



Evidence-based Practice regarding knowledge, attitude and perceived barriers of Mangalore Physical Therapists: A Survey

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ABSTRACT

Evidence-based Practice is defined as usage of current best evidence which is conscientious, explicit and judicious in deciding on the care of the individual. It is one of the vital decision-making processes in the medical profession. Though India is renowned as a center for medical education, there is scarcity regarding the literature on evidence-based practice. The survey aims to identify the prevalence of evidence-based practice among the physical therapists of Mangalore. The study protocol submitted to scientific research committee and Ethical institutional committee, K.M.C. Mangalore Manipal University. On approval, the questionnaire had been distributed among the physical therapists of Mangalore through mails and in the written form. The questionnaire consists of questions divided into eight sections: 1) consent form 2) current practice status; 3) demographic data; 4) behavior; 5) previous knowledge of E.B.P. resources; 6) skills and available resources; 7) Opinions regarding E.B.P.; 8) Perceived barriers regarding E.B.P. The emails were sent through Google forms to all the physical therapists, and hard copies were distributed among the selected physical therapists. The response rate for the emails was 13.1%. The response collected through hard copies was 178, whereas total hard copies distributed was 320, the participants rejected some due to lack of interest. In total, including emails and hard copy questionnaire 205 was the response rate in which all were practicing physical therapy as their primary profession. The findings of the study will pave the way to identify the status of evidence-based practice as well as help in designing promotional programs for evidence-based practice.

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INTRODUCTION

Evidence-based practice is defined as usage of current best evidence which is conscientious, explicit and judicious in deciding on the care of an individual (Silva *et al.*, 2015; Diermayr *et al.*, 2015). It is one of the critical decision-making processes in the medical profession. It has five steps such as the formation of a clinical question; an efficient database search to answer the clinical question, critical assessment should have valid evidence, Evidence finding should be applied in the clinical

practice, effects of evidence applicable in the clinical Practice (Chi, 2013; Milne, 2009). These five steps should be followed to implement the evidence-based practice (Silva et al., 2015). In general, there are some common barriers like lack of interest, lack of generalization, lack of employer support, limited availability of resources. So to promote the evidence-based practice, these barriers should be eliminated (Diermayr et al., 2015; Ramírez-Vélez et al., 2015).

Silva TM et al. conducted study among the physical therapists of Sao Paulo Brazil regarding behavior, knowledge, skills, opinions and perceived barriers in following an evidence-based practice. A customized questionnaire was developed. Physical therapists of Sao Paulo, Brazil participated, and 256 responses received. The data showed that 89.5% of physical therapists routinely follow the research studies as a resource for their professional development, 88.3% of them follow the educational courses and books, 35% of them have a clear idea regarding the implementation of the scientific papers, and 37% of them have no difficulty in appraising the scientific papers. 67.2% of them strongly agree that evidence-based practice plays a vital role in clinical practice. They concluded that physical therapists of Sao Paulo Brazil have knowledge and skills, but they are unable to implement it due to inaccessibility of research papers and language problem (Silva et al., 2015).

Gudrun Diermayr et al. conducted a cross-sectional survey using the question on the current state and associated factors with evidence-based engagement among physical therapists in Austria. And the sample size was 588 in which 10% of them follow evidence-based practice regularly, 49.7% of them does not use any database or internet for literature searching, 41.1% of them read articles 2-5 times per month. And they also found that lack of scientific skills, lack of time and insufficient organizational support are the main barriers for evidence-based practice. Authors concluded that there is the scarcity of evidence-based practice among the Austria physical therapists (Diermayr et al., 2015).

Robinson RV et al. conducted an online cross-sectional study regarding the barriers faced by the physiotherapist in Colombia in which sample size was 1064, out of which 41% of them reported that lack of research skills was the main barrier for evidence-based practice and 59% of them reported that lack of understanding of statistical analysis, insufficient time and understanding the English language in which article was written. The author concluded that many of the physical therapists

have a favorable opinion regarding evidence-based practice. Still, they need to improve the skills, attitude knowledge towards evidence-based Practice (Ramírez-Vélez et al., 2015).

The main advantages of the evidence-based practice are: It enables the consistent care along the professional boundaries, it helps to work transparently with less scope for misinterpretation, and it helps to give a good quality client-focused care. It helps the clinician to involve genuinely in the decision-making process about the patient care; it clarifies the clinician about what to do and what not to do to target further research.

So this is how evidence-based practice is beneficial to the clinician (Ramírez-Vélez et al., 2015; Maher et al., 2004; da Silva et al., 2015). Though India is renowned as a center for medical education, there is scarcity regarding the literature on evidence-based practice. The present survey aimed to identify the prevalence of evidence-based practice among the physical therapists of Mangalore.

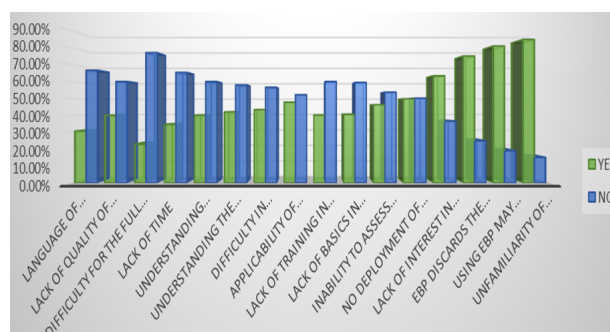


Figure 1: Barriers faced by the participants in incorporating EBP.

MATERIALS AND METHODS

The present study is a cross-sectional design which was done at physiotherapy colleges in and around Mangalore with a study duration of six months with convenient sampling. With the anticipated level of awareness among the physical therapist as 50%, 10% relative precision, 95% confidence interval, ten per cent non-response error. Total sample size comes to 424 physical therapists after which a 50% response rate is attained, i.e. 205 using the below-mentioned formula

$$\frac{4pq}{d^2} \quad p=0.5; \quad q=1-p; \quad d=10\%$$

Inclusion criteria

The individual who has completed his/her B.P.T. degree.

Table 1: The participants who took part in the study.

	N (%)		N(%)
Gender		Previous experience with research	
Male	117(57.1)	Yes	97(47.3)
Female	88(42.9)	No	108(52.7)
Time form graduation		Self reported language skills	
Less than 5 years	158(77.1)	Poor	2(1.0)
5-9 years	36(17.6)	Moderate	7(3.4)
10-14 years	11(5.4)	Good	105(51.2)
15 -19 years	0	Excellent	91(44.4)
20-24 years	0	Knowledge update methods	
More than 24 years	0	Scientific papers	22(10.7)
Highest level of graduation		Courses	88(42.9)
Bachelor's degree	119(58)	Books	69(33.7)
Masters by course work	47(22.9)	Meeting, conference, lectures	10(4.9)
Doctoral	37(18)	Study groups	16(7.8)
Postdoctoral	2(1)	Database used	
Type of university		Scielo	34(16.6)
Private	148(72.2)	Lilacs	14(6.8)
Public	57(22.7)	Google scholar	175(85.4)
Current practice		Pubmed	197(96.1)
Assisting patients	118(57.6)	Cochrane	69(33.7)
Teaching	16(7.8)	Pedro	135(65.9)
Research	67(32.7)	I have never used databases	3(1.5)
Other	4(2)	Database used frequently	
Area of interest		Scielo	26(12.1)
Manual therapy	24(11.7)	Lilacs	56(27.3)
Cardiopulmonary	25(12.2)	Google scholar	172(82.1)
Hand rehabilitation	11(5.4)	Pubmed	183(92.1)
Cancer rehabilitation	11(5.4)	Cochrane	12(5.8)
Intensive care unit	18(8.8)	Pedro	178(86.8)
Orthopaedics	12(5.9)	Frequency of database used	
Neurological rehabilitation	19(9.3)	Everyday	67(32.7)
Health promotion and fitness	32(15.6)	1 to 3 times a week	79(38.5)
Paediatric neurology	7(3.4)	1 to 3 times a month	40(19.5)
Sports rehabilitation	33(16.1)	Once every 2 months	5(2.4)
Paediatric neurology	12(5.9)	Very rarely	11(5.4)
Women's health	1(.5)	I do not use databases	3(1.5)
Employment sector		Site of database use	
Private	90(43.9)	Home	84(41)
Public	5(2.4)	Work	59(28.8)
Free lancer	110(53.7)	University	57(27.8)
Previous experience of teaching		Other	5(2.4)
Yes	44(21.5)		
No	160(78)		

Table 2: Knowledge of the participants about EBP.

	Strongly disagree	Partially disagree	Neutral	Partially agree	Strongly agree
Knowledge					
I know the meaning of the term Evidence-Based Practice	5%	2.90%	2.90%	21.50%	63.90%
I had no experience with P.B.E. in my graduation or post-graduation	30.70%	23.40%	38.00%	5.40%	2.40%
The information that I had on my graduation or post-graduation about P.B.E. were sufficient	3.90%	12.20%	38.00%	20.00%	25.90%
I do not have an understanding of the core elements of EBP	37.10%	16.10%	32.70%	4.90%	9.30%
I have a clear understanding about the application of research data in clinical practice.	1.00%	11.70%	23.40%	15.10%	48.80%
I have an understanding of different types of studies (designs)	1.00%	10.20%	20.50%	15.10%	53.20%
I do not have an understanding of statistical data	33.20%	14.60%	40.00%	7.30%	4.90%
I believe I have enough knowledge to implement EBP	8.80%	11.70%	39.00%	16.60%	23.90%
I do not have an interest in furthering my knowledge in EBP	37.60%	9.30%	43.90%	4.40%	4.90%
Skills and resources					
I do not have the facility to perform searches through databases.	51.70%	25.90%	9.30%	7.80%	5.40%
I have a facility to evaluate a scientific article critically.	2.00%	8.30%	37.60%	22.40%	29.80%
I have a habit of accessing online databases.	1.00%	3.40%	21.00%	31.20%	43.40%
I do not have the incentive to implement E.B.P. in my work	21.00%	7.30%	52.70%	12.20%	6.80%

Continued on next page

Table 2 continued

	Strongly disagree	Partially disagree	Neutral	Partially agree	Strongly agree
I have resources as computer and internet access in the workplace that facilitate the implementation of E.B.P.	1.50%	12.40%	31.70%	15.60%	48.80%
I do not have discussions about E.B.P. in my workplace.	28.30%	6.30%	39.00%	12.20%	14.10%
I ask my patient regarding their preferences, and I consider in my decision-making.	3.90%	8.80%	36.10%	25.40%	25.90%
I inform my patient of their treatment options and decide with him the decision-making.	1.00%	14.60%	44.40%	21.00%	19.00%
I never try to deploy the best scientific evidence in my clinical Practice	6.30%	7.80%	64.90%	2.90%	18.00%
Opinions					
EBP is essential to my Practice	7.80%	9.30%	12.20%	11.20%	59.50%
I do not believe that E.B.P. improves patient care in physical therapy.	27.30%	18.50%	41.50%	9.80%	2.90%
Much of my decision-making regarding the treatment of my patient incorporates the E.B.P.	15.60%	10.20%	58.00%	2.00%	14.10%
The Expert opinion in my area is the essential factor in my decision-making.	8.30%	16.10%	46.80%	18.50%	10.20%
The use of the best current scientific evidence does not help the quality of health services.	58.50%	7.80%	27.30%	2.40%	3.90%

Exclusion criteria

The individual who has not done his/her B.P.T. Degree are not eligible for this study, and individuals who are not willing to participate in the study.

Procedure

The study protocol submitted to scientific research committee and Ethical institutional committee, K.M.C. Mangalore Manipal University. On approval, the questionnaire had been distributed among the physical therapists of Mangalore through mails and in the written form. The questionnaire used by us was a valid one, taken from a Brazilian research article, with permission of the author.

The questionnaire consists of questions divided into eight sections: 1) consent form; 2) current practice status; 3) demographic data; 4) behavior; 5) previous knowledge of E.B.P. resources; 6) skills and available resources; 7) Opinions regarding E.B.P.; 8) Perceived barriers regarding E.B.P. It is developed with multiple choice answers, and sections five, six and seven contains a five-point Likert type scale (where 1=strongly disagree, 2=partially disagree, 3=neutral, 4=partially agree, and 5=strongly agree).

The physical therapists who get the questionnaire in the written form will be given 15 minutes to fill the form and will be collected back. The physical therapists who get by mails are given three days to fill the questionnaire and send back.

Data analysis

The descriptive data were analyzed using SPSS software, version 19.0 and were reported as an absolute value, percentages and frequencies.

RESULTS AND DISCUSSION

The mails were sent through Google forms to all the physical therapists, and hard copies were distributed among the selected physical therapists. The response rate for the emails was 13.1%. The response collected through hard copies was 178, whereas total hard copies distributed was 320, the participants rejected some due to lack of interest. In total including mails and hard copy questionnaire 205 was the response rate in which all were practicing physical therapy as their primary profession

Table 1 describes the participants who took part in the study, 57.1% were male, and 42.9% were female, of which 77.1% were graduated less than five years it was the highest of all .32.7% declared that they had previous experience with research, 16.1/% of them declared that the central area of interest is sports rehabilitation this is the highest percentage among all the specialties, whereas 53.7 % were inde-

pendent practitioner. Majority of the participants (78%) had no previous experience of teaching, and more than half (52%) had no experience of research. Most of the participants (88%) were updating their knowledge through courses in comparison with a research article, i.e. only 10.7%. The participants majorly used PUBMED as their database search in comparison with others, and these databases were used frequently by the participants.

Table 2 demonstrates the knowledge of the participants about E.B.P, which showed a majority of the participants (63%) were aware of E.B.P. Still, only 20 % agree that the information on E.B.P. during their higher education was sufficient. Even though significant percentage (48%) of participants agree that they have an understanding of types of research and its application in clinical practice, 40 % of the participants are neutral on an understanding of the statistical data, and only 23.90% agree that they have enough knowledge to implement E.B.P. The participants included had no limitation in accessing the scientific databases, and a significant percentage (43.4%) had the habit of accessing the online database. The question on the provision of incentive upon implementation of E.B.P. in their work; 52.7% were neutral on their response. Even though 59.5% believe that E.B.P. is vital in their practice, only 14.1% of included participants incorporate E.B.P. in their clinical decision-making.

Table 3 demonstrates the barriers faced by the included participants in incorporating E.B.P. (Figure 1). However, 52.2% didn't consider the applicability of research in practice as barrier 47.8 % still consider it as a barrier and 46.3% of respondent consider inability in study quality assessment as a barrier to E.B.P. Major percentage (63.4%) of the participants have lack of interest in research and 75.1% believe that E.B.P. discards the patient's preference with 81 % considering E.B.P. represent a higher cost. About 85% of the participants have declared that Unfamiliarity of usage of the database as the main barrier and obtaining full-text papers was declared as least effected barrier to E.B.P.

The present study was aimed to identify the knowledge, attitude and barriers with the use of evidence-based practice among physiotherapists of Mangalore. Although the practitioners have known about the term EBP 63.9 %, the Physiotherapists in Mangalore would rely on various sources in deciding with diagnosis and treatment planning. About 10% would rely on scientific papers, 42.9% would take up courses for professional development and also expert opinion. These results might be conflicting with the true essence of E.B.P, which says evidence

Table 3: Barriers faced by the participants in incorporating EBP.

Barriers to EBP	Yes	No
Language of Scientific articles	33.70%	66.70%
Lack of quality of evidence	40%	60%
The difficulty for the full article	22.90%	77.10%
Lack of time	34.60%	65.40%
Understanding Statistics	40%	60%
Understanding the results	42.00%	58.00%
Difficulty in Explaining the patient	43.40%	56.60%
Applicability of Research in Practice	47.80%	52.20%
Lack of training in Evidence-Based Practice	40%	60%
Lack of basics in research	40.50%	59.50%
Inability to assess study quality	46.30%	53.70%
No Deployment of Scientific Research	49.80%	50.20%
Lack of interest in research	63.40%	36.60%
E.B.P. discards the patient's preference	75.10%	24.90%
Using E.B.P. may represent a higher cost	81%	19%
The Unfamiliarity of using databases	84.90%	15.10%

should be provided by high-quality research (Silva *et al.*, 2015).

On analyzing the results, one of the reasons for such a diverse view about E.B.P. could also be lack of interest in research, about 63.4% of them agreed with the same. Regarding the accessibility towards research papers, the majority of the practitioners inclined towards online database that is 43.40% (Ashrafian *et al.*, 2010). Tatiane *et al.* stated about 44.5% use of the online database by practitioners in Sao Paulo state (Tonelli, 1998) the reason of this could be thought about as easy accessibility of online database.

According to Iles and Davison 2006; Gorgon *et al.* 2013, nearly half of the professionals used the database to aid in clinical decision-making. The frequently used database was google scholar, pub med and Pedro. Less used was Cochrane, lilace, sciElo. According to Tantiene M sila *et al.*, the most used database were SciELO (44.7%). These variations in preferences may be because of geographical variations, language, and availability of full-text articles. There are about 1.5% of practitioners who have never used a database (Maher *et al.*, 2004).

Despite the awareness and availability, there were limitations in the use of E.B.P. by the practitioners in Mangalore such as lack of interest in research, Unfamiliarity of using databases. Other barriers to E.B.P. Were similar to other studies (Diermayr *et al.*, 2015; Gorgon *et al.*, 2013) lack of skill in reading an article, non-full text articles this might cause the practitioners to miss essential papers, language bias, lack

of time, less exposure to E.B.P. in course curriculum etc. (Cluett and Bluff, 2006; Bernhardsson, 2015).

CONCLUSIONS

Though these results cannot be generalized, we could state that even though practitioners are been aware of E.B.P. they restrained for using E.B.P., they preferred using other means of decision-making. We should incorporate in our education system not only orient about E.B.P. but focus on the importance and towards implementing in day to day practice.

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Conflict of Interest

The authors declare that they have no conflict of interest for this study.

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