

## Research Article

### Knowledge, Attitudes, and Perceived Barriers Towards Evidence-based Practice Among Government Sector Physiotherapists in Sri Lanka

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#### Abstract

**Introduction:** Implementing evidence-based practice (EBP) is beneficial for the patients as they can receive the best available treatment while improving the reputation of the profession. This study aimed to assess the knowledge, attitudes, and perceived barriers towards EBP among physiotherapists serving in Sri Lankan government hospitals. **Method:** A cross-sectional descriptive study was conducted using a convenient sampling method among 264 physiotherapists in thirty-nine government hospitals in Sri Lanka between 18<sup>th</sup> November 2019 and 23<sup>rd</sup> December 2019. A pre-tested, validated, and self-administered questionnaire with twenty-six items was categorized into four main parts. These included demographic data of the participants (seven items), their knowledge (six items), attitudes (five items), and perceived barriers towards EBP (eight items). The responses under attitudes and knowledge sections were scored using a 5-point Likert scale ranging from 0-4, with higher scores indicating favourable results. Based on the sum of marks obtained for the attitude part, subjects were categorized as; negative (0-7), neutral (8-15), and positive (16-24) attitudes. Based on the sum of the marks obtained for the knowledge part, subjects were categorized as; poor (0-6), average (7-13), and good (14-20) knowledge. **Data analysis** was done using the statistical software Minitab version 2018. **Results:** Among the participants, 1.5% had a poor level of knowledge, 22.7% had an average level of knowledge, and 75.8% had good knowledge regarding EBP. Attitudes toward EBP were positive among 87.9% of participants while 11.7% had neutral attitudes, and 0.4% had negative attitudes. The common perceived barriers to practice EBP were, lack of time, research skills, information resources, and interest towards EBP. **Conclusion:** A selected sample of government physiotherapists in Sri Lanka had positive attitudes and good knowledge towards EBP and are inclined to incorporate evidence into their clinical practice.

**Keywords:** Evidence-based practice, Physiotherapists, Knowledge, Attitudes, Barriers, Implementation

#### Introduction

Evidence-based practice (EBP) is defined as the integration of the best available external research findings with clinical expertise and patients' preferences. Simply, when treating a patient, it is the physiotherapist's responsibility to find the best available high-quality clinical research and combine them with their practice knowledge while

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allowing the patients to make their own decisions about the treatment plans [1].

Evidence-based practice is a recent trend in health care and has become a seed of enthusiasm in physiotherapy. The EBP in physical therapy starts with a question related to a patient's problem. A search for relevant evidence to answer the question is followed by a critical appraisal and its applicability to the patient. At the end of the appraisal, the therapist considers the evidence according to the therapist's expertise, the patients' values, and preferences during the treatment. After an explicit discussion with the patient, the therapist and the patient finally identify and implement the next step of the treatment procedure [2].

Evidence-based physiotherapy is important for patients, physiotherapists, and the funders of physiotherapy services in many ways. Evidence-based physiotherapy is important for patients because it implies that they will be offered the safest and most effective interventions within the limitations of current facilities. A unique characteristic of being a physiotherapy professional is trustworthiness. They strive to do good while facilitating the patients' best interests at their heart and maintaining high ethical standards [2]. EBP benefits them to produce the best possible clinical outcomes.

Evidence-based physiotherapy implies the implementation of practices informed by high-quality clinical research, patient preference, and physiotherapists' practice knowledge in clinical decision making in the field of physiotherapy. This implementation also involves identifying and assisting in overcoming barriers using the knowledge obtained from tailored messages. It is an active process that uses the relevant messages together with organizational and behavioural tools sensitive to the constraints and opportunities of health professionals in identified settings [2].

The stronger the health professionals' clinical expertise, the better their judgment on using the best research evidence in practice. One should have enough clinical exposure to utilize the ever-renewing medical evidence without getting lost in the non-correlating evidence. Even an experienced practitioner will suffer if the evidence cannot be manipulated to suit the specific need of the patient. However, rather than relying on clinical experience alone for decision making, health professionals need to use clinical experience with other types of evidence-based information. Not having the latest evidence will make a practitioner rapidly outdated and harm the patient [3].

Evidence-based practice assures that the patients receive the most up to date care and assists practitioner in dealing with the increasing volume of medical literature. It also allows patients and practitioners to work together to make informed decisions. The clinical decisions can be clearly explained and justified to the clients and their families compared to conventional methods, which have no evidence to prove that they will receive effective treatment methods. Implementing EBP in government hospitals will be useful for the patients as they can receive the best available treatment while improving the reputation of government hospitals. Therefore, the present study aimed to investigate knowledge, attitudes, and perceived barriers towards EBP among government hospital physiotherapists in Sri Lanka.

## **Methods**

### ***Study design and Study setting***

A descriptive cross-sectional study was conducted among the government physiotherapists in Sri Lanka to assess their knowledge, attitudes, and perceived barriers toward EBP.

The study setting included physiotherapists in Government hospitals with a Department of Physical Medicine (DPM) throughout the country.

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**Study population**

Physiotherapists working in 39 government hospitals, to represent every province in Sri Lanka (Central–23.9%, Eastern–7.6%, North Central–8.0%, Northern–5.3%, North Western–0.4%, Sabaragamuwa–10.6%, Southern–9.8%, Uva–5.3%, and Western–77.3%) were included in the study. Intern physiotherapists were excluded. A convenient sampling method was used after collecting a list of physiotherapists in Sri Lanka from the Ministry of Health. The total number of registered physiotherapists in Sri Lanka during the data collection period was 597. The sample size (S), 230 was calculated using the following formula,  $S = Z^2 \times (P) \times (1-P) / C^2$  with the help of G\* power statistical software (Z=1.96 for 95% confidence level, P=percentage picking a choice (.5), C=confidence interval).

**Study instrument**

A pre-tested, validated, self-administered questionnaire was used to gather information on knowledge, attitude, and perceived barriers toward EBP. The questionnaire contained four major parts named A, B, C, and D. Part A had seven items that collected demographic data. Part B consisted of six items which were about attitudes towards EBP. Part C contained five items that were about the knowledge of EBP. Part D had eight items that were about the perceived barriers toward EBP. Altogether, there were 26 items. Questions under parts B and C were scored using a five-point Likert scale ranging from 0 to 4, with higher scores indicating favourable responses in attitudes and knowledge. The questions were obtained for the questionnaire from a validated questionnaire that was published by the American Physical Therapy Association [5]. Slight changes were done to suit the Sri Lankan setting, and a pre-test was done among 20 newly graduated physiotherapists.

**Data collection**

An explanation of the study was given to the physiotherapists who volunteered to participate in

the research. The questionnaire was distributed among the participants along with the consent form. Filled questionnaires were collected within the day according to their convenience. All questionnaires were distributed personally by the research team members and collected by the same person to minimize the non-response rate. Data was collected between 18<sup>th</sup> November 2019 and 23<sup>rd</sup> December 2019.

**Data analysis**

Data analysis was done using the statistical software Minitab version 2018. Each question under parts, B and C were analysed, and percentages were calculated to present the level of attitudes and knowledge towards EBP. All the questions under Part D were individually calculated according to the response that were given by the participants to identify the perceived barriers.

Under the knowledge part, all participants were rated according to the answers to individual questions. There were five questions in that part, and those were individually scored as 0 (strongly disagree), 1 (disagree), 2 (neutral), 3 (agree), and 4 (strongly agree) [4]. Based on the sum of the marks obtained for those questions, subjects were categorized as poor (0-6), average (7-13) and good (14-20) knowledge [4]. Under the attitudes part, all participants were rated according to the answers to individual questions. There were six questions in that part, and those were individually scored as 0 (strongly disagree), 1 (disagree), 2 (neutral), 3 (agree) and 4 (strongly agree) [4]. Based on the sum of the marks obtained for those questions, subjects were categorized as; 0-7 (negative attitudes), 8-15 (neutral attitudes) and 16-24 (positive attitudes) [4]. Under Part D, there were seven questions regarding perceived barriers. Among those seven questions, the final one was a multiple answer question. Answers given to individual questions were analysed, and barriers were identified. At the end of Part D, there was an

open-ended question to get an idea of EBP among physiotherapists. Answers for this question were analysed using a word cloud and findings and comments are discussed in the discussion.

### **Ethical consideration**

The Ethical clearance was obtained from the Ethics Review Committee, Faculty of Allied Health Sciences, University of Peradeniya, (AHS/ERC/2019/30) prior to initiating the data collection on the 7<sup>th</sup> of September 2020.

### **Results**

Among the 452 physiotherapists who received the questionnaire, 270 responded with a non-response rate of 40.2% (n=184). Among those, six incomplete questionnaires were detected. Hence, the number of completed questionnaires was 264. This sample included 108 (40.9%) males, 156 (59.1%) females. Among them, 112 were diploma holders, 149 were Bachelor of Science (Hons) in Physiotherapy degree holders and three were postgraduate diploma holders. Most respondents were from the age group of 20-34 years (62.8%). The majority (55.7%) of respondents had less than

five years of working experience. The distribution of participated physiotherapists according to age and gender is explained in Table 1. The population distribution according to the working experience is explained in Table 2.

**Table 1:** Distribution of physiotherapists according to age and gender (n=264)

| Age group   | Male |     | Female |     |
|-------------|------|-----|--------|-----|
|             | %    | n   | %      | n   |
| 20-34 years | 21.2 | 56  | 41.6   | 110 |
| 35-49 years | 17.0 | 45  | 10.2   | 27  |
| 50-64 years | 2.7  | 07  | 7.2    | 19  |
| Total       | 40.9 | 108 | 59.1   | 156 |

**Table 2:** Distribution of physiotherapists according to working experience (n=264)

| Age category | Percentage | Number |
|--------------|------------|--------|
|              | (%)        | (n)    |
| <5 years     | 55.7       | 147    |
| 6-15 years   | 29.5       | 78     |
| 16-25 years  | 9.1        | 24     |
| >26 years    | 5.7        | 15     |

**Table 3:** Percentage distribution of responses for attitudes related statements (n=264)

| Statements   | Strongly disagree | Disagree  | Neutral   | Agree      | Strongly agree |
|--|-------------------|-----------|-----------|------------|----------------|
|  | n (%)             | n (%)     | n (%)     | n (%)      | n (%)          |
| It is necessary to apply EBP in Physiotherapy practice                     | 3 (1.1)           | 1 (0.4)   | 14 (5.3)  | 146 (55.3) | 100 (37.9)     |
| EBP creates unreasonable demands in daily work                             | 8 (3.0)           | 56 (21.2) | 90 (34.1) | 95 (35.9)  | 15 (5.7)       |
| Learning and improving the knowledge and skills are necessary to apply EBP | 3 (1.1)           | 6 (2.3)   | 21 (8)    | 145 (55)   | 89 (33.7)      |
| EBP helps to make decisions in the choice of treatment                     | 1 (0.4)           | 3 (1.1)   | 9 (3.4)   | 153 (58)   | 98 (37.1)      |
| Reputation will increase with applying EBP                                 | 4 (1.5)           | 4 (1.5)   | 54 (20.5) | 139 (52.7) | 63 (23.9)      |
| EBP helps in making decisions in patient care                              | -                 | -         | 18 (6.8)  | 175 (66.3) | 71 (26.9)      |

EBP- Evidence based practice

When considering the attitude of physiotherapists, 87.5% had positive attitudes, 11.7% had neutral attitudes, and 0.4% had negative attitudes toward EBP. The percentage distribution obtained for the answers to the questions related to the attitudes towards EBP is explained in Table 3.

Most of the study participants had a good level of knowledge (75.8%) or an average level of knowledge (22.7%), but 1.5% had poor knowledge of EBP. The percentage distribution of answers obtained for Part C (knowledge related statements) is explained in Table 4. Most of the

**Table 4:** Percentage distribution of answers to knowledge related statements (n=264)

| Statements  | Strongly disagree | Disagree | Neutral   | Agree      | Strongly agree |
|---|-------------------|----------|-----------|------------|----------------|
|   | n (%)             | n (%)    | n (%)     | n (%)      | n (%)          |
| I obtain knowledge by accessing online databases                    | 1 (0.4)           | 14 (5.3) | 29 (11)   | 167 (63.3) | 53 (20.9)      |
| I am confident in finding relevant answers                          | 1 (0.4)           | 6 (2.3)  | 33 (12.5) | 183 (69.3) | 41 (15.5)      |
| I am confident in my ability to treat according to current evidence | 1 (0.4)           | 6 (2.3)  | 41 (15.5) | 172 (65.1) | 44 (16.7)      |
| I obtained the foundation for EBP during my academic years          | 6 (2.3)           | 19 (7.2) | 28 (10.6) | 155 (58.7) | 56 (21.2)      |
| I am familiar with medical search engines                           | -                 | 24 (9.1) | 29 (11)   | 150 (56.8) | 61 (23.1)      |

EBP- Evidence based practice

**Table 5:** Responses for statements related to perceived barriers to evidence-based practice (n=270)

| Statement  | Strongly disagree | Disagree  | Neutral   | Agree      | Strongly agree |
|--|-------------------|-----------|-----------|------------|----------------|
|  | n (%)             | n (%)     | n (%)     | n (%)      | n (%)          |
| The facility (in the workplace) supports the use of current research in practice                             | 3 (1.1)           | 59 (22.6) | 92 (45.3) | 100 (74.8) | 10 (12.7)      |
| I received formal training in search strategies to find relevant research articles                           | 7 (2.7)           | 44 (16.7) | 65 (24.6) | 121 (45.8) | 27 (10.2)      |
| I received formal training in critical appraisal of research literature as a part of my academic preparation | 6 (2.3)           | 38 (14.4) | 62 (23.5) | 127 (48.1) | 31 (11.7)      |
| EBP can help me to make decisions in the choice of treatment   | 1 (0.4)           | 3 (1.1)   | 9 (3.4)   | 153 (58)   | 98 (37.1)      |
| EBP is time-consuming and places a burden on me  | 15 (5.7)          | 96 (36.4) | 87 (33.0) | 59 (22.3)  | 7 (2.7)        |

EBP- Evidence based practice

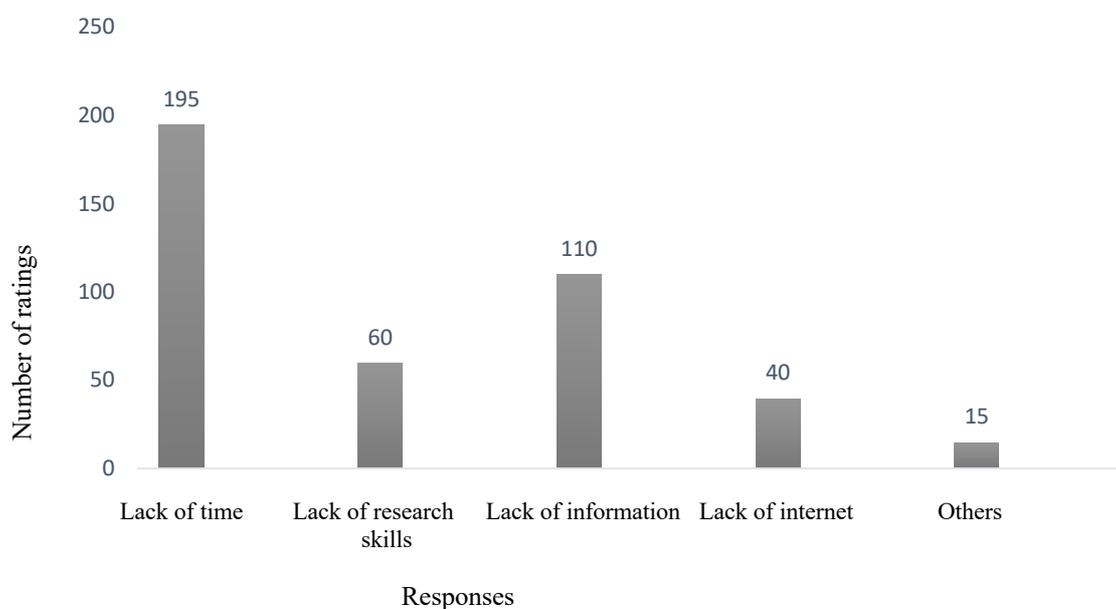
participants either agreed or strongly agreed with these statements, indicating their higher level of knowledge regarding EBP.

Responses by the participated physiotherapists for the first five statements related to perceived barriers (Part D) are explained in Table 5. More than half of the respondents (59.8%) reported that they had undergone formal EBP training, 60.0% were confident with search skills, and 59.8% were confident about the critical appraisal. Among the respondents, 93.2% expressed their interest in using evidence in practice, whereas 95.1% perceived that EBP is helpful in clinical decision making.

According to the responses of the physiotherapist who participated, the perceived barriers to EBP are shown in Figure 1. Lack of time was identified as the most (195) rated barrier to EBP. Out of 264 physiotherapy professionals, 110 considered lack of information as a barrier, and 60 considered lack of research skills as a barrier to implementing EBP in clinical practice.

## Discussion

The main purpose of this study was to screen the status of EBP among Sri Lankan physiotherapists, which is related to the public health care service. Although there were similar studies conducted regarding other healthcare professionals, researchers considered this study as the first to screen the EBP among physiotherapists in Sri Lanka. Most respondents of this study were from the younger generation (20-34 years). They have learned the foundations of EBP during their academic preparations, compared with respondents in the older age group (35-65 years). This may be due to the introduction of EBP into the physiotherapy degree curriculum in the most recent decade [5]. Similar findings have been observed in a study done in Malaysia, where Yahui and Swaminathan 2017 [6] reported that physiotherapy professionals in their study population had a positive attitude toward EBP. They had also compared the younger generation with older generations and reported an association between age and foundation obtained regarding EBP during their learning process.



**Figure 1:** Perceived barriers to evidence-based practice

Most of the current survey participants had a positive attitude toward EBP. Moreover, most participants (93.18%) identified EBP as a necessary tool for their day-to-day practice and agreed that EBP is required to provide higher quality service for their patients. These findings are similar to a study conducted at the School of Physiotherapy, La Trobe University, Australia [7].

Half of the respondents observed a lack of information in their interventions for patients in the present study, which was also reflected in a study by Cup et al. 2009 [8]. They found limited evidence to support the interventions used by physiotherapists to manage chronic neurological conditions.

According to this survey, most physiotherapy professionals in Sri Lanka have good knowledge of EBP and a positive attitude towards implementing it. Furthermore, the respondents also had positive attitudes towards EBP. These positive attitudes and knowledge toward EBP are good signs among Sri Lankan physiotherapy professionals. It improves the effectiveness of their treatment on the patients, which is also mentioned in a study by Cobo-Sevilla et al. 2018 [9].

Among the 264 physiotherapy professionals who responded, most had bachelor's degrees. Many current degree holders in Sri Lanka previously had diplomas and later upgraded their qualification level to a B.Sc. degree in physiotherapy in recent years, which is a good sign for the physiotherapy profession. The findings of this study show that the majority of the participated physiotherapy professionals in Sri Lanka have gone through an introduction to EBP during their academic programme. This is a positive sign as it improves the physiotherapists' residents' skills in critical appraisal, as mentioned by Dan Stuart et al. 2022 [10]. On the other hand, researchers found that although most physiotherapy providers are

conscious of the importance of EBP in their clinical practice, they might encounter several barriers when pursuing it. This has been the case in other fields, such as medicine in Sri Lanka [11].

The principal barrier identified by this study to implement EBP was lack of time which is similar to the finding in a study by Iles and Davidson 2006 [7]. This study identified a lack of information resources as the second major barrier. This may be due to limited access to search engines and journal articles and an inability to apply research findings to their patient population. Even though journal articles are now available online through various databases, some require a fee or membership for access. Another study conducted among Malaysian health care practitioners also found that a lack of information technology support in their facilities increases the difficulty in implementing EBP [12]. However, this was not reflected in a study conducted among physiotherapists in the United States by Jette et al. 2003 [13]. In their study, only 20% of the respondents choose a lack of information resources as a barrier.

Respondents to the current survey also mentioned that they found it difficult to consult related literature due to the high workload, which resonated with a study among physiotherapists in Belgium in the United Kingdom [14] and a study in Malaysia [6]. A study at the University of Greenwich London found that although the respondents understood the process of appraising a research article, it was still considered demanding and time-consuming [4]. Therefore, the public health care systems may discourage activities related to EBP during working hours, as it is more cost-effective for employees to attend to patients than to be involved in EBP.

From this research, although the respondents showed positive attitudes and were good at knowledge towards EBP, most of them mentioned in the comment section of the questionnaire that

they had a lack of facilities to implement EBP in their clinical practice. In the author's opinion, the findings of this study have implications for the educational, clinical, and research communities. The majority of the respondents of this study have less than five years of working experience thus, it can be assumed that most of the respondents graduated recently. However, due to lack of facilities, literature reading for evidence was less among the respondents. Therefore, the education community may have a role to play in promoting the use of EBP in their educational curricula so that students develop the habit of referring to literature sources such as books, periodicals, and journal articles to answer their clinical questions.

### Conclusion

Among the physiotherapists in Sri Lanka who participated in this study, the majority have a good knowledge of EBP and show a positive attitude towards implementing it. Most participants indicated an interest in adopting EBP in their clinical setup, but several perceived barriers, such as lack of time and information are encountered when pursuing it. The findings of this study may provide a base for implementing EBP in different clinical settings by understanding the perceived barriers from the perspectives of physiotherapists.

### Limitations

Almost no or very few similar studies have been conducted in Sri Lanka with the same context as this study. Hence, lack of comparative data and lack of awareness among the participants regarding this type of research led to certain misunderstandings at the initial stages. A limited time spent on the entire research work is another limitation that cause to choose the convenience sampling method for this study.

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