are physiotherapists in Botswana able to keep up to date with the developments in their field and therefore continue to provide a high-level patient care? The aim of this study is to investigate the current evidence-based practices of physiotherapists in Botswana. The research question is: What are the attitudes, behaviors and knowledge of physiotherapists in Botswana towards evidence-based practice?

# Method

## Research design and participants

A cross-sectional survey was conducted among physiotherapists practicing in Botswana. The physiotherapists were recruited via an existing communication platform, email and telephonically. All physiotherapists practicing in Botswana could be included. If a participant did not agree to the informed consent, they were excluded from answering the questionnaire. Questionnaires which were not filled in completely were excluded from analysis. Table 1 describes the inclusion and exclusion criteria used in this study. Based on the Hanze University of Applied Sciences ethical approval form, it was determined that approval of an ethical board was not needed for the conduction of this practical research.

Table 1 inclusion and exclusion criteria

|  |  |
| --- | --- |
| **Inclusion** | **Exclusion** |
| * Licensed physiotherapist
* Currently practicing in Botswana
 | * Failed to agree with informed consent
* Incomplete questionnaire
 |

## Procedure

An online questionnaire was created via google forms and was distributed via an existing communication platform (a WhatsApp group), purposefully created to allow for the easy communication between physiotherapists practicing in Botswana. After one week a reminder was sent to the WhatsApp group, and individual practices were contacted via email or telephonically to ask for their participation in the research. All participants were asked for their informed consent before taking part in the questionnaire. When answering the questionnaire, participants were able to revisit and change their answers on previous pages by using the “back” button; however, they were unable to reenter the questionnaire after they had submitted it. The questionnaire was closed after a 2-week period.

## Instrument

A questionnaire (appendix 1) was developed for this study using questions obtained from various previously developed questionnaires, each addressing EBP in their specific country (Sweden (Susanne Bernhardsson, 2013), USA (Dianne U Jette, 2003), Australia (Ross Iles, 2006) and Saudi Arabia (Mansour A. Alshehri, 2017)). In addition to this, new items which had not been addressed in these previous questionnaires were added. The questions were adapted to suit the environment in which they would be distributed.

The questionnaire was designed to explore the following constructs: participants attitudes towards EBP (Susanne Bernhardsson, 2013), (Dianne U Jette, 2003) (Mansour A. Alshehri, 2017), their knowledge and skills regarding accessing, analyzing and using information (Ross Iles, 2006), (Dianne U Jette, 2003) (Mansour A. Alshehri, 2017), their behaviors towards the use of resources and literature (Susanne Bernhardsson, 2013), and their perceived barriers towards the use of evidence in practice (Dianne U Jette, 2003) (Ross Iles, 2006) (Mansour A. Alshehri, 2017). Demographic data, practice (hours of work per week, years of experience) and formal training in EBP data were also collected.

Questions concerning attitudes, knowledge and skills were answered using a 5-point Likert scale ranging from “strongly disagree” to “strongly agree”. Responses to questions concerning behavior varied from number of articles read, to number of times the behavior was performed per month. Each term used in scientific articles was rated on a 5-point Likert scale ranging from “never heard of it” to “understand completely and could explain to others”. Each barrier was rated using a 5-point Likert scale ranging from “a major barrier” to “not a barrier at all”.

A draft of the questionnaire was forwarded to two physiotherapists, each with experience in EBP and conducting research, asking them for feedback on content and language. The questionnaire was modified accordingly.

## Statistical analysis

The collected data was analyzed using the statistical analysis software IBM SPSS for windows (version 25). The data obtained per construct: attitude, knowledge, behavior, and barriers, was analyzed for normal distribution using the Shapiro-wilk normality test, as it is more appropriate for small sample sizes of less than 50 samples (Mishra P, 2019). The hypothesis of normality was rejected if the p-value was less than 0.05, resulting in no normal distribution. Descriptive analysis was conducted on the demographic data and was described by means, standard deviations (SD) or number and percentages. Data which was normally distributed allowed for mean and SD calculations. Data which was not normally distributed was treated as ordinal data and median, interquartile range and percentage calculations were conducted.

For items using the Likert scale ranging from “strongly disagree” to “strongly agree”, “strongly disagree”, “disagree” and “neutral” were clustered together do describe low self-confidence in ability. “Strongly agree” and “agree” where combined to describe having confidence. The scores of the self-reported knowledge of terms utilized in research are clustered into two groups, “never heard of it”, “heard of it but do not understand it” and “have some understanding” are clustered together to describe least understood terms. “Understand very well” and “understand completely and could explain to others” are clustered together to describe the terms most understood. The scores of perceived barriers to EBP were clustered together whereby “a large barrier” and “a major barrier” represent a large barrier to EBP, and “not a barrier at all”, “a bit of a barrier” and “a moderate barrier” are clustered together to represent a minor barrier to EBP.

# Results

## Participant characteristics

A minimum of 78 physiotherapists were approached via the WhatsApp group, and 23 practices were telephonically contacted. A total of 12 respondents participated in the study, the maximum response rate was approximately 15.4% (12/78), all responses where complete and included in the data analysis. The majority of the participants were female (58.3%). The majority of participants were in the age group 30-39(41.7%), twenty-five percent of respondents were over the age of 50. The highest degree obtained by the majority (91.7%) of the respondents was a bachelor’s degree, only one participant had obtained a master’s degree and none a doctorate. Seventy-five percent of the participants received or undertook training in EBP, 33% of which received an EBP course as part of their university training. Table 2 depicts the characteristics of the study participants.

Table 2 Characteristics of participants

|  |  |  |
| --- | --- | --- |
| Characteristic | Percentage (%) | Number |
| SexMaleFemale | 41,758,3 | 57 |
| Age 20-2930-3940-4950-5960+ | 16,741,716,716,78,3 | 25221 |
| Years of experience <55-1011-1516-2020+ | 16,733,38,38,333,3 | 24114 |
| Highest degreeBachelorMastersDoctorate  | 91,78,30 | 1110 |
| Hours worked per week<2020-3030-4040+ | 08,341,750 | 0156 |
| Work settingPrivate practicePublic hospitalPrivate hospitalRehabilitation center  | 41,725,016,716,7 | 5322 |
| Participation in continuing education courses (>once a year)NoYes | 8,391,7 | 111 |
| Undertaken/received training in EBPNoyes | 2575 | 39 |
| Type of EBP course undertakenNoneEBP course as part of university educationComprehensive course (11-20 hours)Short course (3-10 hours) One lecture (1-2 hours)  | 2533,32516,700 | 343200 |

Evidence-based practice (EBP)

## Attitude towards EBP

In general, respondents held a positive attitude regarding EBP, with the majority stating that: they agreed or strongly agreed that the application of EBP is necessary (91.7%), EBP improves the quality patient care (100%), and that applied interventions should be supported by evidence (100%). Eighty-three percent of the participants stated they either disagreed or strongly disagreed that adopting EBP places unreasonable demands on physiotherapists. Solely 33.3% of respondents believed they followed the most current patient guidelines. In addition, all participants agree or strongly agreed they needed to increase their use of EBP in their daily practice, of which 91.6% indicated that they agreed or strongly agreed that they were interested in learning or improving their EBP skills. Figure 1 shows the distribution of responses related to attitudes towards EBP.

Figure 1 Self-reported attitudes towards EBP. EBP (evidence-based practice), PT’s (physiotherapists)

## Knowledge of EBP

Eighty three percent of the respondents agreed with the definition of EBP. Seventy-five percent of respondents agreed or strongly agreed that they were able to convert their information needs into questions. 83.3% stated they were familiar with medical search engines such as PEDro and PubMed, and 66.6% of the respondents stated they were confident in their abilities to efficiently search these databases. 66.6% of respondents stated they were confident in their ability to critically appraise literature. 91.7% of respondents agreed or strongly agreed that they were confident in their abilities to apply research findings to their patients. Figure 2 shows the participants self-reported knowledge and skills of EBP.

Figure 2 Self-reported knowledge and skill of EBP. EBP (evidence-based practice)

The respondents self-reported knowledge of terms utilized in research are depicted in figure 3. Concerning the least understood terms, participants had never heard of it, heard of it but didn’t understand it or only had some understanding for the following terms: Confidence interval (41.7%), P-value (33.3%) and Standard deviation (33.3%). The terms which were most understood were Randomized Control Trail (83.3% understood this completely or very well), Statistical significance (83.3% understood this completely or very well), Publication bias (75% understood this completely or very well) and systematic review (75% understood this completely or very well).

Figure 3 self-reported knowledge of specific research terms (percentage)

## Behavior towards EBP

In this construct, respondents’ behaviors towards medical database searches, reading literature related to clinical practice and using social media to keep up to date with research were assessed. More than 66 percent of the respondents reported performing more than 2 database searches per typical month. Thirty three percent of respondents reported reading fewer that 2 articles per month. The majority of respondents (50%) reported reading 2-5 articles in an average month. Every participant reported using social media, social media was used more than databases as 16.7% of respondents indicated never searching databases. Fifty percent of respondents reported using social media to keep up to date with research weekly or daily. Table 3 shows the participants behaviors towards EBP.

Table 3 Behaviors of participants towards EBP

|  |  |  |
| --- | --- | --- |
| Item | Frequency of use | Percentage (%) |
| Times per month databases used | NeverOnce a month 2-5 times a month 6-10 times a month  | 16,716,733,333,3 |
| Number of articles read per month | 0 articles 1 article 2-5 articles 6-10 articles  | 16,716,75016,7 |
| Frequency of social media used to keep up to date with research | NeverLess than once a month At least once a monthWeekly Daily  | 016,733,333,316,7 |

## Perceived barriers to the use of EBP

Figure 4 depicts the perceived barriers to EBP implementation reported by the participants of this study. The largest barriers reported were the lack of access to resources (50%), followed by the lack of interest (50%) and lack of research skills (41.6%). The items reported least as perceived barriers to EBP were research not applicable to patient population(58.4%), followed by poor ability to critically appraise literature (50%) and lack of time (33.3%)

Figure 4 Participants perceived barriers to EBP, evidence-based practice (EBP)

# Discussion

The objective of this study was to investigate the attitudes, behaviors, and knowledge of physiotherapists in Botswana regarding EBP. This study indicated that physiotherapists in Botswana have a positive attitude towards EBP. This positive attitude is congruent with existing literature, as similar results have previously been reported in Italy, where 90% of respondents demonstrated a positive attitude towards the use of EBP (Greta Castellini, 2020) as well as in America, where 79-90% of the respondents agreed or strongly agreed with the items which were indicative of a positive attitude towards EBP (Dianne U Jette, 2003). The results suggest that physiotherapists in Botswana believe the use of EBP in practice is necessary and that EBP improves the quality of patient care, even so, the behavior of EBP may not be imbedded in their day-to-day practice. However, this finding may be influenced by the low number of respondents to the study.

A positive attitude towards EBP was found to be held by physiotherapists in high income countries such as America (Diane U Jette, 2003), Italy (Greta Castellini, 2020) and Sweden (Lohse, 2010). Furthermore, despite the significant difference in income, and potential effect of differences in education, culture, access, support, and assistance from associations, positive attitudes were also observed in the low/middle income countries such as Ghana (Quartey, 2018) and Brazil (Silva TM, 2015). However, A review by Scurlock-Evans et al (Laura Scurlock-evans, 2014) highlighted a discrepancy between attitudes and behaviour, stating that some practitioners with positive attitudes failed to consistently implement EBP while others with less positive attitudes implemented it more frequently. Therefore, the reported positive attitudes does not mean the behavior is actually being performed.

This study showed that physiotherapists in Botswana are mainly positive about their own knowledge and skills towards the implementation of the 5 steps of EBP, such as the ability to apply research findings to clinical practice (step 4). However, 33.3% were not confident in their ability to perform step two of EBP, acquiring evidence, even though 83.3% reported being familiar with the medical databases such as PeDRO and PubMed. Similar results were found in a study conducted in Ghana, where almost 40% of participants were not confident in their ability to effectively search for literature (Quartey, 2018). The decreased level of confidence reported by the physiotherapists in this step of EBP could have arisen from the fact that there have been no additional programs or courses organized in Botswana to date which address the knowledge and skills of EBP. Physiotherapists in Botswana have mainly acquired their knowledge and experience of how to search databases efficiently and effectively from their university education. This raises the question as to whether the majority of the physiotherapists in Botswana unknowingly overestimate their competence in their EBP knowledge and skills and are therefore unwittingly incompetent in the processes of EBP.

33.3% of physiotherapist in this study were not confident in step 3 of EBP, critically appraising literature, nevertheless they do not perceive poor ability to critically appraise literature as a major barrier to the implementation of EBP. A systematic review by Condon et al (C. Condon, 2015) found that over 50% of respondents reported confidence in appraising literature, however a discrepancy between ability and practice was indicated as respondents also had difficulty interpreting statistical results or had poor level of research skills. This may suggest that physiotherapists in Botswana do not or have difficulties critically appraising literature. Therefore, they may not be discriminating between research with high or low levels of evidence, which in turn effects the quality of patient care.

In this study the lack of access to resources was reported to be the most notable barrier. Similarly, a study conducted in Ghana by Quartey et al (Quartey, 2018) reported lack of information resources as the third major barrier to the implementation of EBP. This could indicate as to why physiotherapists in Botswana have turned to social media for evidence. Every participant in this study reported using social media (podcasts, blogs, Instagram, Facebook, or Twitter) as a tool to keep up to date with research, with more physiotherapists in Botswana using social media than searching databases or reading articles. This could be due to the limited access to resources as there is no institutional support which grants this easy accessibility. Furthermore, it could be out of convenience due to poor research skills.

The usage of social media creates a risk for the adoption of behavior which is conflicting to EBP as it is not in line with the 5 steps of EBP. Keeping up with clinical advances reported in research is difficult due to the large number of published articles per year, from April 2020 – April 2021, 3577 RCTs, SR and clinical guidelines were published in peDRO alone, this would require reading 9.8 articles per day for 365 days per year. There is an estimated time lag of 17-23 years between journal submission and the use of evidence in practice (Zoe Slote Morris, 2011). A research-practice gap exists, where despite advances in research, clinical practitioners continue to use outdated and sometimes even harmful treatments to manage their patient’s problems (Ahuja Devdeep, 2012). Social media platforms have been established with the aim to help translate research into clinical practice by making research easily accessible to therapists. This raises the concern that therapists rely on predetermined evidence posted online, instead of undertaking the process of acquiring and assessing research evidence individually to form their own opinions.

Botswana lacks the variety of structures which influences the application of EBP. In order to support and encourage EBP countries have built up an EBP environment. “EBP requires the creation of an environment that fosters lifelong learning to increase the use of evidence in practice” (Deborah Dang, 2018). They have achieved this environment by implementing strategies and structures which help to build an EBP culture and promote the implementation of EBP, such as councils, symposiums, the provision of resources (time, money, access to library/computers), workgroups and journal clubs (where recent literature is discussed and whether their own practice will improve with implementation of the reported research findings) (Kathleen S. Oman, 2008), (Leanne M. Aitken, 2011). Various countries have also established professional organizations such as the Royal Dutch society for physiotherapy (KNGF), Australian physiotherapy association (APA), Chartered society of physiotherapists (CSP) and American physical therapy association (APTA), which provide their members with access to online scientific journals, clinical practice guidelines and professional developments programs. The only structure which Botswana possesses is a physiotherapy association, Botswana Physiotherapy Association (BPA), however it has not been able to establish an EBP orientated environment within the country. The organization has not been able to provide its members with additional access to resources, support in professional development, or the afore mentioned strategies which help to enhance EBP. For physiotherapists in Botswana access to literature is limited to open access journals, as access to the latest and full text articles requires expensive individual subscriptions to electronic databases and journals. Therefore, physiotherapists in Botswana have come to rely on a mentor mentee system, where they ask for help or guidance from more experienced therapists, rather than consulting evidence. A similar situation is found in Brazil, where physiotherapists agree that “an expert’s opinion was the most important factor in decision-making, which contradicts one of the center pillars of EBP by which evidence should be provided by high-quality clinical research and not by experts opinion” (Silva TM, 2015). Whether physiotherapists in Botswana hold the same beliefs as the Brazilian therapists, or whether they have turned to experienced mentors for information out of convenience is not known.

Although the participants in this study hold positive attitudes towards EBP and 91% reported they were interested in learning or improving the skills necessary to incorporate EBP into their practice, lack of interest was rated as the second biggest barrier to EBP. This finding may be explained by several reasons. The participants of the study could have been providing socially desirable answers when asked if they were interested in learning or improving their EBP skills. Talking about evidence is not considered to be a norm among physiotherapists in Botswana, this in addition to a lack of an EBP environment may have led to them not seeing the benefit of improving in EBP and therefore the reluctance to put in the effort to make a change. However, given the design of this study, further research is needed to understand the intricacies of this barrier.

The participants of this study rated lack of time as the 5th greatest barrier to EBP. This finding differs from most previously conducted research which describe lack of time as a major barrier, it is generally reported to be the biggest barrier to the use EBP (Silva TM, 2015) (Lohse, 2010). A possible explanation as to why participants in this study did not identify “lack of time” as the greatest barrier to EBP is that most participants do not have access to resources and may therefore not be in a position to put the time and effort into research. This could lead to an unawareness of the amount of time required to conduct the process of EBP. On the other hand, 50% of the participants work less than 40+hours per week, they might not deem their workload to be overwhelming, this may explain why lack of time was not rated as a major barrier to the use of EBP by physiotherapists in Botswana.

## Strengths and limitations

There are some limitations to this cross-sectional study. Firstly, to meet the aims and objectives of this study a questionnaire was developed, therefore it’s validity and reliability were not assessed. However, as there is no universally recognized measurement instrument to assess EBP amongst physiotherapists, various studies modify existing instruments or develop new ones to meet the aims of their research, furthermore existing questionnaires were mainly developed in high income countries, the contexts of low/middle income countries may differ (Helen Buchanan, 2015). As the properties of an instrument are culturally and contextually dependent, the validity and reliability of an instrument must be tested in the setting in which it will be conducted (Helen Buchanan, 2015). Therefore, the decision was made to develop a questionnaire from constructs which have previously been examined. Secondly, there is always a risk of bias when using self-report questionnaires, the accuracy of the results are uncertain as participants self-portrayal of their attitudes/knowledge/behaviors may not reflect the actual situation or behavior, some participants may provide answers which are deemed more socially desirable. Thirdly, the number of responses to the questionnaire were low, it is therefore possible that this small sample size lacks the power to be representative of the entire physiotherapy population in Botswana. It is possible that physiotherapists who are more engaged and interested in EBP were more likely to take part in the questionnaire. Furthermore, due to the small sample size only descriptive statistics could be used for the analysis of the results, this also did not allow for comparison between groups.

To the authors knowledge, this is the first study investigating the attitudes, knowledge, behaviors, and barriers of physiotherapist in Botswana towards EBP. Currently there is little known about the application of EBP in Botswana, the government and BPA could not provide information about the level of application of EBP in Botswana. This study has led to new evidence which can be utilized for further research, provide insight into the development of EBP policies or implementation of strategies for the benefit of the physiotherapy community in Botswana. However, the results of this study are based on a small sample size, this must be taken into consideration before any action or decisions are made. The data was collected via a self-report questionnaire, other than in-depth interviews, self-report questionnaires are the only method to obtain information concerning participants attitudes and beliefs. There is no standardized tool for the assessment of EBP’s of physiotherapists, as the researcher of this study grew up in Botswana, they are in a unique position of knowing the people, culture, and system, which provides the distinct benefit for the creation of a questionnaire specific for this population. Furthermore, online self-report questionnaires are a time efficient and cost-effective method to obtain a large amount of data on a subject that little is known about. Although the number of responses to the questionnaire was low, many steps were undertaken in an attempt to maximize the number of responses. Various methods were utilized and exhausted: messages and reminders were sent to the existing physiotherapy community WhatsApp group, emails were sent, practices and hospitals were contacted by telephone and reminders were sent out.

## Conclusion

The respondents of this study hold a positive attitude towards EBP, value the use of scientific evidence to guide practice and improve patient outcomes, however, they have difficulties incorporating evidence into daily practice. The limited self-confidence to perform the 5 steps of EBP, the reliance on social media and the lack of access to resources are significant factors which impede the implementation of EBP into practice. Overall, there is a need to develop and implement strategies which can assist, encourage and create an EBP culture to allow the physiotherapists in Botswana to gain a higher knowledge and proficiency in EBP. This could be representative of the entire population of physiotherapists in Botswana. Nevertheless, to determine this with certainty more respondents are needed.

## Recommendation

The provision of physiotherapy services based on EBP is essential for effective and efficient patient care, this should be a common goal for physiotherapists across the globe. The respondents of this study are ambivalent, they hold positive attitudes towards EBP, yet their behavior is conflicting with the processes of EBP as they rely on social media for research evidence. As this was the first research examining the evidence-based practices of physiotherapists in Botswana, it is of utmost importance that further research is conducted before action can be undertaken to develop strategies for the uptake, utilization, encouragement, and sustainability of EBP in Botswana. Further insight is needed into the physiotherapists level of EBP knowledge and skills as patients may still be receiving outdated therapy methods. In addition to this, research needs to be conducted into the organizational infrastructure, financial, interest, EBP culture and EBP environment aspects which could affect the implementation of EBP in Botswana.

There is a need to create an EBP environment which facilitates the professional development and growth of physiotherapists in Botswana, for the benefit of patient care. In order to encourage the implementation of EBP, the organizational body could provide clinical guidelines, educational seminars, conferences and develop journal clubs, which promote discussion of research findings.

# Bibliography

David Sackett, W. M. (1996, January 13). Evidence based medicine: what it is and what it isn't. *British Medical Journal, 312*.

MirellaVeras, D. K. (2016). what is evidence-based physiotherapy? *Physiotherapy Canada, 68*(2), 95-96.

Ross Iles, M. D. (2006). Evidence based practice: a survey of physiotherapists’ current practice. *Physiotherapy research international, 11*(2), 93-103.

Johnson, C. (2008). Evidence based practice in 5 simple steps . *Journal of Manipulative and Physiological Therapeutics*.

M, K. (2009). Attitudes of physiotherapists in Botswana to treating people living with HIV/AIDS. *SA journal of physiotherapy, 65*(2).

Claire Tiley, M. K. (2018, august ). Evidence-based practice in a multicultural world: changing with the times. *British Journal of Psychiatry International., 15*(3), 55-57.

Susanne Bernhardsson, M. E. (2013). Measuring Evidence-Based Practice in Physical Therapy: Translation, Adaptation, Further Development, Validation, and Reliability Test of a Questionnaire. *Physical therapy, 93*, 819-832.

Dianne U Jette, K. B. (2003, september). Evidence-Based Practice: Beliefs, Attitudes, Knowledge, and Behaviors of Physical Therapists. *Physical therapy, 83*(9), 786-805.

Mansour A. Alshehri, A. A. (2017). Physiotherapists’ behaviour, attitudes, awareness, knowledge and barriers in relation to evidence-based practice implementation in Saudi Arabia: a cross-sectional study. *International Journal of Evidence-Based Healthcare, 15*, 127-141.

Alan Pearson, Z. J. (2010). Evidence-based healthcare in developing countries. *international journal of Evidence-based Healthcare* , 97-100.

Tatiane Mota da Silva, L. d. (2015). What do physical therapists think about evidence-based practice? A systematic review. *Manual Therapy, 20*, 388-401.

Diane U Jette, K. B. (2003). Evidence-Based Practice: Beliefs, Attitudes, Knowledge, and Behaviors of Physical Therapists. *physical therapy, 83*(9), 786-805.

Greta Castellini, D. C. (2020). Twenty-­five­years­after­the­introduction­ of­Evidence-b­ased­Medicine:­ knowledge,­use,­attitudes­and­barriers­ among­physiotherapists­in­Italy­—­a­ cross-s­ectional­study. *BMJ Open, 10*.

Lohse, Y. N. (2010). Evidence-based physiotherapy: A survey of knowledge, behaviour, attitudes and prerequisites. *Advances in Physiotherapy, 12*, 179-186.

Quartey, J. a. (2018). Barriers to evidence-based physiotherapy practice for stroke survivors in Ghana. *South african journal of Physiotherapy, 74*(1).

Silva TM, C. L. (2015, July-Aug). Evidence-Based Practice: a survey regarding behavior, knowledge, skills, resources, opinions and perceived barriers of Brazilian physical therapists from São Paulo state. *Brazilian journal of physical therapy, 19*(4), 294-303.

C. Condon, N. M. (2015). Ability of physiotherapists to undertake evidence-based practice steps: a scoping review. *Physiotherapy, 102*.

Zoe Slote Morris, S. W. (2011). The answer is 17 years, what is the question: understanding time lags in translational research. *Journal of the Royal Society of Medicine, 104*, 510-520.

Ahuja Devdeep, B. G. (2012, Oct-Dec). BARRIERS TO, AND STRATEGIES FOR IMPLEMENTATION OF EVIDENCE BASED PRACTICE IN PHYSIOTHERAPY IN INDIA – A DISCUSSION PAPER. *BFUPJ, 1*(1).

Deborah Dang, S. L. (2018). Creating a supportive EBP environment. In S. L. Deborah Dang, *John Hopkins Nursing Evidence-Based Practice: model and guidelines (3rd edition).* Sigma Theta Tau inteernational.

Kathleen S. Oman, C. D. (2008, January ). Evidence-based policy and procedures. an algorithm for success. *the journal of nursing administration, 38*(1), 47-51.

Leanne M. Aitken, B. H. (2011). Creating an environment to implement and sustain evidence based practice: A developmental process. *Austrailian Critial care, 24*, 244-254.

Helen Buchanan, N. S. (2015). Survey Instruments for Knowledge, Skills, Attitudes and Behaviour Related to Evidence-based Practice in Occupational Therapy: A Systematic Review. *Occupational therapy international, 23*, 59-90.

Laura Scurlock-evans, P. U. (2014). Evidence-Based Practice in physiotherapy: a systematic review of barriers, enablers and interventions. *chartered society of physiotherapy*.

Mishra P, P. C. (2019). Descriptive Statistics and Normality Tests for Statistical Data. *Annals of cardiac anaesthesis, 22*, 67-72.

council, B. p. (2017). *Botswana physiotherapy association standards of practice for private practice.* Gaborone.

# Appendix 1 – The Questionnaire



