

**KNOWLEDGE, ATTITUDE AND BARRIER TO EVIDENCE –
BASED PRACTICE AMONG PHYSIOTHERAPISTS IN
SELECTED DISTRICTS OF NEPAL**

By

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DECLARATION

- This work has not previously been accepted in substance for any degree and is not concurrently submitted in candidature for any degree.
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- This dissertation is the result of my own independent work/investigation, except where otherwise stated. Other sources are acknowledged by giving explicit references.

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List of abbreviations

EBP: Evidence Based Practice

EBPT: Evidence Based Physical Therapy

NHPC: Nepal Health Professional Council

NHRC: Nepal Health Research Council

PT: Physical Therapy

SPSS: Statistical Package for Social Sciences

WCPT: World Confederation of Physical Therapy

χ^2 : Chi square

Abstract

Introduction

Evidence based Practice is the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients (conscientious: based on principles, explicit: clear, judicious: sensible) (Sackett et al., 1996). Evidence based practice was started from 1990 in Physiotherapy and in Nepal from 2010 (Hoffman et al., 2010).

Objective: The objective of the study was to determine the level of Knowledge, Attitude and Barriers towards Evidence Based practice among physiotherapists

Methods: A cross-sectional study was carried out. Sample size consisted of 164 Physiotherapists. Data were collected from the Physiotherapists working in different hospitals and rehabilitation centers of Nepal. The questionnaire was adapted from the standard questionnaire by Jette et al and Yahui & Swaminathan. Self-reported questionnaires were distributed and collected later. Data were analyzed using SPSS .Mainly descriptive and inferential statistics were used and Chi-square tests and multiple logistic regression analysis were carried out.

Results

It was found that the Physiotherapists had positive attitude towards EBP with 95.2% agreeing or strongly agreeing that EBP is necessary in practice of Physical Therapy and also overall total mean score of 34.73(72.35%) out of 48 and overall mean 2.8 out of 4. It was also found that Physiotherapists had moderate knowledge towards Evidence Based Practice with overall total mean score of 19.18(68.5%) out of 28 and overall mean of 2.74 out of 4. Only 68.3% of the respondents agreed the fact that they were confident in their ability to critically review professional literature. It was found that those having specialization degree had five times greater knowledge than without specialization. They tend to be more familiar with the research terms. The respondents seemed to have good understanding of research terms with maximum of the respondents not understanding the term odds ratio. Availability of search engines at home and away from home were similar. Significant associations were seen between knowledge, attitude and specialization level, gender, facility at which Physiotherapist work and number of patients seen in a day. It was found that only 32.3% of the Physiotherapists read less than 2 articles in a month. Major

barrier to Evidence based practice were obtained insufficient time and traditional methods of treatment.

Conclusion & Discussion

Physical Therapists of Nepal stated they had positive attitude towards Evidence-Based Practice with majority of the Physiotherapists interested in learning more about the topic. They were of the opinion that they needed to increase the use of evidence in practice. They thought major barrier as insufficient time hence continuous professional development trainings that incorporate EBP were of greater importance.

Key words: Knowledge, Attitude, Barrier, Evidence-Based Practice

1.1 Background

Evidence based Practice is the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients (conscientious: based on principles, explicit: clear, judicious: sensible) (Sackett et al., 1996). “According to Bohannon & Le Veau (1986), the objective of human service professions is such as Physiotherapy is to improve the status of patient or client and all interventions aimed at achieving this goal should be found on knowledge that is research based”. It seems that the importance of Evidence based practice had been recognized long back and has been emphasized since two decades by many authors (Turner & Whitfield, 1997).

According to definition of WHO, Physiotherapists assess, plan and implement; rehabilitate programs that improve or restore human motor functions, maximize movement ability, relieve pain syndromes and treat or prevent physical challenges associated with injuries, disease and other impairments (WHO, 2013). It has been seen that professionals in clinical healthcare welcome Evidence Based Practice although there are numerous chances for actual bedside application for EBP and numerous improvements regarding Evidence Based Practice (Ubbnik et al., 2018).

Physiotherapy started in Nepal during 1970's with the specialists from India and abroad providing basic training to few number of Nepalese. In 1983 Institute of Medicine under Tribuhan University started Diploma course (NEPTA, 2017).The course continued from 1983 to 1990 producing 50 Diploma level Physiotherapist. At 1990 few organizations also provided 3 months Primary Rehabilitation Training. Kathmandu University in 2002 again started 3 years Diploma level course. It produced about 90 Physiotherapists until 2009. After that, keeping in mind about the world scenario and in order to improve the level of the course; Kathmandu University stopped Diploma level course and started the first ever Bachelor's degree in Physiotherapy in 2000(NEPTA, 2017).

Evidence based practice started from 1990 in Physiotherapy and in Nepal from 2010 (Hoffman et al., 2010). Physiotherapy profession in Nepal has been an emerging professions with 2000 Physical therapists registered under NHPC (Nepal Health Professional Council). There is no research regarding the application of Evidence Based

Practice among Physiotherapists in Nepal. Evidence Based Practice is one of the most important aspect these days in any profession. It is much preferred all over the world .Hence, in order to develop the base of evidence based practice, it is important to know about the knowledge and attitude regarding evidence based practice and also the major barriers regarding practice of Evidence-Based Practice (Grol & Wensing, 2004). Evidence Based Practice involves the integration of the best available research evidence with clinical expertise and patient values and circumstances to make best decision regarding patient care. As the evidence based practice expands, it is important to assess if the rehabilitation professionals are able to locate, evaluate as well as apply evidence to guide practice (Ubbnik et al., 2017).

World Confederation of Physical Therapists (2003) declared a policy statement on EBP, in which they stated that “Physical therapists have a responsibility to use evidence to inform practice and ensure that the management of patients/clients, carers and communities is based on the best available evidence”. Evidence based Practice mainly comprises of 5A’s.They are Ask, Assess, Acquire, Appraise and Apply. Any hindrances in one of the process would result in the barrier to evidence based practice (Condon et al., 2016).

Numerous barriers have been experienced by the therapists for evidence based practice. Numerous researches have been carried out in the Western countries but there still exists lack of enough research regarding Evidence based practice in Nepal. Evidence Based Practice mainly bridges the gap between practice and research. It is of much importance to move from opinion based practice to evidence based practice. EBP is one marker for life-long learning (Ramirez-velez et al., 2015). It needs patient-centered learning which is totally lacking in developing countries. Applying EBP in practice is very essential. It should be recognized and practice through Evidence-Based policies to make it happen. There certainly are problem of adherence among the seniors. Habits are hard to change (Grol & Wensing, 2004) .Sometimes it takes lifetime to implement and take it to action for real life. Knowing alone is not enough, we must apply and implement. So, in order to bring it into practice, we need to act and have good appraisal skills and also ability to criticize own practice and attitude to evidence base (Hakkennes & Dodd, 2008).

One of the major barriers to Evidence based practice in Nepal is also the limited research due to lack of funding, poor health research planning and policies, lack of proper training and underdeveloped research culture (Teijlingen, 2015). The main barrier to EBP could be

inaccessibility as well. Unavailability of computer facilities and internet except in the bosses' office produces great challenge towards the practice. On the other hand, in the developed countries, use of outdated books has minimized due to availability and accessibility of information technology. Computer and information technology has been an essential component for faster patient care (Grol & Wensing, 2004).

According to earlier studies in England, Canada and USA, it was hypothesized that differences may exist on the basis of year since graduation and the level of education attained (Iles et al., 2006).

Research skills and understanding of research terms are one of the most important factors towards evidence based practice. Although many Physiotherapists have explained about the complete understanding of the research terms but McColl et al. (1998) found out that the Physiotherapists that said could understand the terms were not able to explain it satisfactorily as that required for the teaching. The study also suggested that five steps of Evidence Based Practice as those proposed in literature has not been followed by the Physiotherapists due to lack of time as the major barrier, even after understanding about their importance (Iles et al., 2006).

According to the literature by Upton & Lewis (1999), the dual concept of Evidence-Based Practice and clinical effectiveness became increasingly important in health care in those years that government developed plans for establishment of national Institute for Clinical Excellence in UK.

1.2 Justification

Evidence-Based Practice is most accepted method for clinical as well as rehabilitation practice but there is no information regarding knowledge of Evidence based practice, hence this needs to be carried out in Nepal as well. There is huge discrepancy between the amount of research evidence that exists and the use of this evidence within clinical health practice. No evidence has been shown in Nepal as such but research in Canada has shown that more than 40% of the patients do not get evidence based care. It is shown that more than 20% of provided care is unnecessary or potentially harmful for the patients. An investigation carried out in Sweden revealed that 8.6% of patients were injured in hospital care due to lack of actual knowledge. In order to reduce such injuries evidence based practice needs to be implemented. According to by Ploeg and others, there are several factors affecting the implementation of Evidence-based Practice such as health care provider's attitude, beliefs, support, and integration of recommendation at organizational level. It has been stated that it is important to understand about the barriers to carry out specific activity for proper implementation of it. Research work that is carried out in Nepal is very few and regarding Evidence Based Practice, no research work has been carried out till this date. It is quite important to be updated with research and for that Evidence Based Practice needs to be brought into focus. Only with proper research health professionals can be updated regarding various practices as it has been seen that whatever taught as important at one aspect of time no longer remained important in 15 years of time later on. Rehabilitation Professionals as well as health professionals require right attitude, knowledge and confidence to carry out evidence based practice.

1.3 Research Question

What is the level of knowledge, attitudes and barriers to evidence based practice in Nepal?

1.4 Operational Definition

Evidence Based Practice

Evidence Based Practice incorporates current best evidence with the therapists experience and patient's decision making for the sake of better patient care.

Attitude

Attitude is way of thinking towards someone or something which can be seen in someone's behavior. It is manner, disposition, and feeling, position with regard to person or thing.

Knowledge

Knowledge can be defined as the understanding of the subject or facts that one obtains from understanding or education. Not only the attainment of knowledge but the organization of knowledge is the most important aspect. For performance of better results utilization of knowledge is considered important.

Barrier

Barrier can be explained as any obstacle faced by an individual towards performing a certain act. Barrier is hindrance faced in performance of the certain activity. In case of the research, the major barrier towards evidence based practice are time constraints, lack of resources

Physiotherapist

Physiotherapists are the health care professionals who assess, diagnose and treat patients to prevent any form of disability or disease. Physiotherapists work in various clinical setting or rehabilitation centers. Some Physiotherapists even have started their services in community. It has been a new profession in developing countries. People have slowly started understanding the importance of Physiotherapy .The profession still needs to be integrated and research is one of the important aspect for upliftment of the profession.

Evidence Based Medicine

Evidence based Medicine is mainly about integrating individual clinical expertise and the best clinical experience. Its philosophical origin extends back to mid 19th century Paris earlier and remains a hot topic for clinician's, public health practitioners, purchasers, planners and the public. "Criticism to Evidence Based Practice has been from being old hat to it being dangerous innovation perpetrated by the arrogant to serve cost cutters and suppress clinical freedom." It was said that good doctors used both individual clinical expertise and the best available external evidence and neither one alone is enough (Sackett et.al, 1996).

Evidence Based Practice

The new approaches to clinical decision making and practice that is the Evidence Based Practice has come as a new paradigm shift towards health care practice (Swinkels et al., 2002).The conceptual philosophical idea of Evidence based Practice evolves from Evidence based Medicine and date back to 19th century (Sackett at al., 1996).However Mc Master University in Ontario, Canada actively promoted Evidence Based practice in early 1990s and called it paradigm shift towards medicine (Turner, 2001). Evidence Based Practice is therefore new shift to decision making about patient care that de-emphasizes intuitions, routine and unsystematic clinical experiences which by its nature relies on decisions based on past experiences and or knowledge that was acquired years ago in undergraduate and professional development courses as sufficient grounds for clinical decision making (O Brien, 2001). Rather it stresses the use of high quality evidence from clinical research along with clinical expertise and patient values (Jette et al., 2003).

Evidence Based Practice is the method of clinical decision making that requires result of primary research to be made accessible to those involved in clinical decision making process. Guidelines for Evidence Based Practice have been discussed in various medicines including public and community health, general practice, critical care medicine, obstetrics and nursing. Criticisms to lack of research utilization have been labeled at number of health care professionals including medical professionals. Surveys into clinical application of research findings have been undertaken in discipline such as social work, nursing, psychology and general medicine. Evidence Based Practice is considered to be best

practice for Physiotherapy profession as the profession has been considered to be the one which uses treatment techniques that has little scientific foundation. If this perception is wished to be changed then it should embrace scientific method and become users of research (Turner et al., 1997).

Initiative towards Evidence Based practice

As other health profession, Physiotherapy has also incorporated Evidence Based Practice with time. The initiatives have been taken both by the regulatory bodies like members of WCPT or the academic institutions throughout the world. The examples of the initiatives are as follows:

1. WCPT declaration on position statement on Evidence Based Practice on both training as well as practice (WCPT, 2003).
2. Development of 398 evidence-based Physiotherapy practice guidelines including those on selected rehabilitation interventions on conditions such as knee, shoulder, neck and low back pain as well as manual therapy approaches (Moore, 2003).
3. An increase in publication of research-related activities as indicated in Pedro (Maher et al., 2004).
4. Establishment of Physiotherapy database such as physiobase.com
5. Increase in research related activities in certain Physiotherapists in Sweden and United Kingdom (Bury, 1997).

Engaging with both research and clinical findings can enhance the proficiency of Physiotherapists clinical practice and help prevent misuse, overuse and underuse of health care services (Kumar et al., 2010). Despite the clear benefits of EBP, its uptake within Physiotherapy has been quite inconsistent in quality. There have been concerns about the compatibility of the aspects of EBP and lack of clinically relevant research have been raised by researchers and clinicians too (Chan & Clough., 2010).

Most of the Physiotherapists believe in clinical practice to be based on best evidence. Practitioners mainly reported relying on courses and in-service training for informing practice (Stevenson, 2004).

The barriers and enablers to Evidence Based Practice were workplace culture, ability to change senior colleagues views, suspicion of research time, money and involvement with

clinical interest group and best dissemination of best evidence information (Barnard., 2001).

World Confederation of Physical Therapy Policy Statement

In the 13th general meeting of World Confederation of Physical Therapy(WCPT) in 1995, several declaration of EBP were adopted relative to Evidence Based Practice(EBP).One of the principles adopted include the fact that PT's have a duty and responsibility to use techniques and technology that have been evaluated scientifically. They also have the responsibility to not use the technique or evidence that is unsafe or ineffective. Also, it states that evidence should be integrated with clinical experience taking into consideration beliefs, values and cultural context of local environment as well as patient client preferences. Evidence-Based Practice in more achievable in places that embraces and promotes evidence based practice. There are generally 2 methods for decision making. One method incorporates the quick and effortless where one makes decision based on prior experience and the second method where World Confederation of Physical Therapy (WCPT) encourages its member organizations to do the following:

- Work with managers and organizations to provide adequate structures, resources infrastructures and learning opportunities to ensure the delivery of highest quality of Physical therapy services possible.
- Be able to evaluate practice critically, raise questions regarding the practice and utilize the best practice after critically appraising the practice for better outcomes.
- Facilitate the life-long learning activities by introducing Evidence-Based Practice in the entry-level learning and extending through the professional development trainings to incorporate best evidence based practice among the Physical Therapists.
- Call on national government and non-government organizations to facilitate and promote evidence based health services by providing resources such as internet, library, computers, online databases and training in Evidence Based Practice etc.

Attitude, Knowledge, skill and educational preparation for Evidence Based Practice

Many literatures suggests that Evidence Based Practice(EBP) has been taken positively that is Physiotherapists have positive attitude towards Evidence Based Practice and also have knowledge regarding it but in most instances Physiotherapists tend to use the knowledge acquired during the entry-level training rather than the relevant literature search at the current period of time (Cimoli, 2012).

It has been often stated in the literature that Physiotherapists may be confused regarding what the term “evidence” actually refers to and therefore what type of evidence they should implement in practice. It was also found that greater educational qualification meant life-long learning which contributed to adoption of Evidence Based Practice. Information technology has been found to play major role in any education as well as Evidence Based Practice. In a study with UK-AHPs a gap was found in confidence in understanding 5 step processes in EBP and skills required to implement that knowledge. The gap in knowledge may be prevalent as many had graduated before the introduction of information technology in health care setting (Scurlock-Evans et al., 2014).

A first step in closing the knowledge-to-practice gap is to identify which knowledge translation interventions are most effective in promoting knowledge acquisition. According to Miller’s (1990), knowledge acquisition is an important initial outcome because it creates a strong foundation for promoting change in clinicians’ attitudes and practice behaviors, with the ultimate goal of improving patient-related outcomes

EBP practice in Occupational Therapists and Physical Therapists

Evidence-based practice (EBP) is a process through which research and clinical experience are synthesized and applied in the clinical context. Like all health professionals, occupational therapists (OTs) and physiotherapists (PTs) are expected to use EBP to optimize health care resources by using the most effective interventions for their clients. In fact, it may be considered unethical not to offer clients new and appropriate interventions (Kumar et al., 2010). Despite this expectation, personal obligation, and ethical aspects, this is not always the case. Thus, research findings may not be implemented in clinical practice in a timely manner (or at all), causing a knowing-doing gap. In other words, what is known from research is not always implemented in clinical practice (Cochrane et al., 2007). For example, previous research has shown that although

Occupational Therapists (OTs) are willing to access new knowledge to guide clinical practice, they do not implement research findings to the fullest extent possible. The same gap has been observed among PTs (Richardson et al., 2010). The existence of this gap may compromise quality in occupational therapy, physiotherapy, and client value.

Along with PTs' positive response to EBPT, a series of initiatives has been proposed which have been designed to generate, evaluate and disseminate research and put such results into practice. However, as the amount of PT research has increased dramatically during recent decades this has made it difficult for many PTs to keep up with advances in research and put findings into practice (Sackett et.al, 1995).

Perception of research

There were certain barriers in perception to Evidence-Based Practice. Some Physical Therapists thought Evidence Based Practice to be limited, difficult to translate in real world, inaccessible resulting in EBP failing to take the limitation of clinical practice setting to account.

One of the important factors is that there is no one method that fits all for enhancing Evidence Based Practice. Physiotherapists working in different sectors have different educational needs and encounter different barriers. Henceforth, assessing organizational culture prior to development of educational interventions is essential.

Steps of Evidence Based Practice

Five steps of Evidence Based Practice mainly comprises of Ask, Access, Appraise, Apply, Assess. "Ask" mainly can be described as ability to ask a research question depending on a problem that needs to be solved. "Access" can be defined as designing and conducting a search strategy choosing comprehensive search terms and the most appropriate databases. Using appropriate chosen Critical Appraisal tools, the evidence is appraised for suitability to answer research question, assess bias, suitability of analysis, reliability of outcome measures. "Apply" is basically evidence is applied to clinical situation or to respond to a specific research question. "Assess" is basically integration, evaluation and adaptation of practice based on evidence and application of these findings.

1. Ask the question: Eight studies reported on this to be asking a clinical question. Some identified them as frequency in which clinician identified gap in clinical

- knowledge that was required to guide patient care. Some of the studies explained it as if Physiotherapists were able to formulate question to formulate literature search. It is said that 75% of health care professionals including Physiotherapists actively seek practice guidelines (Heiwe et al.,2011). 49% of respondent suggested that they should conduct their own literature review (Salbach et al.,2009).
2. Acquire the evidence: Across studies Physiotherapists confirmed their ability in conducting literature searches; however frequency of conducting searches were very low. Two qualitative studies sought the views of Physiotherapists on when and if they had the ability to acquire and assess research information. Nisalgard and Lohse(2011) reported that 8% of Physiotherapists searched database weekly,20% monthly and 50% several times where as 23% never searched literature.
 3. Appraise the literature: Researches have reported on whether or not Physiotherapists have ability to appraise evidence critically. Across studies have shown 50% of respondents confident in appraising or interpreting literature, also high proportions had difficulty in interpreting statistical results or had poor level of research skills.(Gorgon et al.,2012)
 4. Apply results to patients: Studies have suggested that applying results to the patients would include the barriers .No studies cited example of a Physiotherapists applying information gathered through EBP process to an individual patients. Qualitative results were more informative as those studies explored the issues surrounding implementation of EBP process. Organizational support was considered essential to have the time and resources necessary to undertake the EBP process. One of the Canadian study such as professional obligation or inter-professional communication drove participants to use Evidence-based outcomes measures. Certain studies suggest that 70% to 80% Physiotherapists apply or use literature ;20% of the respondents reported that literature results not relevant to their practice (Jansen at al.,2012).
 5. Assessing the impact of Evidence-Based Practice: It is the evaluation of effectiveness and efficiency in executing previous steps. Literature showed that Physiotherapists had a lack of agreement with guidelines in general ,had doubt about the credibility of guidelines and commented on the lack of time to apply guidelines and commented on the lack of time to apply guidelines and interpret the results of outcome measures (Van Bodegom-Vos et al. 2012). Studies showed that

respondents infrequently measured the outcomes of the EBP process in relation to an individual patient's care.

Importance of Evidence-Based Practice

Many influential Physiotherapist representatives including Physiotherapy professionals, researchers, practitioners and policy makers have argued that Physiotherapists have moral and professional obligation to follow diagnosis and treatment methods merely based on opinion, anecdotal evidence of success or simply because they are experience based habitual practice. The move towards a more evidence-based physiotherapy practice has been a “pressuring issue” in Physiotherapy driven by profession's collective need to validate its position in health care. (Taylor & Copeland, 2006)

Evidence Based Physiotherapy has been possible due to enormous increase in volume and accessibility of high quality clinical research in recent years. Throughout the world, the demand for and interest in applying evidence to Physiotherapy practice has grown in the past decade. This particularly has been witnessed by increase in publication related to evidence in Physiotherapy. It has been shown in studies that clinically relevant researches as well as clinical expertise are important components of Evidence based practice and identification and application of patient preferences should be the part of clinical decision making (Akinbo et al., 2008).

Clinicians are being told to embrace evidence-based practice. This pressure is evident in the treatment of patients, where adherence to clinical guidelines significantly improves patient outcomes .However, a gap exists between the scientific evidence and its application in clinical practice (Turner & Mjølne, 2001). According to Canadian Institute of Health Website (2006), recognition of this dilemma has led to an increase interest in knowledge translation (KT), which is the exchange, synthesis and ethically sound application of knowledge within a complex system of interactions among researchers and users.

Many of the researches identified Evidence based Practice as important with Physiotherapists explaining about its important role in decision making. However, misconceptions regarding EBP have also been identified. Therapists felt that drive towards EBP was economic, rather than quality of care.

Challenges of Physiotherapists

There are number of challenges faced by Physical Therapists attempting research for clinical decision making. The three major challenges include research methods, clinician's skill and administrative factors (Akinbo et al., 2008). Attaining the knowledge to critically appraise the research and or conduct a comprehensive database search that has been identified are considered to be important factors. Physiotherapists at often times report low levels of self-confidence in undertaking either of these activities. Time also has been considered to be one of the major hindrances in successful implementation of Evidence-Based Practice. Clinicians need to have adequate time for Evidence Based Practice activities. In order to address the recognized issue of time, researchers have pointed out the professional development training for Physiotherapists that mainly focuses on Evidence-Based Practice (Cimoli, 2012).

Barriers to Evidence Based Practice as mentioned by doctors and nurses included lack of time to read evidence, lack of facilities or resources, lack of staff experienced in EBP, lack of training for Evidence based practice, lack of support from staff and management, lack of awareness regarding research and evidence not general sable in own settings (Long et al.,2011)

Numerous barriers has been seen, one barrier among them was enormous amount of health care literature published every year which made it difficult for the medical professionals to keep up to date. It's been estimated that 8000 articles are published every day and family medical practitioner will need to dedicate approximately 20 hours a day to stay abreast of new evidence (Alper et al., 2004).

No evidence as such has been obtained regarding Evidence-Based Practice among Physiotherapists but perception and attitudes towards Evidence-Based Practice among nurses and nursing students in Nepal has been carried out. The greatest barriers experienced were lack of time and resources, difficulty in understanding research articles and translating the findings to practice, limited autonomy to change practice based on evidence.

Barriers are typically context-dependent; implementation strategies should thus be tailored according to their context and specific barriers must be identified. The most frequently reported barrier concerns limited time, thereby constraining the identification and interpretation of research evidence; not being able to apply research findings to clinical practice has also been reported (Grimmer et al., 2007). Tilson & Mikan (2014) have

recently identified other common barriers, including an inability to determine the legitimacy of research findings, insufficient research literature on specific patients' problems, deficient information regarding retrieval skills and an inability to incorporate patient preferences into decision-making, such results coinciding with those reported by Jette et al. (2003).

Impact of Evidence Based Practice

It has been found that despite attributing improved patient outcomes to the use of EBP or research based evidence, no studies examined the impact of the EBP process on patient outcomes. One intervention study looking at the adherence to clinical guidelines found small changes in adherence in certain areas of practice (yellow flag identification) but large increases in others (use of functional outcome measures). However there was no improvement in patient outcome, cost of treatments as a result of Physiotherapists training around guidelines. Only one study reported improved patient outcomes as a result of adhering to clinical guidelines. There is no control group to measure size (Rebbeck et al., 2006). Bekkering et al. (2005) noted similar findings with the implementation of back pain management guidelines. This raises a question of whether or not patient outcomes are improved as a result of the implementation of clinical guidelines. To answer this, clinical audit on a large scale of patient outcomes related to clinical guidelines or other evidence has potential for the Physiotherapy profession to demonstrate its value proposition for the improvement of health outcomes.

Bardan (1995) however acknowledges that several factors can influence or control the course of health care practice. The factors may include information, education, communication and human resources development, socio-humanistic development of practice, modern technologies and technology transfer system, environmental factors and capability of science and technology to forecast and assess

Access and Availability

Regarding physiotherapy (PT), there is growing acceptance of an EBP-based approach which is referred to herein after as Evidence-Based Physical Therapy (EBPT). A study conducted by Jette et al. (2003) found out that the evidence based practice was mainly carried out where the web based service was provided via accessibility of computer technology and also the service environment. Sackett et al. (1991) found out that the

younger generation of Physiotherapists had greater tendency to go for web based information compared to others as the older generations mainly focused on peer to peer review. The study area is in Nepal. It is a landlocked country located in South-East Asia with estimated population of about 26.4 million with male population of 12.8 million and female of 13.6 million. It is spread over the area of 147,181 square kilometer. It is the 48th largest country by population and 93rd largest country by area. It has mainly three regions. Himalayan, Hilly and Terai region.

In Nepal, health services are provided by both Government as well as private hospitals according to guidelines of Ministry of Health and Population. The majority of Physiotherapists are in private and government hospitals. Before only countable number of Physiotherapists were in the Government hospitals with only technicians but after the massive earthquake in 2015 with many of the people requiring rehabilitation ,the need for Physiotherapists were understood by the Government and different Government hospitals recruited Physiotherapists. Still many district hospitals lack Physiotherapists and there are no Physiotherapists in health centers and health posts.

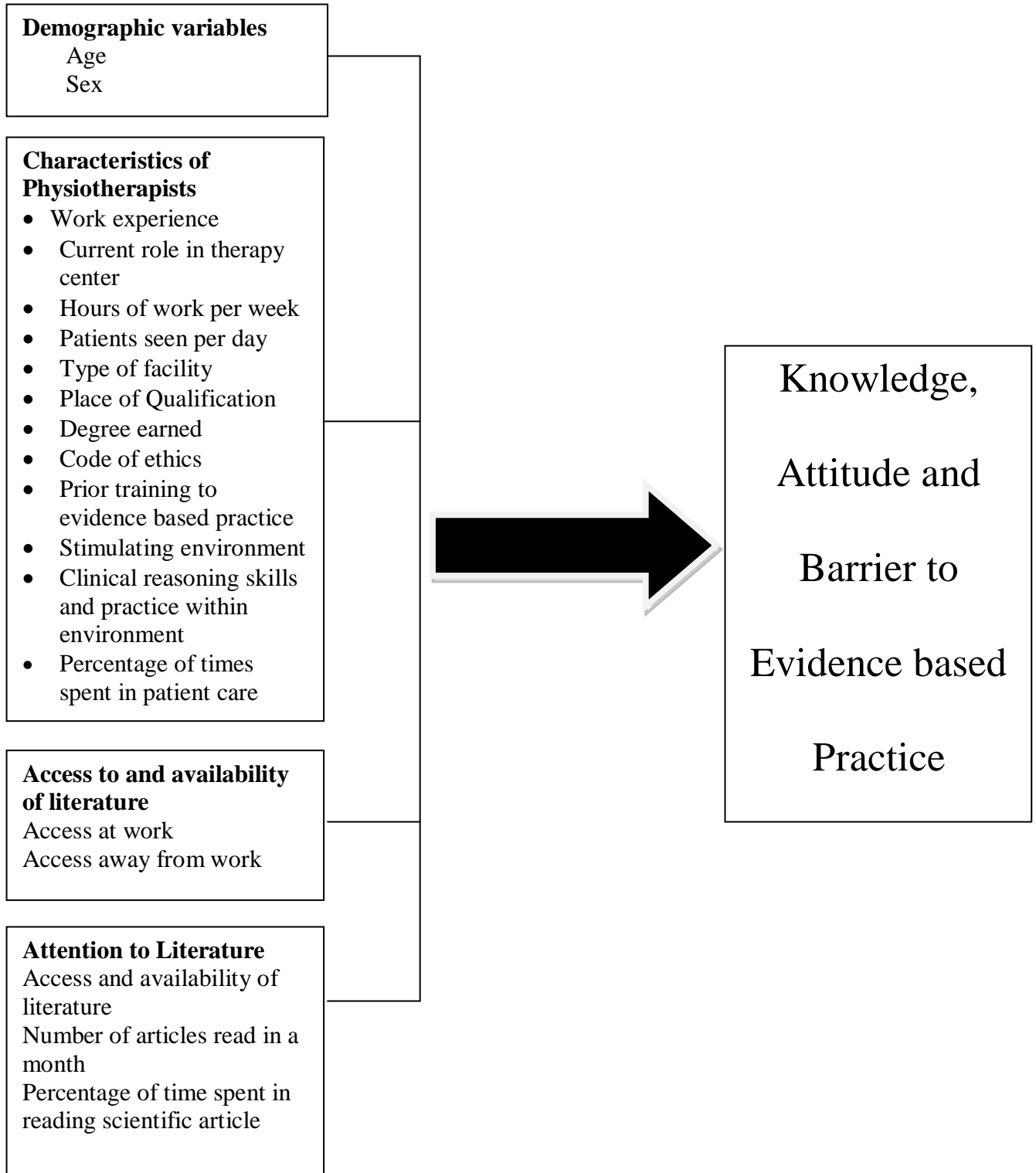
Health facilities under Ministry of Health and Population

Facility	2012/13	2013/14	2014/15
Hospitals	87	95	102
Primary Health centers	207	208	201
Health Posts	1689	1559	3808
Sub-Health Posts	2127	2247	
Hospital beds (available)	5127	5998	6253

Source: Department of health services, MOHP: Ministry of Health & Population

Independent variable

Dependent variable



3.2 Objectives

3.2.1 General Objectives

To identify the level of beliefs, knowledge and attitude of Nepalese physiotherapists (members of Nepal Health professional Council) regarding evidence based practice and to determine major barriers for implementing evidence based practice

3.2.2 Specific Objectives

- To analyze the knowledge and understanding of the importance of Evidence Based Practice among the physiotherapists of Nepal
- To assess the attitude of Physiotherapists regarding Evidence Based Practice for better quality services to the patients and betterment of their profession
- To determine the availability of the facilities for the encouragement of Evidence Based Practice.
- To discuss the major barriers to Evidence Based Practice
- To describe associations among the elements listed and characteristics of Physical therapists and their practice environment.

3.3 Study Design

Cross-sectional study design was used. Cross-sectional design is majorly used to find out the quantitative information of different variable of the study. Piel et al. (1982) stated exploratory study design aims to explore new area or at least one about which is little known in the local context. Hence data were collected from the participants to reveal the relationship and other variables of interest. As it has been known that cross sectional studies provide a snapshot of related characteristics in a population at a given point in time (Franenkel & Wallen 2000), data was collected using a self-administered standard Questionnaire

3.4 Study Population

Study population were mainly the physiotherapists of Nepal registered under Nepal Health Professional Council (NHPC). There are total of 1166 Physiotherapists permanently registered in NHPC according to the recent document. Among them those in specialization and first level that is 1000 were under the study population.

3.5 Study area/Site

Data were collected from Physiotherapists working in hospitals and rehabilitation centers as well as community of different districts. The districts included were Kathmandu, Bhaktapur, Lalitpur, Kavre, Gorkha, Jumla, Jiri, Kaski, Rasuwa, Sarlahi and Chitwan. Kathmandu, the capital city has the maximum concentration of Physiotherapists working in different clinics and rehabilitation centers of Nepal. Other districts have only few Physiotherapists and those working in the community are even lesser in number. The Physiotherapists working in Kavre district has the only institution providing Bachelors in Physiotherapy in Nepal. As for in Kathmandu, Bhaktapur and Lalitpur several hospitals, rehabilitation centers and polyclinics are present.

3.6 Study period

Total study period was 6 months. The study period was from December 2017 to May 2018.

3.7 Sample Size determination

According to the data of Nepal Health Professional Council, there were about 1166 permanently registered physiotherapists in Nepal. Among them 111 were in specialization level, 889 in level one, 104 in level two and 62 in level three. As the preference was Physiotherapists who had completed Bachelors degree. Hence the sample size was taken including only the Physiotherapists of specialization and level one. Information of the Physiotherapists and their working place were obtained from NEPTA-Nepal which is also a member of WCPT (World Confederation of Physical Therapists).

$$\text{We know Sample size } (n_o) = \frac{z^2 pq}{d^2}$$

Here z is a constant

Where z= 1.96

p is the estimated proportion of attribute present in the population

d is the desired level of precision

For the sample size (n)

$$p=0.5$$

$$q=1-p$$

$$d=0.07$$

$$\begin{aligned} \text{Sample size } (n_o) &= \frac{1.96*1.96*0.5*0.5}{(0.07)*(0.07)} \\ &=196 \end{aligned}$$

We found that for finite population with precision of 7% and prevalence of 50% a sample size 196.As the population had small sample size, we know that the sample size could be slightly reduced.

$$\text{Hence } (n) = \frac{n_o}{1 + \frac{n_o - 1}{N}}$$

Given that total population (N) =1000

$$(n) = \frac{196}{1 + \frac{196-1}{1000}}$$

=164

Finite population correlation for proportion gives a sample size of 164.

3.8 Inclusion and exclusion criteria

Inclusion Criteria:

Physiotherapists from Nepal who are registered under Nepal Health professional Council. (NHPC)

Physiotherapists who are currently working in Kathmandu, Bhaktapur, Lalitpur and Kavre and other districts

Physiotherapists from above mentioned districts practicing in clinics, hospitals, private practice, home visits and rehabilitation centers.

Exclusion criteria

Physiotherapists who do not fall in level one and specialization level.

Physiotherapists not practicing at the time of study.

Physiotherapists working outside Nepal

3.9 Sampling Technique

Non-probability sampling process that includes purposive sampling was used as in this process the investigator can use one's own judgment for the sake of making decisions on choice of sample items and includes sample which is more typical in regard to characteristics under investigation. So, the districts Kathmandu, Kaski and others were chosen, where maximum number of hospitals, clinics and rehabilitation centers were present and where more concentration of Physiotherapist were available. The non-probability purposive sampling technique was used in choosing the districts as the 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 variables with which the researcher is concerned (Piel et al., 1982).

Procedure

Nepal Health Professional Council provided only the name and contacts address. So as information could not be obtained from Nepal Health Professional council regarding their contact number or place of work. Face book page of Nepta-Nepal was used for the information of the Physiotherapists. At first major rehabilitation centers in and around Kathmandu valley were approached and data was collected from the Physiotherapists having permanent registration. Cross-check was done by the list provided by NHPC. Total sample of 90 was collected by this process. The hospitals in Kathmandu that were included were the major hospitals of Nepal. The names and hospitals are not mentioned as the anonymity had to be maintained. Additional help was taken from Nepta-Nepal regarding the working place of Physiotherapist there. Also information was obtained that in Kaski 19 Physiotherapists were working .The information was not present with NHPC so help was taken from Nepta-Nepal facebook page. A representative from Nepta-Nepal helped in distributing the forms and collecting them back. Total of 10 Questionnaires were distributed in Kaski. Similarly from Sarlahi which has a rehabilitation Centre, a Physiotherapist from the centre distributed 8 questionnaires which were later collected by a representative there. And similarly from Jumla, Mugu and Surkhet where only one Physiotherapists each were appointed from the non-governmental organization. Gorkha also had few Physiotherapists working in the non-governmental organization, so the representative Physiotherapists collected and sent the questionnaire back. Also 7 Physiotherapist were working in Chitwan according to Nepta-Nepal. Also questionnaires were distributed to the Physiotherapists of Jiri and Rasuwa 1 each who were working in the community and were working in non-governmental organization. It was clear from the information obtained that maximum concentration of Physiotherapists were centralized in Kathmandu valley with sparse number in other districts. Hence maximum sample included from Kathmandu districts and only few from the other districts. During the period of data collection 1st Physio-fit Table-tennis tournament was conducted in Kathmandu. There was participation of maximum number of Physiotherapists in the competition. Hence a sample of 25 was obtained from the tournament as well. Hence total of 164 sample was collected at the end who were all registered under Nepal Health Professional Council.

3.10 Data Collection tools

A self-reported questionnaire was used for data collection Known as Evidence Based Practice Questionnaire

Questionnaire

Survey tool was the adaptation from self-reported questionnaire adapted by Jette et.al (2003) which was originally used to study attitudes of physician and general practitioner towards evidence-based medicine and also the structured questionnaire used by Yahui & Swami Nathan (2017) regarding Knowledge, Attitudes and Barriers to Evidence based practice among Physiotherapists in Malaysia.

Evidence Based Practice Questionnaire

The final structured questionnaire was prepared that consisted of 2 sections. First, demographic part and second section that consisted of questions regarding knowledge, attitude and barriers. Questions were prepared relatively shorter in length keeping in mind that greater the length of the questionnaire lower the response rate (Oppenheim, 1992). Total of 40 questions were prepared for the questionnaire where question 1 to 11 consisted of demographic and practice data; questions 12 to 23 mainly inquired about personal understanding, attitudes and beliefs and interest to and motivation to engage in Evidence-Based Practice. Question 26, 27, 30 enquired about the use of and access to practice guidelines. Questions 24, 25, 34, 35, 36 and 38 answers about educational background and knowledge and skills related to accessing and interpreting information. Questions 28, 29,31,32,33 are about access and availability of resources to promote Evidence Based Practice. Survey item 39 and 40 answered the questions regarding perceived barriers to Evidence Based Practice. Responses to most of the items concerning attitudes and beliefs and knowledge and skills related to Evidence based Practice were addressed using 5 point Linkert Scale with “strongly disagree” and “strongly agree” as the anchors. Several items related to access to information required yes/no responses. Data type was the interval type. Data source was from the measurement tool for evidence based practice. Permission was taken to use the tool via email .Once the permission was granted the measurement tool was used. The variables for study were knowledge, attitude and barrier.

3.11 Data collection Technique

Initially permission was taken from Institutional Review Board (IRB) of Bangladesh Health Professional Institute. Then as the research was to be conducted in Nepal, data collection process started after permission from Nepal Health Research Council. Also, permission was taken from the concerned authority of the hospitals. Finally after consent forms were filled by the participants, data were collected from the self-reported questionnaire filled by the physiotherapists and sent back to the investigator. Questionnaire adapted from Jette et.al and Yahui & Swaminathan were used. Permissions were not taken from the respective hospitals as the survey only required information from Physiotherapists. Some Physiotherapists were concerned regarding the mentioning of the name of the hospitals and rehabilitation centres. Hence the anonymity of the name and rehabilitation centre was maintained.

Pilot Study

To evaluate content validity, draft of questionnaire was sent to 5 experienced Physical therapists working in different units in Nepal. Certain changes in the questionnaire were made after the suggestion to fit to the Physiotherapists of Nepal. The Physiotherapists suggested in including more of multiple choice questions and decreasing the number of questions to suit the busy schedule during the work.

After pilot-study, questionnaires were distributed to different hospitals and rehabilitation centre of Kathmandu. The questionnaires were distributed and some places they were collected at the time of delivery and other places they were collected later due to the busy schedule in hospitals. To the ones distributed to be collected later; reminder had to be made to the concerned authority and the head of the department via phone calls. Most of the Physiotherapists had filled the survey questionnaire by the second call. As for others several reminder had to be made in order to fill in the questionnaires. As for those outside of Kathmandu valley the representatives from the districts took the questionnaire to distribute them in January and were returned by March 6. Several contacts were made in between to make sure the questionnaire were filled. During the entire process of distribution of the questionnaires it was expected that several questionnaires would be lost or misplaced. Hence the questionnaires were printed in more numbers than the actual sample size of 164. The final data collected were 164. Initially care was taken that total of

164 items would be collected as the sample size was obtained after 7% of precision. Hence reduction in sample size than that would not be significant as such.

3.12 Data analyses/ Data Management.

- Data were analyzed using SPSS version 16 for Microsoft Windows. First the collected data were entered in Microsoft Excel. Then once all the data were collected and entered in Microsoft Excel it was exported to SPSS. All responses pertaining to variables Demographic data and attitude and knowledge to Evidence-Based Practice were first classified as nominal and ordinal data categories. The data were then transformed to numerical categories.
- Descriptive analyses were used to determine frequency and percentages and the obtained information were shown in bar charts, pie charts and tabular formats. Cross tabs were also obtained for the various demographic variables. The questions that enquired about the attitude, knowledge, skills and understanding were shown on the basis of their mean and standard deviation. Overall score was obtained along with overall mean and overall percentage and were represented in table. The average mean scores were used in order to determine the overall attitude, knowledge and skills and understanding of the research terms
- Inferential statistics Chi square test was used to examine degree of associations. Responses of items measuring education, knowledge, skill, attitude and belief, age, highest degree attained and work experience and others. Association was also determined between attitude and attention to literature. If there were some associations between the variables in Chi-square tests then only further regression analysis was carried out for determination of odds ratio
- A p value of $<.05$ was considered as significant

Chi-square test

O = Observed frequency

E=Expected frequency

$$\chi^2 = \frac{\sum(O-E)^2}{E} = \frac{(75-69.7)^2}{69.7} + \frac{(11-16.3)^2}{16.3} + \frac{(58-63.3)^2}{63.3} + \frac{(20-14.7)^2}{14.7}$$

$$= 0.41 + 1.72 + 0.44 + 1.91 + 4.4 = \mathbf{4.41}$$

In this way researcher has calculated all the chi-square value and presented in the table

EBP variables	Factor	Level	χ^2	p value
Strong Evidence is lacking to support most of the intervention I use with my patient	Gender	Male Female	4.4	.03

After examining the response frequencies and before examining association between variables, some variable categories were collapsed in order to proceed to further analysis in order to use them as dependent measure in logistic regression analysis.

For those item with 5 point Linkert Scale and positive response set that is agreement with the statement suggested positive regard for EBP, the “strongly agree” and “agree” categories were combined and then “neutral”, “disagree” and “strongly disagree” categories were combined so that responses fell into 1 of 2 categories “agree” or “disagree”. For items with negative response set, the “neutral” category was combined with “agree” and “strongly agree” and “disagree” and “strongly disagree” were combined so that they formed two categories 1 and 2. The item measuring number of articles read on average month was categorized as less than 2, 2 to 5, 6 to 10, 10 to 15 and greater than 15. Low number of articles read represented poor attention to EBP which was inconsistent with the motive of EBP.

For items that were designed to measure the understanding of the research terms, the understand completely and understand somewhat categories were combined so that 2 category response was obtained.

Linear regression analyses were carried out for the data which had no outliers. After examining response frequencies, and before examining the associations between variables, some variable category were collapsed in order to allow further analysis using them as independent measures in logistic regression analysis. As distribution of data were not uniform for regression analysis. Data were collapsed. The redistribution of age was done and it was re-categorized to (20 -24), (25-29) and greater than 29 in order to obtain stable models. Similarly, in the field of specialization as subsamples were small. They were collapsed and categorized into specialization and no specialization level. Similarly for best described facility at which Physiotherapists worked were categorized as acute care hospitals and others.

In order to run regression analysis between understanding of research terms and demographic variables the scores were summed for all 8 items and then median was obtained after which they were recoded into less than median and greater than median forming two categories. Items regarding practice guidelines, attention to literature and barriers to Evidence Based Practice were represented in bar diagrams and pie charts.

Odds ratio mainly provides the estimate for relationship between binary (yes or no) variables using logistic regression. Also enables to examine the effects of other variables using logistic regression. It is said that odds ratio is generally 1 if there is no relationship. In the context of our study odds ratios and their 95% confidence intervals were determined for each level of the independent variables in the models that were significant

3.13 Quality Control/Quality assurance

In order to ensure that the questions has been well understood by the participants and there would be no problem in answering the question. A small check was carried out among just a few number of participants. The team of 5 senior Physiotherapists chosen for the process and the modifications were done according to the suggestions provided. It is very important for the researcher to perform a field test before collecting data as it helps the researcher to refine data collection, plan and justify reliability and validity of the questions in order to fit in the context of Nepal. The field test is generally conducted in order to identify any difficulties that exist in the questionnaire. Once it had been ensured that no problem in filling the questionnaire will be used for data collection during the research.

3.13 Ethical Consideration

Initially permission was taken from Institutional Review Board of Bangladesh Health Professionals to conduct the research on the topic that included knowledge, attitude and barriers towards Evidence Based Practice.

- As the data had to be collected in Nepal permission was taken from Nepal Health Research Council. Data collection process was started after permission from the Nepal Health Research Council
- Information sheet were given to the participants regarding the type of research and Questionnaire and also describing the ethical issues. It was clearly mentioned on the information sheet that their willingness to participate in the research was purely voluntary and they were not forceful in participating in the survey in case they did not wish to.
- Consent form was also given to the participants and they should have signed the questionnaires if they wished to participate in the study.
- It was ensured that the information provided would be kept confidential and they had the right to not answer or withdraw from the study even after giving consent beforehand. It was informed to the Physiotherapy department that the name of the institutions would not be mentioned anywhere and also confidentiality regarding the name of the participants would be maintained. There would be the mention of only codes and only the main researcher would have the access to the code.
- It was ensured that no harm would be done to anyone during the process of research
- It was clearly explained that even though no direct benefit would be obtained to the Physiotherapists by participating in the survey but it would help in the process of continuous professional development as Evidence Based Practice is one of the most accepted practice in the health profession.
- It was mentioned to the Physiotherapy department head that the researcher would be available to answer any questions of the participant related to the research

4. Socio-Demographic Characteristics of the respondents

4.1 Gender of Physiotherapists

The bar chart in figure 1 shows that the total number of respondents 47.6% (78) were male and 52.4% (86) were female. Male respondents were slightly lower than the female respondents.

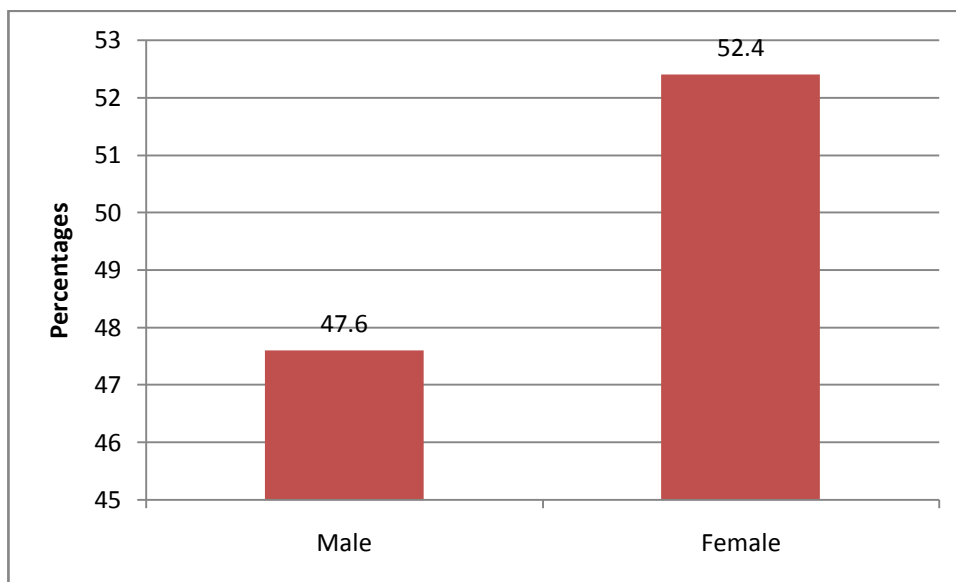


Figure 1. Distribution of respondents by Gender

4.2 Age of Physiotherapists

The bar diagrams in figure 2 shows the distribution of respondents by age. Here the maximum number of Physiotherapists fell under 20-30 years of age which makes around 78.8% (129) followed by 30 to 40 years which made 16.5% (27). Only 1.8% (3) fell under 41-50 years of age and 3% (5) were above 50 years of age. The median age of the respondents was obtained to be 27 and mean age was obtained 28.63. Since there are outliers present in the data the media was taken in this context. The average age of the respondents was 27 ($SD = 6.02$). The respondents participating in the study were relatively young.

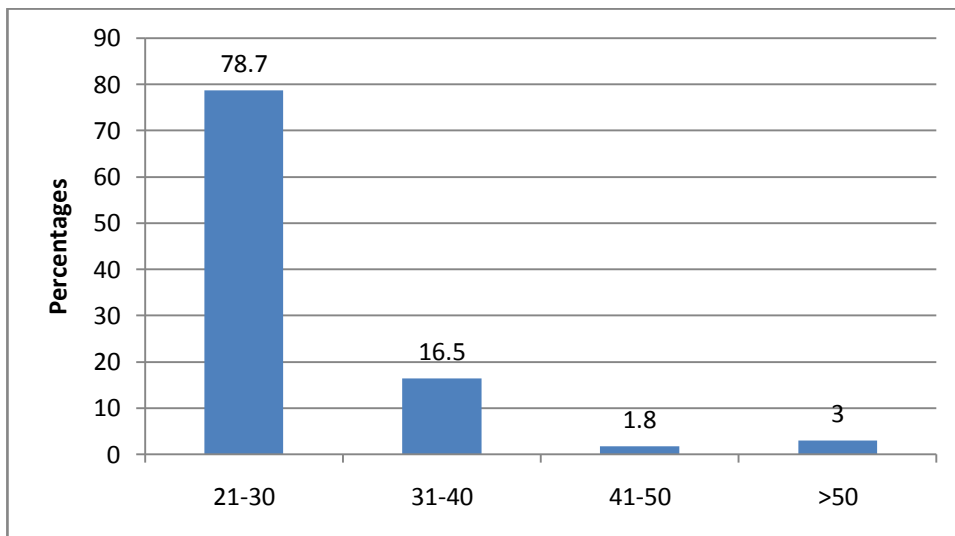


Figure 2. Distribution of respondents by age

4.3 Specialization level of Physiotherapists

It can be seen from figure 3 that 65.2% (107) of the Physiotherapists had no specialization which shows that more than 50% of the Physiotherapists did not have specialization degree. 14.6% (24) has Musculoskeletal as their specialization degree which is the highest percentage of the specialization level. 9.8% (16) of the Physiotherapists had Neurology as their specialization level which is the second highest. 2.4% (4) each had cardio respiratory and pediatric as their specialization. 1.2% (2) had sports as their specialization level and 4.3% (7) were others mainly Masters in rehabilitation Science as their specialization.

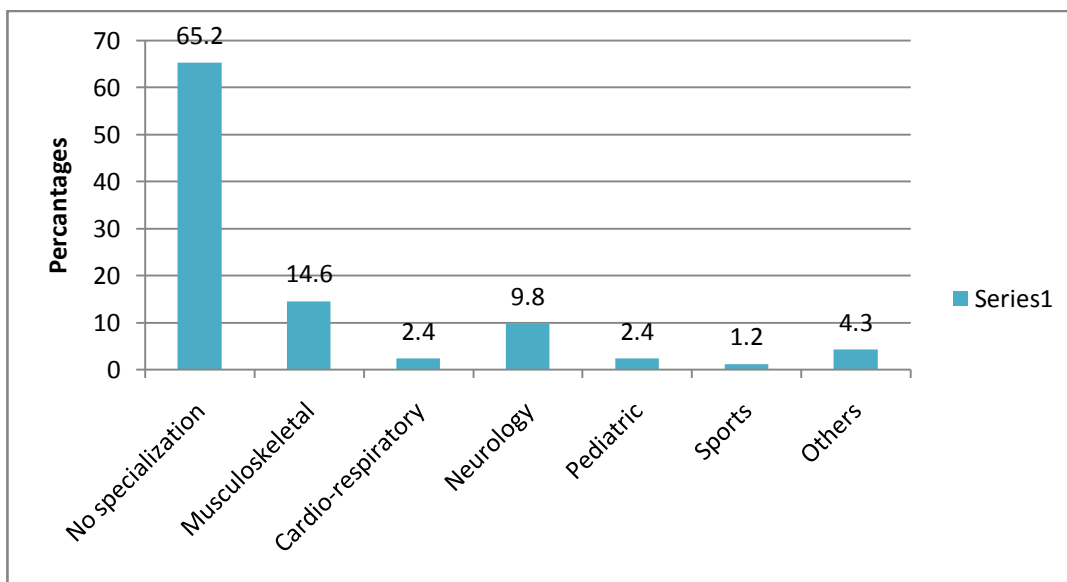


Figure 3. Distribution of respondents by specialization level

Table 1. Distribution by number of years working as a Physiotherapist

No of years working as a Physiotherapists

No of years	N	%
<2	65	39.6
2-5	55	33.5
6-10	30	18.3
>10	14	8.5

4.4 Number of years working as a Physiotherapist

The above table 1 shows that maximum number of respondents working as Physiotherapists for less than 2 years were 39.6% (65) and respondents working for 2 to 5 years were 33.5%(55). Respondents who worked for 6 to 10 years were 18.3% (30) and those who worked for more than 10 years were 8.5% (14). There were few percentages who had worked more than 10 years as Physiotherapy profession was introduced in later years in Nepal.

Table 2. Distribution of number of hours worked per week

Distribution of no of hours worked per week

No of hours	N	%
<20	6	3.7
20-30	11	6.7
31-40	36	22
>40	111	67

Also table showed that 67%(111) of the respondent Physiotherapist worked for more than 40 hours and only 3.7%(6) worked for less than 20 hrs per week. Hence it can be said maximum percentage of Physiotherapist worked for more than 40 hours per week which showed the maximum work load of Physiotherapists.

Table 3. Distribution of number of patients seen in a day

No of patients	No of patients seen in a day	
	N	%
<5	14	8.5
5-10	67	40.9
11-15	44	26.8
>15	39	23.8

4.5 Number of Patients seen in a day

It can be seen from Table 3 that 8.5% (14) of the respondent Physiotherapists saw less than 5 patients in a day. 40.9% (67) of the respondent Physiotherapists saw 5 to 10 patients in a day which is the maximum percentage of Physiotherapists. Accordingly 26.8% (44) of the Physiotherapists saw 11- 15 patients in a day and 23.8% (39) of the Physiotherapists saw more than 15 patients in a day.

Table 4. Distribution of number of Physiotherapists working in area of practice

No of Physiotherapists	No of Physiotherapists working in area of practice	
	N	%
<5	65	39.6
5-10	64	39
11-15	22	13.4
>15	13	7.9

4.6 Number of Physiotherapists working in area of practice

It can be seen from table 4 that 39.6% (65) of the Physiotherapists had less than 5 Physiotherapists working in the area of practice followed by 39% (64) of the Physiotherapists who had 5 to 10 Physiotherapists working in the place of their work. Only 7.9% (13) of the respondents working area had more than 15 Physiotherapists working in their area of practice and 13.4% (22) had 11 to 15 Physiotherapists working in their area of practice.

4.7 Number of Physiotherapists on basis of area of practice

Bar graph in figure 4 shows that 54.3% (89) of the respondent Physiotherapists worked in the acute care hospital which the highest percentage, followed by 36% (22) working in rehabilitation centers and 36%(22) working in rehabilitation centers and finally 5.5% (9) working in Community Based Rehabilitation. Private-care outpatient centre, home-service and university accounted for only minimal percentage which were 2.4% (4), 2.4 % (4) and 4.9 % (8) respectively. Maximum numbers of Physiotherapists worked in acute care hospitals.

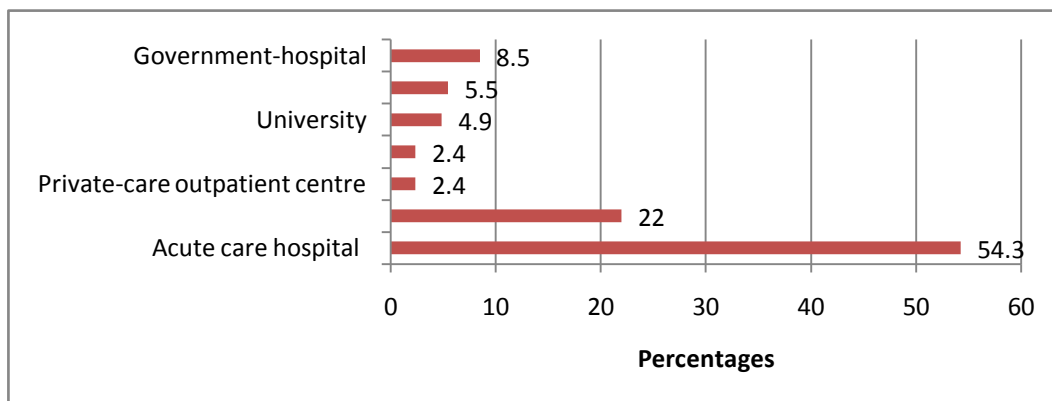


Figure4. Distribution of respondents by area of practice

4.8 Majority of Patients Treated

It can be seen from the pie chart in figure 5 that maximum number of respondent treated orthopedic cases making the highest percentage of 45.7% (75) followed by neurological cases which constituted of about 31.7% (52) and then by cardiovascular cases which comprised of about 7.9%(13).Other cases that the Physiotherapists treated were 14.6% (24).

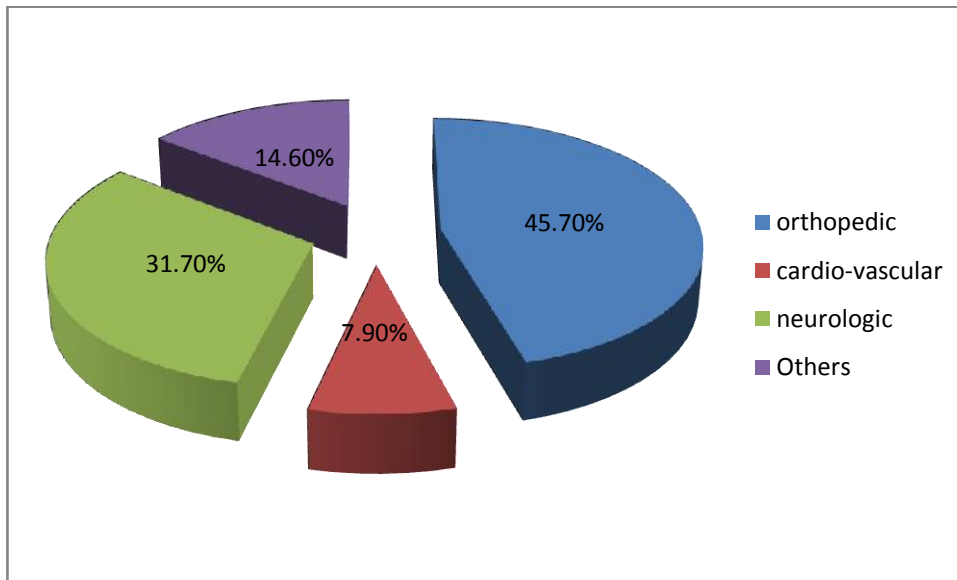


Figure 5. Distribution of respondents by majority of patients treated

4.9 Percentage of time spent in patient care

Figure 6 above in bar graph shows that respondents who spent more than 61-80 percentage of time spent in patient care were 56.09 % (92) .Only 9.14% (15) of the respondents spent less 20 to 40 percent of the time in patient care. 15.24% (25) of the respondents spent 41-60 percent of their time in patient care and 19.52% (32) of the respondents spent more than 81 to 100 percent of their time in patient care

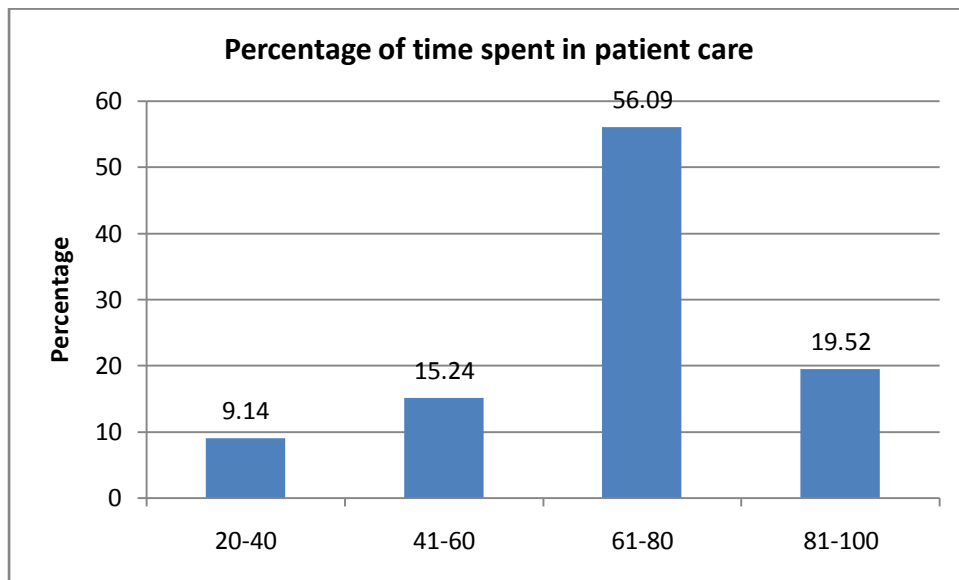


Figure 6. Distribution of respondents by percentage of time spent in patient care

4.10 Percentage of time spent in reading scientific article

Here the figure 7 shows that 46.01%(75) spent less than ten percent of their total time in reading scientific article.37.42(61) percent spent 10 to 20 percent of their time in reading scientific article.14.11% (23) of the respondent spent 21 to 30 percent of their time in reading scientific article.1.84% (3) of the respondent spent 31 to 40 percent of their time in reading scientific article and only 0.62% (1) of the respondent spent more than 40% of their time in reading scientific article.

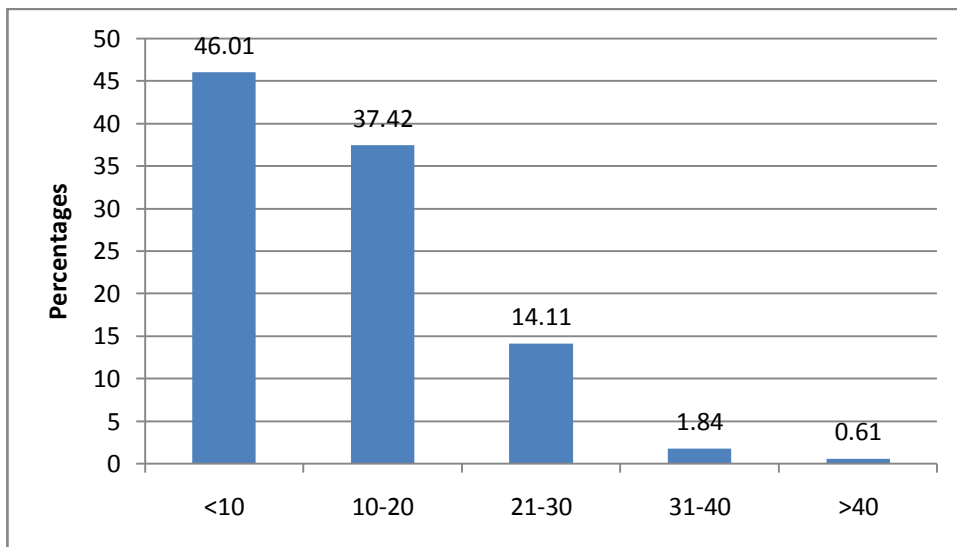


Figure7. Percentage of time spent in reading scientific article

Table 5. Representation of Gender and age of Physiotherapists

			Age in years				
			21-30	31-40	41-50	>50	Total
Gender of the Physiotherapists	female	N	76	8	1	1	86
		%	46.3%	4.9%	.6%	.6%	52.4%
	male	N	53	19	2	4	78
		%	32.3%	11.6%	1.2%	2.4%	47.6%
Total		N	129	27	3	5	164
		% of Total	78.7%	16.5%	1.8%	3.0%	100%

4.11 Representation of Gender and age of Physiotherapists

The above table number 4 shows that 46.3% of total respondent Physiotherapists who were female fell under 21 to 30 years of age and 32.3% of total male Physiotherapists fell under 21 to 30 years of age.

Table 6. Representation of Gender and no of hours worked per week

		No of hours worked per week				Total	
		<20	20-30	31-40	>40		
Gender of the Physiotherapists	female	N	4	8	19	55	86
		%	2.4%	4.9%	11.6%	33.5%	52.4%
	male	N	2	3	17	56	78
		%	1.2%	1.8%	10.4%	34.1%	47.6%
Total		N	6	11	36	111	164
		%	3.7%	6.7%	22.0%	67.7%	100.0%

4.12 Representation of Gender and number of hours worked per week

Here the above figure shows that 33.5% of female and 34.1% of male worked for more than 40 hours per week that is maximum percentage of both male and female work for more than 40 hours. Also, only minimal number of both male and female respondents works for less than 20 hours where male comprised of 1.2% and female 2.4%.

Table 7. Measure of attitude and belief towards EBP

Statement	Strongly disagree (N/%)	Disagree (N/%)	Neutral (N/%)	Agree (N/%)	Strongly agree(N/%)	Mean	(SD)
Application of EBP is necessary in the practice of Physical Therapy	5 (3)	1 (0.6)	1 (0.6)	61 (37.2)	96 (58.5)	3.48	0.81 7
Literature and research are useful in day to day practice	4 (2.4)	1 (0.6)	5 (3)	82 (50)	72 (43.9)	3.32	
EBP places unreasonable demand on Physical Therapists	12 (7.3)	29 (17.7)	40 (24.4)	59 (36)	24 (14.6)	2.33	1.14
I am interested in learning or improving the skills necessary to incorporate EBP in my practice.	4 (2.4)	1 (0.6)	11 (6.7)	100 (61)	48 (21.3)	3.14	0.76
EBP improves quality of patient care	6 (3.7)	0 (0)	6 (3.7)	88 (53.7)	64 (39)	3.24	0.83
EBP helps me make decision about patient care	2 (1.2)	2 (1.2)	13 (7.9)	96 (58.5)	51 (31.1)	3.17	0.72
EBP does not take into account patient preferences	4 (2.4)	32 (19.5)	60 (36.6)	58 (35.4)	10 (6.1)	2.23	0.91
I need to increase use of Evidence in my daily practice	3 (1.8)	2 (1.2)	14 (8.5)	110 (67.1)	35 (21.3)	3.05	0.71
Literature and research findings help improve patient care.	1 (0.6)	1 (0.6)	6 (3.7)	91 (55.5)	65 (39.6)	3.33	0.63
I am interested in attending courses related to EBP.	1 (0.6)	1 (0.6)	11 (6.7)	91 (55.5)	60 (36.6)	3.27	0.66
Strong Evidence is lacking to support most of the intervention I use with my patient.	7 (4.3)	72 (43.9)	54 (32.9)	30 (18.3)	1 (0.6)	1.67	0.84
Evidence Based Practice is time consuming and places burden on me.	0	17 (10.4)	61 (37.2)	73 (44.5)	13 (7.9)	2.5	0.78
Overall Mean (SD)						2.89	0.56
Total score (0 to 48)							34.73
Percentage Mean							73.25

4.13 Measure of attitude and belief towards EBP

Attitudes towards Evidence Based Practice were measured by respondents' indicating their responses to 12 statements on five point Linkert Scale (0= strongly disagree; 4 = strongly agree) for positive set of questions which in the above table are the questions 1, 2, 4,5,6,8,9,10 and the remaining negative set of questions 3,7,11 and 12 on five point Linkert Scale (0 = strongly agree; 4= strongly disagree). Lower scores indicated more negative attitudes and higher scores indicated more of positive attitude. Responses for the questions concerning attitudes are summarized in table 3. The cronbach's alpha reliability for the scale was 0.65. Positive attitudes were reflected by the overall mean score of 2.89 with majority of the respondents agreeing or strongly agreeing to positive questions and majority of the respondents disagreeing or strongly disagreeing to negative questions. The average score was obtained 34.73 with the percentage of 72.35%.

Respondents showed they generally had positive attitude towards evidence based practice with majority of them sticking to agree or strongly agree in the statement Evidence Based Practice is necessary in practice of Physical Therapy (95.7%), literature and research are useful in day to day practice (93.9%), EBP improves quality of patient care (92.7%), EBP helps to make decision about patient care (89.6%). Physiotherapists of about 50.6% responded that they disagreed or strongly disagreed that EBP places unreasonable demand on Physical Therapists. There were Physiotherapists who responded neutral towards the question. About 24.4% of the Physiotherapists responded that they were neutral towards the fact that EBP places an unreasonable demand to the Physical therapists. There were neutral attitudes towards the question EBP does not take into account patient preferences where 36.6% of the respondents responded neutral.

It was mostly seen that many respondents believed strong evidence was lacking in support of most of the interventions they used in their practice. 81.1% stated they agreed or strongly agreed with the statement and only 18.9% stated they disagreed or strongly disagreed with the statement. 88.4% responded that they agreed or strongly agreed to the statement that they need to increase use of evidence in their practice. 92.1% of the respondents agreed or strongly agreed that they were interested in attending courses related to Evidence Based Practice.

Table 8. Association between attitude and demographics

EBP variables	Factor	Level	χ^2	<i>p</i> value	df
Strong Evidence is lacking to support most of the intervention I use with my patient	Gender	Male	4.4	.03	1
		Female			
I need to increase use of Evidence in my daily Practice	Specialization	No specialization	5.32	.021	1
		Specialization			
EBP places unreasonable demand on Physiotherapists	No of Physiotherapist working in area of practice	<5	14.94	.02	3
		5-10			
		11-15			
		>15			
	No of hours worked per week	<20	9.208	.027	3
		20-30			
		31-40			
		>40			
Literature and research are useful in day to day practice	Facility at which respondent work	Acute care hospital	5.91	.018	1
		Others			
	No of patients seen in a day	<5	10.29	.01	3
		5-10			
		11-15			
		>15			
I am interested in learning or improving the skills necessary to incorporate EBP in my practice.	No of patients seen in a day	<5	20.19	.00	3
		5-10			
		11-15			
		>15			
	No of hours worked per week	<20	24.05	.00	3
		20-30			
		31-40			
		>40			

4.14 Association between attitude and demographics

Pearson chi square provides χ^2 value 4.4 with p value = .03. Hence, the test is highly significant at 1% level significance. Hence there is evidence to conclude that the relationship between the two variables that are attitude and belief and Gender was significant. As compared to the table value where $\chi^2=3.54$ the χ^2 -value obtained was 4.4 which was more than the table value

Pearson chi square provides χ^2 value 14.94 with p value = .02. Hence, the test is highly significant at 3% level significance. Hence there is strong evidence to conclude that the relationship between the two variables that are attitude and belief and Physiotherapist working in area of practice was significant. As compared to the table value where $\chi^2=7.81$ the χ^2 value obtained was 14.94 which was more than the table value.

Pearson chi square provides χ^2 value 5.91 with p value = .028. Hence, the test is highly significant at 2% level significance. Hence there is strong evidence to conclude that the relationship between the two variables that are attitude and belief and facility at which respondent work was significant. As compared to the table value where $\chi^2=5.99$ the χ^2 value obtained was 5.91 which was more than the table value.

Pearson chi square provides χ^2 value 5.32 with p value = .021. Hence, the test is highly significant at 1% level significance. Hence there is strong evidence to conclude that the relationship between the two variables that are attitude and belief and specialization was significant. As compared to the table value where $\chi^2=3.54$ the χ^2 value obtained was 5.32 which was more than the table value.

Pearson chi square provides χ^2 value 24.05 with p value = .00. Hence, the test is highly significant at 3% level significance. Hence there is strong evidence to conclude that the relationship between the two variables that are attitude and belief and number of hours worked per week was significant. As compared to the table value where $\chi^2=7.81$ the χ^2 value obtained was 24.05 which was more than the table value.

Pearson chi square provides χ^2 value 20.19 with p value = .00. Hence, the test is highly significant at 3% level significance. Hence there is strong evidence to conclude that the relationship between the two variables that are attitude and belief and number of patients seen in a day was significant. As compared to the table value where $\chi^2=7.81$ the χ^2 value obtained was 20.19 which was more than the table value.

Table 9. Binary logistic regression analysis for attitude and factors associated with the respondent

Attitude or Belief	Factor	Level	n	Odds ratio (95% CI)	P	N	df
I need to increase use of Evidence in my daily Practice	Specialization Level	Specialization	56	5.044(1.12-22.69)	.035	164	1
		No specialization	108	Reference			
Literature and research findings help improve patient care	Facility at which Physiotherapists work	Acute care hospital	89	9.05(1.088-75.39)	.042	164	1
		Others	75	Reference			

4.15 Binary logistic regression for attitudes and factors associated with it

Here the above table 8 shows logistic regression between variables of attitude and factors associated with it. Binary logistic regression was used to examine the relationship between variables of attitude and specialization level and facility at which Physiotherapists work. The results were presented in the table. Before conducting regression analysis, the specialization levels were grouped into specialization and no specialization as very few were in different specialization levels. The regressions were done in order to obtain stable models. The variable of attitude that is Physiotherapists need to increase use of Evidence in daily practice was found to be statistically significant with specialization level. Physiotherapists having specialization level thought it was necessary to increase the use of Evidence in daily practice five times more than those having no specialization ($p = .035$, 95% CI: 1.12-22.69).

Also regressions were carried out for attitude variables that are literature and research findings help improve patient care and facility at which Physiotherapist work. As the facility at which Physiotherapist worked had no homogeneous distribution, hence, they were combined into acute care hospital and others in order to obtain stable models. The variable of attitude that is literature and research findings help improve patient care was

found statistically significant with the facility at which Physiotherapists worked. Physiotherapists who worked in acute care hospital felt literature and research findings help improve patient 5 times than those of others. (p= .04, 95% CI: 1.088-75.39

Table 10: Measure of skills and knowledge required for Evidence Based Practice

Statement	Strongly disagree (N/%)	Disagree (N/%)	Neutral (N/%)	Agree (N/%)	Strongly agree (N/%)	Mean	(SD)
1 I am able to conduct search to answer my clinical questions confidently	1 (0.6)	2 (1.2)	27 (16.5)	107 (65.2)	26 (15.9)	2.95	0.65
2 I am confident in my ability to critically review professional literature	3 (1.8)	8 (4.9)	41 (25)	98 (59.8)	14 (8.5)	2.68	0.73
3 I use practice guidelines in my practice	1 (0.6)	5 (3)	62 (37.8)	85 (51.8)	11 (6.7)	2.61	0.68
4 I am able to incorporate patient preferences with practice guidelines	1 (0.6)	7 (4.3)	58 (35.4)	90 (54.9)	8 (4.9)	2.59	0.68
5 I learnt foundations for EBP in my academic years	3 (1.8)	13 (7.9)	20 (12.2)	80 (48.8)	48 (29.3)	2.96	0.94
6 I received formal training in search strategies for finding research relevant to my practice	4 (2.4)	44 (26.8)	33 (20.1)	66 (40.2)	17 (10.4)	2.29	1.05
7 I am familiar with the medical search engines .e.g PEDro, PubMed	4 (2.4)	8 (4.9)	14 (8.5)	79 (48.2)	59 (36)	3.1	0.92
Overall Mean (SD)						2.74	0.27
Total Score(0-28)							19.18
(%) Percentage							(68.5%)

4.16 Measure of Skills, education and knowledge for Evidence Based Practice

The required skills for Evidence Based Practice which in turn associated with knowledge were measured using the 5 point Linkert scale. (0= strongly disagree, 4 =strongly agree) were the anchors and all the question set were positive. Lower scores indicated lower skills and higher scores in turn indicated higher skills. The alpha cronbach's scale of reliability was obtained 0.7 for the scale. The mean score of 2.7 indicated modeerate skills among the Physiotherapists to acquire Evidence Based practice. The standard deviation was obtained 0.27 which is lesser than the mean score indicating the significance. The average score of the total was obtained 19.18 with the mean percentage of 68.5.

In the question mentioning the learning of Evidence Based Practice during the academic years 78% agreed that they did learn EBP in their academic years.48.8% agreed and 29.3% strongly agreed that they learnt Evidence Based Practice during their academic years.68.3% agreed or strongly agreed that they are confident in the ability to critically review professional literature.81.1% responded that they agreed or strongly agreed that they are able to conduct search to answer my clinical questions confidently.

Around 84.1% of the respondent agreed or strongly agreed that they were familiar with the medical search engines such as Pub Med and Pedro

Table 11. Association between knowledge and demographic variable

Knowledge and skills	Factor	Level	χ^2	<i>p</i> value	df
I am able to conduct a search to answer my clinical questions confidently	Gender	Male	4.4	.036	1
		Female			
I am confident in my ability to critically review professional literature	Specialization	No specialization	5.71	.017	1
	No of years worked as a Physiotherapist	<2 2-5 6-10 >10	8.9	.03	3
I am able to incorporate patient preferences with practice guidelines	No of hours worked per week	<20	12.96	.005	3
		21-30			
		31-40			
		>40			
I received formal training in search engines for finding research relevant to my practice.	No of years working as a Physiotherapist	<2	9.83	.02	3
		2-5			
		6-10			
		>10			
I am familiar with the medical search engines .e.g PEDro, PubMed	Specialization	No specialization	10.12	.001	1
	Specialization	Specialization			
I am familiar with the medical search engines .e.g PEDro, PubMed	Gender	Male	12.86	.00	1
		Female			
		Age			

4.17 Association between knowledge and demographics

Table 10 shows the association between knowledge and skills with its associated factor. Pearson chi square provides χ^2 value 12.86 with p value = .00. Hence, the test is highly significant at 1% level significance. Hence there is strong evidence to conclude that the relationship between the two variables that are knowledge and skills (familiarity with medical search engines) and Gender was significant. As compared to the table value where $\chi^2=3.54$ the χ^2 value obtained was 12.86 which was more than the table value

Pearson chi square provides χ^2 value 4.4 with p value = .036. Hence, the test is highly significant at 1% level significance. Hence there is strong evidence to conclude that the relationship between the two variables that are knowledge and skills (familiarity with medical search engines) and Gender was significant. As compared to the table value where $\chi^2=3.54$ the χ^2 value obtained was 4.38 which was more than the table value

Pearson chi square provides χ^2 value 10.12 with p value = .001. Hence, the test is highly significant at 1% level significance. Hence there is strong evidence to conclude that the relationship between the two variables that are knowledge and skills and specialization level was significant. As compared to the table value where $\chi^2=3.54$ the χ^2 value obtained was 10.54 which was a little more than the table value. Only marginal significance was found between age of the Physiotherapist and knowledge and belief. $\chi^2 (3, N=163) = 5.41$, $p = 0.06$.

Pearson chi square provides χ^2 value 12.96 with p value = .005. Hence, the test is highly significant at 3% level significance. Hence there is strong evidence to conclude that the relationship between the two variables that are knowledge and skills and number of hours worked per week was significant. As compared to the table value where $\chi^2=7.81$ the χ^2 value obtained was 12.96 which was more than the table value

Pearson chi square provides χ^2 value 9.83 with p value = .02. Hence, the test is not significant at 6% level significance. Hence there is evidence to conclude that the relationship between the two variables that are knowledge and skills (familiarity with medical search engines) and number of years working as a Physiotherapist was not significant. As compared to the table value where $\chi^2=12.59$, the χ^2 value obtained was 9.83 which was less than the table value

Table 12. Binary logistic regression analysis for skills, knowledge and factors associated with the respondent

Knowledge and skills	Factor	Level	N	Odds ratio (95% CI)	P	N	df
I am able to conduct a search to answer my clinical questions confidently	Gender	Female	86	Reference	.04	163	1
		Male	77	2.44 (1.042 - 5.721)			
I am confident in my ability to critically review professional literature	Number of years working as a Physiotherapist	<2	65	Reference	.035	162	3
		2-5	55	2.6 (1.1-5.7)	.018		
		6-10	30	2.2(0.8-5.7)	.099		
		>10	14	4.8(1-23.3)	.050		
	Specialization	No Specialization	108	Reference	.01	163	1
		specialization	56	2.5(1.1-5.3)			
I received formal training in search engines for finding research relevant to my practice.	No of years working as a Physiotherapist	<2	65	Reference	.04	164	3
		2-5	55	.13 (.2-1.1)			
		6-10	30	.51 (.3-1.7)			
		>10	14	.04(1.1-24.82)			
I am familiar with the medical search engines	Gender	Female	86	Reference	.001	163	1
		Male	77	6.35 (2.08 -19.42)			
	Age	20-24	31	Reference	.078	163	2
		25-29	83	2.4 (.90-8.4)	.079		
		>29	50	3.6(1.1-12.3)	.034		

4.18 Binary logistic regression for knowledge, skills and factors associated with it

Here the table 10 shows the results of binary logistic regression between knowledge and skills and the factors associated with the respondents. Variable of knowledge and skill that is Physiotherapists ability to conduct search to answer clinical questions confidently and Gender were found statistically significant. It was found that male respondents thought they were able to conduct search to answer clinical questions confidently two times more than female.

Statistically significant result was obtained between the variable of skill and knowledge that is confidence in ability to critically review professional literature and number of years working as a Physiotherapist. It can be seen from the table that Physiotherapists who works 2 to 5 years as physiotherapists thought they were 2.6 times confident in ability to critically review professional literature. Those working for 6 to 10 years thought they were 2.2 times more confident in their ability to review professional literature. Physiotherapists working more than 10 years thought they were 4.8 times more confident in their ability to critically review professional literature.

There was also statistically significant relationship between specialization and ability to critically review professional literature. (p) = .03. Respondents with specialization thought they were able to critically review professional literature two times more than those having no specialization.

Also statistically significant relationship was found between knowledge and skill variable that is receiving of formal training in search strategies for finding research relevant to practice and knowledge and skills. (p)= .04 .Physiotherapists working more than 10 years agreed they received formal training in search strategies for finding research relevant to practice than those who worked less than 2 years but respondents who worked 2-5 years and 6 to 10 years agreed 0.57 times and 0.75 times lesser that they received formal training in search strategies for finding research relevant to their practice

It can be seen in the table that there is significant relationship between variable physiotherapist's familiarity with the medical search engine and gender with p =.001. It

was found that male respondents thought they were 6.35 times familiar with the medical search engines than female.

Only marginally significant association was obtained between age and familiarity with the medical search engines. However, significant association was found between 20-24 and greater than 29 years of age ($p = .034$). It showed that Physiotherapist who were greater than 29 years of age thought they were familiar with medical search engines 3.6 times than those with 20-24 years of age. Only marginally significant association was found between 20-24 years of age and 25 to 29 years of age.

Figure 8. Knowledge regarding research terms

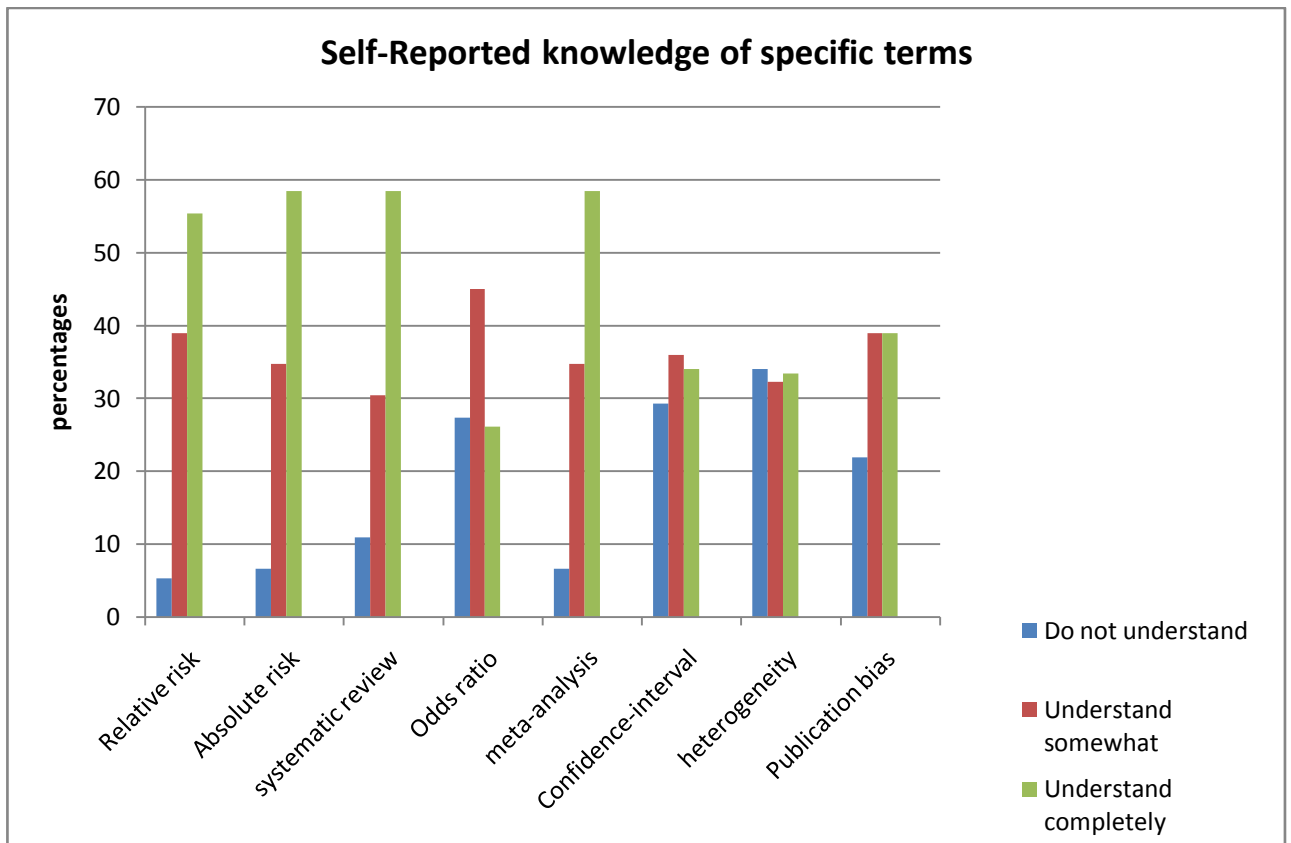


Fig 3:Self-reported knowledge of specific terms

4.19 Self –reported knowledge regarding research terms

It can be seen from the figure 3 that more than 50% of the respondent understood completely the terms. Physiotherapists actually understood all of the terms relative risk, absolute risk, systematic review and meta-analysis. This result could be misleading as well as literatures also suggested that even though maximum number of Physiotherapists said they understood the terms but were not able to explain them when asked. Heterogeneity is the term where there were equal percentages that understood, did not understand and understood completely. Odds ratio is the term that maximum respondents said they understood somewhat. 34.1% said they did not understand the term followed by 32.3% that said they understood somewhat and 33.5% that said they understood completely. Relative risk and absolute risks seems to be the terms where only lesser percentage said they did not understand. Only 5.4% of the respondents said they did not understand the term relative risk and 6.7% of the respondents said they did not understand the term absolute

risk. There were few missing data with one missing data in odds ratio and 2 missing data in confidence interval where respondent did not answer to the question.

Table 13. Knowledge regarding research terms

Understanding of the terms	Mean	Standard deviation	N
Relative risk	1.49	0.60	164
Absolute risk	1.51	0.62	164
Systematic review	1.47	0.69	164
Odds ratio	0.99	0.74	162
Meta-analysis	1.12	0.85	164
Confidence Interval	1.05	0.80	163
Heterogeneity	0.99	0.82	164
Publication bias	1.17	0.77	164
Overall Mean Score	1.22	0.22	164

4.20 Measure of understanding of the terms among the respondents

Knowledge of respondents regarding various terms were determined by their responses on 8 questions on three point Linkert scale (0 = do not understand; 1=understand somewhat; 2=understand completely). The cronbach's alpha test for reliability for the scale was obtained to be 0.89 which is highly significant. The overall mean score for the understanding of the terms is 1.22.Hence it can be said that there is good understanding of the terms among the respondents regarding the research terms.

Table 14. Logistic regression analysis between understanding of the research terms and demographic variables

Factor	Level	N	Odds ratio (95% CI)	<i>p</i>	df
Specialization	Specialization	56	2.6 (1.3 -5.2)	.004	1
	No specialization	107	Reference		

4.21 Logistic regression between understanding of research terms and demographics

The table shows statistically significant association between Level of specialization and knowledge regarding specific terms. ($p=.004$). It was found that the specialization level respondents thought they had the understanding of the research terms three times than that of those respondents who did not have any specialization

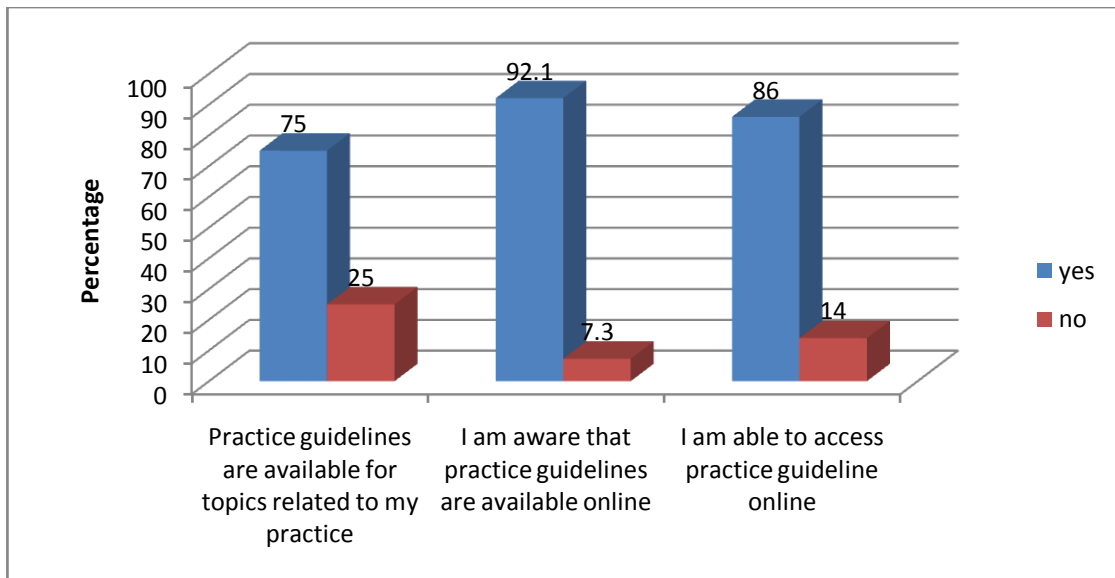


Fig 9. Respondents understanding and use of practice guidelines

4.22 Respondents understanding and use of practice guidelines

Fig 9 describes about the respondents understanding and use of practice guidelines. 75% of the respondents stated that practice guidelines were available for topics related to their practice, whereas only 25% of the respondents stated that practice guideline were not available for topics related to the practice. 92.1% of the respondents stated that they were aware about the fact that practice guidelines are available online and 7.3% of the respondents said they were unaware of the fact that practice guidelines are available online. 86% of the respondents stated that they were able to access practice guidelines online and 14% of the respondents stated that they were not able to access practice guidelines online.

4.23 Attention to Literature

This category included questions regarding reading literature related to clinical practice, how often Physiotherapists use Evidence Based Practice and searching of the literature using relevant search engines.

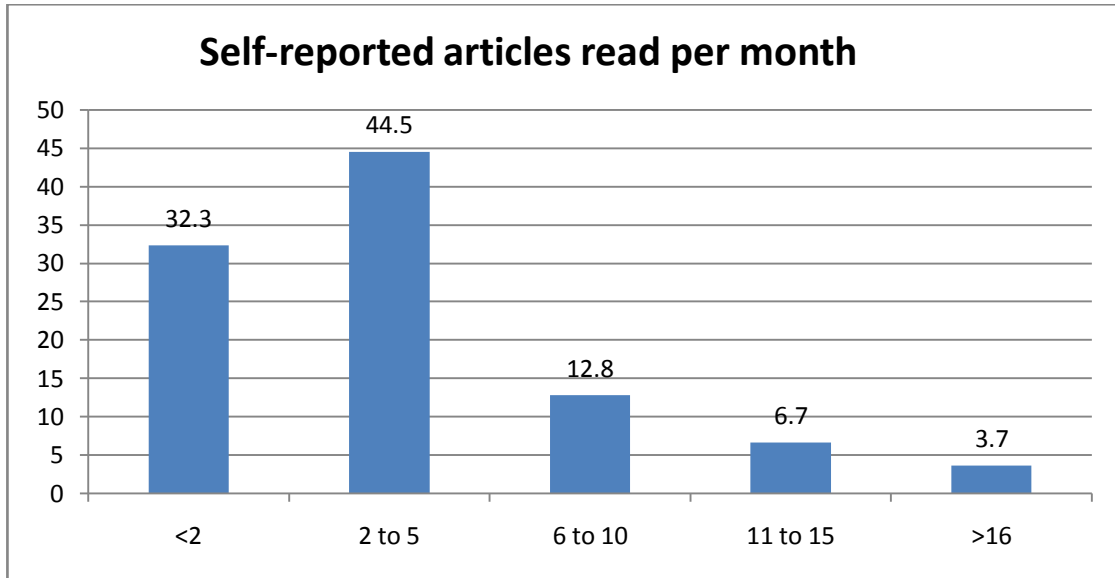


Fig 10. Self-reported articles read per month

Figure 10 clearly gives the picture of number of articles read per month. It shows that only 32.3% of the respondents read less than 2 articles per month which clearly shows that remaining respondents read more than 2 articles per month. Also, Salbach (2010) reported 33% of Physiotherapists read less than 2 articles per month which is similar to our findings. 44.5% of the respondent read 2 to 5 articles in a month which is the highest percentage of it recorded and only 3.7% read more than 16 articles per month. 12.8% of the total respondents read 6 to 10 articles per month and 6.7% read 11 to 15 articles per month.

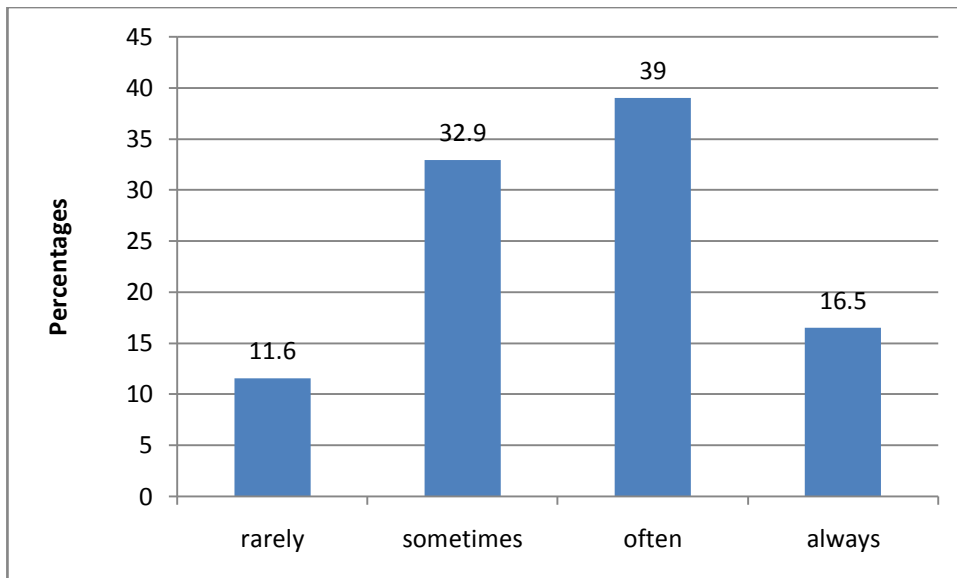


Fig 11. Self-reported use of Evidence

The above figure 11 shows the self-reported use of professional literature and research findings in the process of clinical decision making. The chart clearly shows that maximum of 39% of the respondents often used professional literature for clinical decision making. And 16.5% responded that they always used Evidence-Based Practice followed by 32.9% of the Physiotherapist respondents who said they used evidence based practice sometimes followed by only 11.6% of the Physiotherapist respondents who used the literature rarely.

Physiotherapist respondents were asked a question regarding the search engines they used for searching the literature. The medical search engines used by the respondents were Pub Med, Pedro, Physiopedia, Google scholar, Wikipedia, Elseilver, Tos PT, Med Plus, Med Scape, Mayo Clinic, Cochrane, JosPT, SCI hub, Pedro, NCBI, Pub Central , elearn SCI, Science Direct, Embase, SAGE etc

No association was found between the number of articles read and access of articles at home and access to articles outside place of work. Also no association could be found between the frequency at which the respondents used literature for clinical decision making and no of articles read per month.

Table 15. Association between attitude and attention to literature

Factor	Level	χ^2	<i>p</i> value	df
Use of professional literature and literature findings	Rarely	11.91	.008	3
	Sometimes			
	Often			
	Always			
No of articles read per month	<2	9.50	.050	4
	2-5			
	6-10			
	11-15			
	>15			

4.24 Association between attitude and attention to literature

The above table14 shows that the Pearson chi square provides χ^2 value 11.91 with *p* value = .008. Therefore, the test is highly significant at 3% level of significance. Hence there is strong evidence to conclude that the relationship between the two variables (Attitude and use of literature findings and literature search) is significant.

Also, Pearson chi square provides χ^2 value 9.50 with *p* value = .050. Hence, the test is marginally significant at 4% level significance. Hence there is only less evidence to conclude that the relationship between the two variables that are attitude and no of articles read per month is significant. As compared to the table value where $\chi^2 = 9.49$ the chi-square value obtained was 9.50 which was a little more than the table value.

4.25 Access and Availability of resource to access information

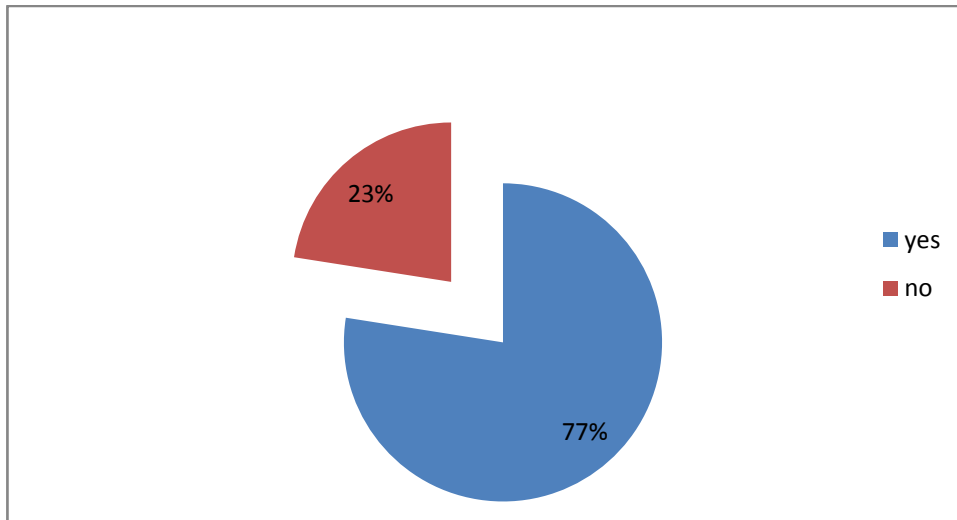


Fig 12 Access to search engines at place of work

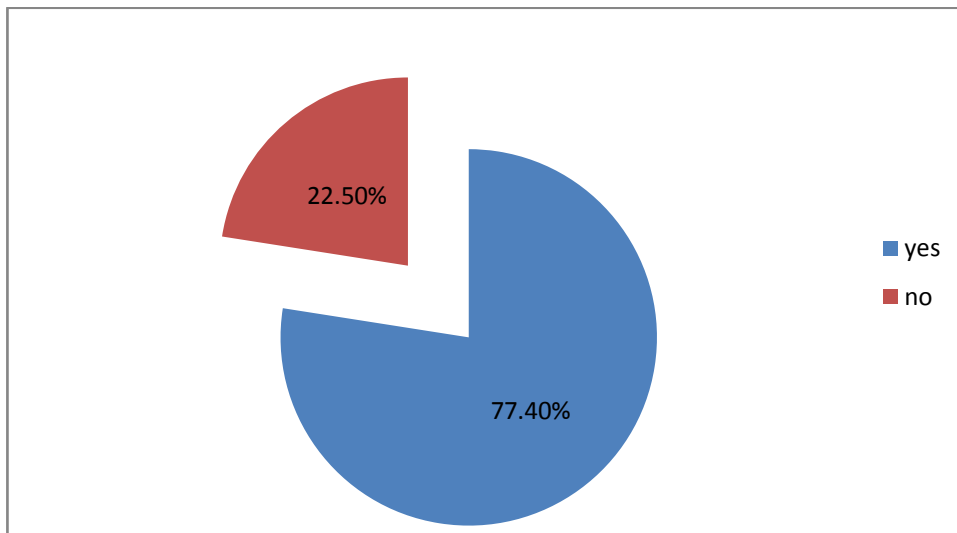


Fig 13 Access to search engines away from work

It can be seen from the above figure 12 that 72% of the respondents said they had access to search engines at place of work and remaining 28% did not have access to search engines at their place of work .In this way it can be seen that maximum respondents had search engines at their place of work which is good for Evidence Based Practice.

Fig 13 shows that around 77.4% of the respondent said that they had access to the search engines outside their place of work and only 22.56% of the respondents said they had no access to search engines outside their place of work.

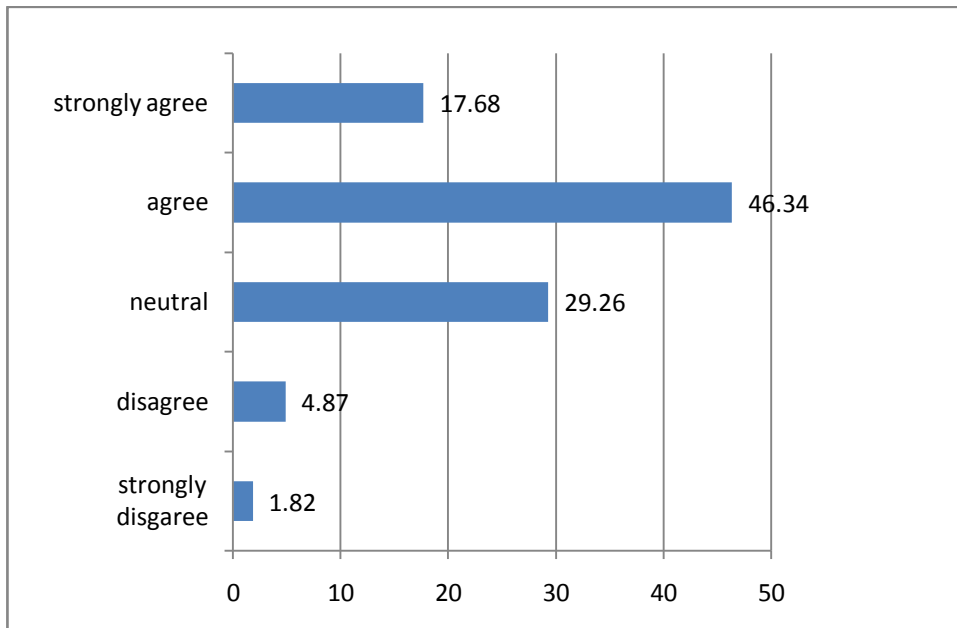


Fig 14 Respondents work supports use of current research practice

Figure 14 clearly shows that around 64% agreed or strongly agreed that their work place supported the use of current research in practice. 29.26% were neutral towards the workplace support to use current research. Only about 6.5% of the respondents disagreed or strongly disagreed that their workplace supported use of current research in practice. It is good that around 64% of the workplace had positive attitude towards Evidence Based Practice. There was no significant association found between access to and availability of literature which showed that no association was found between the type of facility and access to search engines at place of work.

4.26 Barriers towards Evidence Based Practice

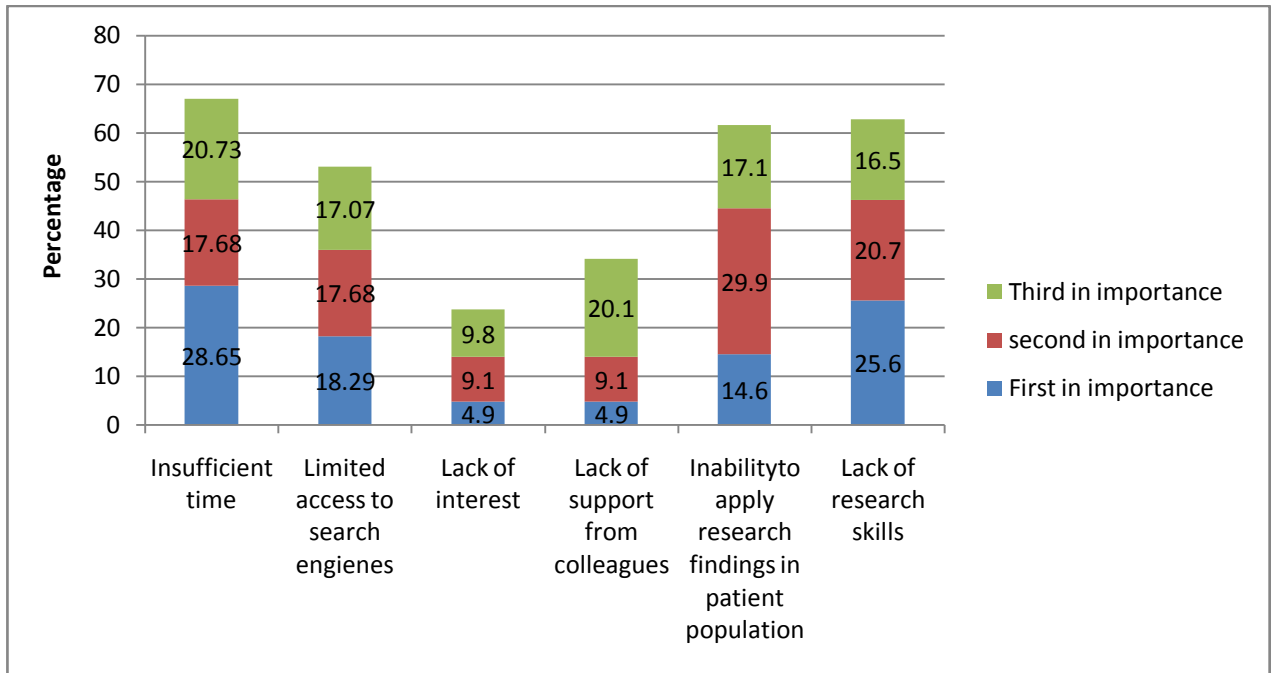


Fig: 15 Self reported ranking of Barriers to Evidence Based Practice

Figure 15 clearly depicts the picture of barriers towards Evidence-Based Practice. The maximum number of participants that is 67.06% indicated that insufficient time was one of the top three barriers to Evidence-Based Practice. 62.8% of the respondents stated lack of research skills to be among the top three barriers to Evidence Based Practice followed by inability to apply research findings in patient population where 61.6% of the respondents marked it as top 3 barriers to Evidence Based Practice. Limited access to search engines was considered to be the top 3 barriers to Evidence Based Practice by around 53.04% of the respondents. Around 34.1% of the respondents ranked lack of support from colleagues as top three barriers to Evidence Based Practice. Lack of interest has been stated as top 3 barriers to Evidence Based Practice by only 23.8% of the respondents which is the minimal percentage among the 6 options.

Barriers

The major barriers that were described by the Physiotherapists other than the ones mentioned in the Questionnaire were as follows. They mentioned cross-cultural adaptability and socio-economic factor as the barriers. Lack of awareness among the patient, Lack of interest as well as the traditional beliefs of the patients and the impact of it on their mindset was also considered to be the greatest barriers towards Evidence based Practice. Other Physiotherapists stated about the lack of adequate time in the hospital due to heavy patient flow.

Lack of sufficient research equipment was also considered to be the barrier towards Evidence-Based Practice. These include mainly lack of access to maximum number of articles as they need to be paid and also the lack of access to full articles. They feel that the Evidence Based Practice is recent advancements which are not readily available in developing countries. Lack of co-operation from the higher authorities also has been seen as a major hindrance towards Evidence Based Practice. It was known during the visit to different hospitals and meeting the Physiotherapists that the doctors had access to certain search engines as well as the articles but as per in the Physiotherapy department it was not accessible. It seemed that Physical Therapists needed to talk to the concerned authority regarding the access to the various articles and search engines. Physiotherapists have also mentioned that in case where strong recommendation by the doctors regarding some cases for literature search was made, the articles were searched for.

They have also pointed out that the articles published do not have a valid source in number of cases. Also numerous literatures have focused on the fact about the credibility of the articles that are present till date. The other group of Physiotherapists argued about the limited quality article and also few emphasized on the limited quality articles that can be trusted on for the Evidence-Based Practice. Physiotherapist and Patient ratio is also the other factor that Physical Therapists find it as a barrier for Evidence Based Practice that is Physiotherapists need to treat maximum number of patients. Lack of proper environment as well as lack of motivation was also considered to be the barriers to Evidence Based Practice by the Physiotherapists. This includes lack of support from the fellow researchers, also lack of team, and understanding among the team as well as lack of encouragement in the team. Some Physical therapists consider it to be time-consuming and others state about the lack of knowledge related to medical search engines.

Physical Therapists have also focused on the lack of governance from the Physiotherapy bodies like NEPTA. Several literatures have described about the importance of continuous professional improvement in terms of Evidence Based Practice. Also lack of enough seminar and conferences regarding the particular subject has been demotivating factor for certain number of Physical Therapists. This in turn leads to lack of awareness among the Physical Therapists themselves.

The difficulty in understanding of certain terminology used in the literature also makes it difficult for certain Physical therapists to conduct Evidence Based Practice.

The main purpose of the study was to find out about the level of attitude and knowledge towards Evidence based practice and also to list out the major barriers towards Evidence-Based practice. The demographics section consisted of information regarding the respondent Physiotherapists and also the factors that could associate with the level of knowledge and attitude and could create barriers for Evidence-based practice.

In the demographic section total male respondents were 47.6% and the female respondents were 52.4% .This percentage varied from the two other study by Jette et al where total male respondents were 32.8% and female respondents were 32.8% and also from Yahui & Swaminathan where total male percentage were 25.5% and female percentage were 73.5%.

Maximum percentage of respondents was in the age group 21-30 years and similar was found in the study by Yahui & Swaminathan where maximum number that is 85.3% of the respondents lie in the age group 25 to 34. However study by Akinbo et al. (2008) found maximum number of Physiotherapists between 30 to 39 years of age that is 58%.

As far as specialization level is concerned, maximum of 65.2% had no specialization and remaining of those who had specialization 14.6% had musculoskeletal as their major specialization. According to the study by Jette et al. (2003), demographics had 54.8% as clinical instructor and 5.3% had specialization in orthopedics.

Maximum number of respondents fell into the category where number of years worked as a Physiotherapist were less than 2 years which comprised about 39.6%.According to the study by Yahui & Swaminathan (2017) number of years worked as Physiotherapists between 5 to 10 years was 23.5% compared to the result obtained in the study where 33.5% worked between 5 to 10 years of age.

A study by Ramirez –Velez et al. (2015) showed that number of Physiotherapists working less than 20 hours per week was 10.7% and other study by Jette et al.(2003) showed number of Physiotherapists who worked less than 20 hours per week were 7.2%. The researcher's study showed that only 3.7% of the Physiotherapists worked less than 20 hours per week and 62% of the Physiotherapists worked more than 40 hours per week compared to the study with Ramirez et al. (2015) where 32.4% worked more than 40 hours per week. But, Jette et al. (2003) had similar results where 59.2% worked more than 40

hours per week. The results obtained in the study clearly describes about the overload of work among the Physiotherapists. Maximum numbers of Physiotherapists work for more hours in a week arising question regarding the time for reading scientific articles in order to incorporate EBP.

The researcher showed that 23.8% saw more than 15 patients in a day and only 8.5% saw less than 5 patients in a day. According to the study by Akinbo et al. (2008) 22% saw more than 15 patients in a day 16% saw less than 5 patients in a day which had similar findings. Our study showed that 39.6% of the respondents had less than 5 Physiotherapist working in area of practice, 7.9 % of the respondents had more than 15 Physiotherapists working in area of practice. The study by Ramirez-Velez et al. (2015) showed that 39.2% of Physiotherapists had less than 5 Physiotherapists working in their area of practice which showed similar percentage as our studies and 16.7% had more than 15 Physiotherapists working in their area of practice which is slightly greater than that obtained from our study.

There was variation in the facility that best described the place where the Physiotherapists worked. Researcher's study showed that 54.3% of the Physiotherapists worked at the acute care hospital. A study by Jette et el. (2003) showed that maximum number of Physiotherapists 34.2% worked in a private out-patient clinic and only 13.5% worked in acute care hospitals. A recent study by Yahui & Swaminthan (2017) showed that around 21.6% of the Physiotherapists worked in government hospital compared to 8.5% of the Physiotherapists who worked in government hospital in our study. The slight increase of Physiotherapists in government hospital in Nepal has been possible after massive earthquake during 2015. It was then that the need for rehabilitation and role of Physical therapists were recognized in government level and vacancies were announced in different posts for the Physiotherapists.

The results obtained suggested that Physiotherapists had generally positive attitude towards Evidence-Based Practice. Majority of the Physical Therapists thought application of EBP was necessary in practice of Physical Therapy and literature and research were useful in day to day practice. Also they believed Evidence-Based practice improved quality of patient care. A similar survey in Nigeria reported that maximum of 99% agreed or strongly agreed EBP is necessary. Literature is useful to practice (98%), EBP improves quality of patient care (98%), they need to increase use of Evidence in their daily practice

(99%), and evidence helps in decision-making (88%). Sixty-nine percent disagreed or strongly disagreed EBP places unreasonable demand on Physical Therapists. In the study neutral was chosen most often in the item, EBP does not take into account patient preferences (Akinbo et al., 2008). The findings were similar to our study. The beliefs had been reflected in prior studies of physicians and nurses as well. McColl et al. (1998) found that most physicians, general practitioners surveyed in United Kingdom agreed that practicing using evidence improve patient care. A similar study by Jette et al. (2003) discussed about proponents of EBP, however, have frequently reiterated that evaluation of patient preferences, circumstances and values is part of clinician's decision in determining appropriate intervention.

In a study by Karki et al. (2015) among nurses regarding the attitude towards Evidence-Based Practice the mean score of 3.6 was considered as positive attitudes towards Evidence Based where score was from 1 to 5. In our study the mean score of 2.89 was obtained for score from 0 to 4 which indicated positive attitude in our study as well (Karki et al., 2015).

In our results association was seen between EBP variables and Gender, specialization, number of Physiotherapist working in area of practice, facility at which Physiotherapist work, number of patients seen in a day and number of hours worked per week. No association was seen between the age as mentioned by Akinbo et al. (2008) in Nigeria. The article also showed association between attitude and belief and years since licensure which was not shown in our study.

As contrast to the study by Jette et al. (2003), where belief about whether evidence existed to support their practice was not related depending on area of practice, our study found out that respondents working on area of practice that is acute care hospital believed literature and research helped to improve patient care nine times than those who worked at other facility.

As with many studies regarding attitudes towards Evidence-Based Practice. Maximum number of Physiotherapists showed positive attitude towards Evidence-based practice

In this study 68.3% of the Physiotherapists agreed or strongly agreed that they were confident in their ability to critically review professional literature which was somewhat similar to that attained by Jette et al. (2003), where 55% of the respondent stated they were

confident in their skills. Also in the study, 70% of the respondents agreed or strongly agreed that they had knowledge regarding search engines where as our study stated that 84.2% of the Physiotherapists had knowledge regarding the search engines. Also, study by Jette et al. (2003) forty-two percent agreed and forty percent strongly agreed that they engaged in educational sessions in foundations of EBP and our study showed 48.8% strongly agreed and 29.3% agreed in learning EBP in academic years. In both study it showed respondents diverse nature in expressing whether or not they had learnt about EBP in their academic years.

The mean score of 2.74 was obtained for score measuring from (0 to 4) as compared to the knowledge and skill scores of nurses that was 4.1 measuring from (1 to 6). The knowledge regarding Physiotherapists could be considered moderate with mean percentage of 68.5%.

It was found in the study by Akinbo et al. (2008) that significant association was found between knowledge and skills for Evidence based practice and variable age. Our study found association between age, gender, specialization, number of years worked as a Physiotherapists and number of hours worked per week. For stable models where regression analysis could be carried out our study showed that Physiotherapists receiving of formal training was greater in less than 2 years of working as a Physiotherapists rather than greater years of work experience. This could be explained by introduction to Evidence based practice in later years in Physiotherapy.

The study by Jette et al. (2003) discussed about those having bachelors degree as their highest certificate were less likely to have the skills or training required for evidence-based practice compared to those with masters degree. Similarly in our study those having specialization degree were more confident in their ability to critically review professional literature.

Also the understanding of certain research terms was associated with highest degree obtained. As obtained in the study by Jette et al. (2003) respondents with baccalaureate degrees had less knowledge of the research terms rather than those having masters' degree. Similar findings were obtained in our study where those having specialization degree were two times more likely to understand the terms rather than those not having specialization degree. This could be explained by the fact that those Physiotherapist having specialization degree need to perform a research thesis for the sake of partial fulfillment of their course. Hence they have come along with the research terms. The least

understood word like in Illes et al. (2006) was odds ratio and similar findings were obtained in our study. Our study also showed heterogeneity and confidence interval as the least understood words. McColl et al. (1998) found that of those who indicated they could explain a term to others; in fact no one could do so satisfactorily according to essential teaching criteria. Hence level of understanding in our study may be over-estimated as well.

A study by Yahui & Swaminathan (2017) stated that 30.4% of the Physiotherapists read less than two articles in a day which was similar to our study where 32.3% of the Physiotherapists read less than 2 articles in a day. Only 4% read more than 15 articles in a day compared to our study where 3.7% read more than 15 articles in a month which showed similar result. It was found that there were no respondents who never used professional literature and research findings compared to the study where 4.9% never used literature search. 46.1% of the respondents in the article used sometimes compared to our study where 32.9% used professional literature sometimes. Prescott et al. (1997) found out that depending on database 10% to 90% of sample of general practitioner in the United Kingdom referred to the sources occasionally.

Use of evidence in practice is possible only when there is efficient access to information resources. Efficiency mainly requires easy retrieval of information, use of online resources and skill in finding relevant resources. The respondents had access to information. Respondents had access to information more at home compared to work

Maximum number of Physiotherapists have stated about the availability and use of practice guidelines to be yes. However the authenticity of the response cannot be confirmed without the qualitative study as well. It's very natural for the respondents to say yes regarding the questions but reality may not be the same. However the article by Jette et al., 2003 did not included the result in their part of report and the reason for it was not mentioned. 77% had access to search engines at home compared to 72% who had access to search engines away from home. Article by Jette et al. (2003) had 89% access to search engines at work and 65% access to search engines away from work. No significant association was seen between the type of attention and access and availability in both the article as well as our study.

According to the article by Grol & Wensing (2004), perceived barriers to implementing change had cognitive factors, attitude of physician, social and organizational context and

economic context. The major barrier was found to be time in our study with 28.65% citing as 1st in importance as a major barrier.

Gosling (2004) stated main barrier towards adoption of system was lack of training associated with its use. Jette et al. (2003) reported 67% of the respondents' stated insufficient time as one of the top three barriers. Palfreyman et al. (2003) also described about the insufficient time as the most difficult barrier to overcome for both nurses and Physiotherapists. When asked regarding the barriers among the Physiotherapists in other item some have stated that time is no barrier to Evidence based practice.

Only 4.9% of the respondents from our study have cited lack of support from colleagues as the barrier first in importance. However Restas (2003) have stated lack of support from colleagues as top barrier to Evidence-based practice. Support from the colleagues also is one of the important factor responsible for support in EBP. As the other researchers time was obtained as the major barriers to Evidence Based Practice. In case of study by Jette et al. (2003) time was considered to be major barrier to Evidence Based Practice with 67% of the respondents ranking it as the major barriers to Evidence Based practice where coincidentally same figure of 67.02% was obtained for our study. And other similarity was that of a lack of interest where only minimal percentage of the respondents considered as the top 3 barriers to Evidence-Based Practice. Our study indicated the total percentage of 23.85 of the respondents whereas the study by Jette et al. (2003) showed only 11% of the respondents said it as one of the topmost 3 barriers. The barriers obtained from Nepal have been similar as those of the other countries such as access to the studies and Continuous Education Program (Haynes & Haines, 1998). Lack of time has been cited as a major barrier in majority of the articles (Jette et al., 2003; Mc Coll et al., 1998).Lack of access to full articles also has been one of the major barriers pertaining towards Evidence-Based Practice (Bennett at al.,2007). Also other factor that the respondents majorly focused on was the quality of the articles published (Petrisor & Bhandari, 2006)

5.1 Limitations of the study

There have been certain limitations in the study which are as follows

1. The sampling technique used in the study was purposive sampling, hence there were chances of certain bias as the Physiotherapists were chosen purposively without random sampling as only the name of the Physiotherapists were present with Nepal Health Professional Council and no further information could be obtained.
2. The sample size was obtained at 7% precision as the time was limited as so were the resources. As the sample size was relatively small there could be some bias in the representative of the entire population.
3. The questionnaires were self-reported hence there are chances where Physiotherapists did not answer truthfully and just ticked on the best answer possible in order to obtain positive responses.
4. The reliability score for one item was less for the questionnaire.
5. Other bias could come from our decision to collapse into just two categorized that is agree and disagree in order to carry out further analysis of regression. It is said that information is lost when data are reduced into simple categories of positive and negative response. Such data reduction and application of logistic model shows abrupt change in odds at a point chosen for distinguishing 2 different categories for the variable.

6.1 Conclusion

Physical therapists of Nepal who were registered under Nepal Health Research Council had positive attitude towards Evidence-based practice. It was found that the Physiotherapists were interested in learning more about Evidence-Based practice and thought it was necessary in practice of Physical therapy. There were significant association between variable of attitude and specialization level and facility at which the Physiotherapists worked. They had moderate knowledge regarding evidence based practice .They had relatively good understanding regarding the research terms as obtained from our study. There were association with specialization level, age and number of years working as a Physiotherapists and knowledge and skill variables with those having specialization level and lower work experience having more knowledge and skills regarding Evidence based practice. This probably could be because of greater use of internet and online resources in the recent years. Relation was obtained between attention the literature and attitude towards evidence-based practice. Access to literature was more away from work then at the work. The major barrier to Evidence based practice measured was insufficient time followed by lack of research skills and then limited access to search engines. The findings obtained from the study have several practical implications.

6.2 Recommendations

The quantitative study alone do not seem that effective in ways that they just answer the questions and there are very less chances to keep the views of the individual Physiotherapists regarding the particular topic. Mixed study is much more effective to see whatever results have been obtained can be compared to what has been explained in qualitative study. In future mixed study would be more effective to be carried out to understand about the attitude regarding Evidence Based Practice. Also Focus group discussion could be one the effective measures towards generating conclusion regarding Evidence-Based practice. The study consisted of lesser sample size as it meant mainly for the academic purpose. In future study could be carried out with greater sample size so that it becomes more representative of the entire population. The study can be carried out after any workshop or symposium related to Evidence-based practice so that the attitude and knowledge so that change regarding Evidence-based practice can be seen. During the study, data collection were conducted by visiting different hospitals and rehabilitation centers for some interaction among the Physiotherapists where they generally shared about the doctors having access to medical search engines in their department where as Physiotherapists unaware about the availability of search engines. These matters could be solved by effective communication with the authority and the Physiotherapists working in the hospitals for effective treatment measures. Mainly Physiotherapists having no specialization had less knowledge regarding Evidence-Based practice than those having specialization, hence it is important to carry out continuous professional development programs for improvement of Evidence based practice. Insufficient time is also one of the major barriers towards Evidence based practice. Hence EBP trainings need to be included for continuous quality improvement of Physiotherapy profession.

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ANNEX I: Informed consent

Information Sheet & Consent Form

**Title: Knowledge, Attitude and Barrier to Evidence Based Practice among Physiotherapists
in selected districts Nepal**

Dear participant

Namaste,

I Shristi Bajracharya, a student of Dhaka University, currently pursuing Masters degree in Rehabilitation Science under the supervision of Mr. Mohammad Anwar Hossain at Bangladesh Health Professional Institute. I would like to request you to participate in the research study to find out about the knowledge, Attitude and Barrier to Evidence Based Practice among Physiotherapists in Nepal. If you participate in the research study you will be asked to fill in the Questionnaire that consists of several questions. The research will be directly beneficial for professional development of all the Physiotherapists of Nepal as it is mainly responsible for determining knowledge, attitude and barrier to Evidence-based Practice which is the most practiced and considered useful all over the world . Please try to give truthful answers as much as possible. If you have any questions regarding the survey and questionnaire you may ask the researcher.

Agreeing to this study gives researcher permission to use the information given by you and it is mandatory for the research. The information will be used but the information that can identify you will not be disclosed or published. Participating in the study is completely voluntary and you may chose not to participate as well.

I have read the above information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have been asked have been answered to my satisfaction. I consent voluntarily to be a participant in this study.

Name of Participant _____

Signature of Participant _____

Date _____

ANNEX:II

**Knowledge attitude and Barrier to
Evidence Based Practice among Physiotherapists in selected districts of
Nepal**

A Cross-Sectional Study

Code:

Email:

Demographic Data

1. Gender

- Male
- Female

2. Age _____

3. Please indicate your field of specialization?

- No specialization
- Musculoskeletal
- Cardio respiratory
- Neurology
- Pediatric
- Sports

Others Please state : _____

4. How long have you been working as a physiotherapist?

- <2 years
- 2-5 years
- 5-10 years

- >10 years

5. How many hours do you work per week?

- <20
- 20-30
- 31-40
- >40

6. On average, how many patients do you see in a day?

- <5
- 5-10
- 11-15
- >15

7. How many physiotherapists are currently working in your area of practice?

- <5
- 5-10
- 11-15
- >15

8. The majority of patients and types of problems you see on a daily basis are _____ cases.

- Orthopedic
- Cardio-respiratory
- Neurological
- Pediatric (<18 years)

- Geriatric (>65 years)
- Sports
- Others Please state: _____
- Do not treat patients

9.

a. In a typical month, how many articles do you Read/Review research/literature related to your clinical practice

b. Use professional literature and research findings in the process of clinical decision making.

- Never
- Rarely
- Sometimes
- Often
- Always

10. Which of the following best describes the facility at which you do most of the patient care?

- Acute care hospital
- Rehabilitation centre
- Private owned out- patient clinic
- Home service
- University
- Community Based Rehabilitation

11. Please indicate the percentage of your total work time that you spend in each type of activity during a typical month.

Example: Patient care e 70%; Reading scientific article e 20%; Teaching e 10%

- Patient care _____%
- Reading scientific article _____%
- Teaching _____%

Part 2

This section inquires about personal understanding, attitudes towards and perceived benefits and limitations of Evidence-based Practice.

12. Application of EBP is necessary in the practice of physical therapy
- Strongly disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly agree
13. Literature and research are useful in day to day practice
- Strongly disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly agree
14. EBP places an unreasonable demand on Physical therapists
- Strongly disagree
 - Disagree
 - Neutral

- Agree
 - Strongly agree
15. I am interested in learning or improving the skills necessary to incorporate EBP into my practice
- Strongly disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly agree
16. EBP improves quality of patient care
- Strongly disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly agree
17. EBP helps me make decisions about patient care
- Strongly disagree
 - Disagree
 - Neutral
 - Agree
 - Strongly agree
18. EBP does not take into account patient preferences
- Strongly disagree
 - Disagree

- Neutral
- Agree
- Strongly agree

19. I need to increase use of evidence in my daily practice

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

20. Literature and research findings help improve patient care.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

21. I am interested in attending courses relating to EBP.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

22. Strong evidence is lacking to support most of the interventions I use with my patient.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

23. Evidence-based Practice is time-consuming and places burden on me.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

Following question inquires about personal use and knowledge of clinical practice guidelines

24. I am able to conduct a search to answer my clinical questions confidently.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

25. I am confident in my ability to critically review professional literature.

- Strongly disagree

- Disagree
- Neutral
- Agree
- Strongly agree

26. Practice guidelines are available for topics related to my practice

- Yes
- No
- Do not know

27. I use practice guidelines in my practice

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

28. I am aware that practice guideline are available online

- Yes
- No

29. I am able to access practice guideline online

- Yes
- No

30. I am able to incorporate patient preferences with practice guidelines

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

The following section enquires about availability of resources to access information and personal skill in using those resources

31. I have access to search engines in my place of work.

- Agree
- Disagree

32. My place of work supports the use of current research in practice.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

33. I have access to search engines outside my place of work.

- Agree
- Disagree

34. I learned the foundations for EBP during my academic years.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

35. I received formal training in search strategies for finding research relevant to my practice.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

36. I am familiar with the medical search engines. Example: PubMed, PEDro

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

37. Please indicate the medical search engine(s) that you use.

38. My understanding of the following terms is:

Term	Understand completely	Understand somewhat	Do not understand
Relative risk			
Absolute risk			
Systematic review			
Odds ratio			
Meta-analysis			
Confidence Interval			
Heterogeneity			
Publication bias			

39. Rank your barriers (from 1 to 6) to the use of evidence-based practice in your daily practice.

Example: 1 greatest barrier; 6 weakest barrier

___ Limited access to search engines

___ In-sufficient time

___ Lack of interest

___ Lack of support from colleagues

___ Inability to apply research findings in my patient population

___ Lack of research skills

40. Please indicate other barrier(s) to the use of Evidence-based Practice.

Thank you for participating in this survey.

ANNEX III: Approval Letter



Government of Nepal Nepal Health Research Council (NHRC)



Ref. No.: 1265

24 December 2017

Ms. Shristi Bajracharya
Principal Investigator
Central for Rehabilitation of Paralysed
CRP-Chappain, Bangladesh

Ref: **Approval of Research Thesis** entitled **Knowledge, Attitude and Barrier to Evidence Based Practice among Physiotherapists in selected districts of Nepal**

Dear Ms. Bajracharya,

It is my pleasure to inform you that the above-mentioned proposal submitted on **7 December 2017 (Reg. no. 517/2017)** please use this Reg. No. during further correspondence) has been approved by Nepal Health Research Council (NHRC) Ethical Review Board on **20 December 2017**.

As per NHRC rules and regulations, the investigator has to strictly follow the protocol stipulated in the proposal. Any change in objective(s), problem statement, research question or hypothesis, methodology, implementation procedure, data management and budget that may be necessary in course of the implementation of the research proposal can only be made so and implemented after prior approval from this council. Thus, it is compulsory to submit the detail of such changes intended or desired with justification prior to actual change in the protocol. Expiration date of this proposal is **April 2018**.


If the researcher requires transfer of the bio samples to other countries, the investigator should apply to the NHRC for the permission. The researchers will not be allowed to ship any raw/crude human biomaterial outside the country; only extracted and amplified samples can be taken to labs outside of Nepal for further study, as per the protocol submitted and approved by the NHRC. The remaining samples of the lab should be destroyed as per standard operating procedure, the process documented, and the NHRC informed.

Further, the researchers are directed to strictly abide by the National Ethical Guidelines published by NHRC during the implementation of their project proposal and **submit progress report in between and full or summary report upon completion**.

As per your project proposal, the total research amount is **Rs. 18,000.00** and accordingly the processing fee amounts to **Rs. 10,000.00**. It is acknowledged that the above-mentioned processing fee has been received at NHRC.

If you have any questions, please contact the Ethical Review M & E Section at NHRC.

Thanking you,


Prof. Dr. Anjani Kumar Jha
Executive Chairman

ANNEX-IV Approval of thesis proposal



বাংলাদেশ হেল্থ প্রফেশন্স ইনস্টিটিউট (বিএইচপিআই)
Bangladesh Health Professions Institute (BHPI)
(The Academic Institute of CRP)

Ref.

CRP-BHPI/IRB/11/17/154

Date: 25/11/2017

To
Shristi Bajracharya
Part – II, M.Sc. in Rehabilitation Science
Session: 2016-2017, Student ID: 181160065
BHPI, CRP, Savar, Dhaka-1343, Bangladesh

Subject: Approval of the thesis proposal – “Knowledge, Attitude and Barrier to Evidence Based Practice among Physiotherapists in selected districts of Nepal.”

Dear Shristi Bajracharya,

Congratulations,

The Institutional Review Board (IRB) of BHPI has reviewed and discussed your application on December 6, 2016 to conduct the above mentioned thesis, with yourself, as the Principal investigator. The Following documents have been reviewed and approved:

Sr. No.	Name of the Documents
1	Thesis Proposal
2	Questionnaire (English version)
3	Information sheet & consent form.

The purpose of the study is to determine Knowledge, Attitude and Barrier to Evidence Based Practice among Physiotherapists in Nepal. Self-reported Questionnaire will be given to the Physiotherapists. Data collectors will receive informed consents from all participants. Any data collected will be kept confidential. Participants will fill a questionnaire that takes 10 to 15 minutes and the study have no likelihood of any harm to the participants. The members of the Ethics committee have approved the study to be conducted in the presented form at the meeting held at 9.00 AM on 06-05-2017.

The institutional Ethics committee expects to be informed about the progress of the study, any changes occurring in the course of the study, any revision in the protocol and patient information or informed consent and ask to be provided a copy of the final report. This Ethics committee is working accordance to Nuremberg Code 1947, World Medical Association Declaration of Helsinki, 1964 - 2013 and other applicable regulation.

Best regards,

Muhammad Millat Hossain
Asst. Professor, MRS
Member Secretary,
Institutional Review Board (IRB)
BHPI, CRP, Savar, Dhaka-1343, Bangladesh

সিআরপি-চাপাইন, সাভার, ঢাকা-১৩৪৩, বাংলাদেশ, ফোন : ৭৭৪৫৪৬৪-৫, ৭৭৪১৪০৪ ফ্যাক্স : ৭৭৪৫০৬৯

CRP-Chapain, Savar, Dhaka-1343, Tel : 7745464-5, 7741404, Fax : 7745069, E-mail : contact@crp-bangladesh.org, www.crp-bangladesh.org