Investigating Physiotherapists' Knowledge, Attitude, and Practice of Evidence-Based Practice in Indonesia

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Abstract

Introduction: In order to deliver quality care to patients and clients, physiotherapists should implement Evidence Based Practice (EBP) in the area of clinical services. There has been little research into the adoption of EBP among physiotherapists in Indonesia.

Aims: This study aims to investigate the attitudes, knowledge, and practice of physiotherapists in Indonesia regarding EBP.

Methods: A descriptive, cross-sectional research approach was used to assess physiotherapists' attitudes, knowledge, and practice in Indonesia. An online self-administered questionnaire-based survey containing validated Indonesian versions of the Evidence Based Practice Questionnaire (EBPQ) and sociodemographic variables was distributed to physiotherapists via social media.

Results: The questionnaire was completed by 156 physiotherapists, with 73 (46.8 %) men and 83 (53.35 %) women participating. The total EBP Questionnaire (EBPQ) average score was 127.67, with a mean of 5.31 out of 7 (SD = 0.96). The attitude (5.23, S D= 0.95) had the highest EBP score, followed by knowledge (5.25, SD=1.01) and practice (5.23, SD=1.30). Education level (p = 0.001), professional category (p = 0.002), and clinical instructor (p = 0.024) were the characteristics related with increased EBP performance.

Conclusion: In summary, physiotherapists in Indonesia have positive attitudes, knowledge, and practices towards EBP. Higher education levels, working as a clinician and educator, and teaching clinical students may all help to enhance EBP implementation.

Keywords: Evidence-based practice, physiotherapy, attitude, knowledge, practice

Introduction

Evidence-based Practice (EBP) is a field of study, research, and practice in which healthcare choices are made based on the best available evidence and ethical standards, merging professional practice and expertise (Veras et al., 2016). The European Region of the World Confederation for Physical Therapy defines EBP as "a commitment to use the best available evidence to inform decision-making about individual care that involves integrating physiotherapist practitioners and individual professional judgment with evidence gained through systematic research" (Veras et al., 2016). There are three sources of evidence, including scientific research, clinical expertise, and patient values and circumstances, which create the foundation on which physiotherapists and their patients collaborate to decide the best course of physiotherapy treatment in every particular situation (Fetters & Tilson, 2018).

EBP provides a framework for thinking about and collecting the many sorts of evidence that are used to make clinical decisions in an organized way (Fetters & Tilson, 2018). Thus, physiotherapy decision-making, like any other aspect of health care, is a complex process that involves more than just research. Patient preferences and physiotherapist practice expertise should both be considered when making decisions. For evidence-based practice to work, high-quality scientific research is required, but practice should be based on more than simply evidence (Herbert, R., Jamtvedt, G., Hagen, K.B. and Mead, 2005). EBP is critical for supporting and shaping the profession's role in providing care to patients, promoting the value and contribution of physiotherapy in meeting clinical and cost-effective patient needs, and informing the development of physiotherapy practice, service delivery, and education, as well as the development of the profession as a workforce (Chartered Society of Physiotherapy; Fernández-Domínguez et al., 2022). Abou Hashish & Alsayed (2020) found that Evidence-based practice and Quality Improvement have a substantial positive association.

The most often used study instrument in health-seeking behavior research is knowledge, attitude, and practice surveys, which are typical of a certain community and collect information on what is known, believed, and done regarding a specific issue (Andrade et al., 2020). In addition, knowledge, skills, attitudes, and practice are the cornerstones of EBP implementation. It is determined that adequate knowledge might result in a positive attitude, which leads to good practices (Ul Haq et al., 2012).

Despite evidence-based physiotherapy becoming more widely recognized and implemented, the physiotherapy profession does not appear to be following suit. A systematic review conducted by da Silva (2015) reveals several challenges that physiotherapists face in terms of knowledge, skills, behavior, and barriers to EBP implementation. However, EBP is seen positively by the majority of physiotherapists (AlKetbi et al., 2021; Yahui & Swaminathan, 2017).

Although most physiotherapists have a positive opinion about EBP, most think that they need to improve their knowledge, skills, and attitudes towards EBP. Furthermore, limited research in some areas of physiotherapy is a hindrance to practicing EBP Physiotherapy (Fruth et al., 2010). Implementation of EBP physiotherapy is further hampered by a lack of physiotherapy knowledge, which may also be an issue in Indonesia. Despite being part of Indonesia's physiotherapy curriculum, evidence-based practice must be consistently integrated into the teaching and learning process at all of Indonesia's universities. According to Alshehri et al (2017), the most significant barrier to EBP implementation was insufficient teaching in prior education, followed by a lack of research knowledge and skills.

To the author's knowledge, more research or existing work in Indonesia needs to be done on attitudes, knowledge, and practice of EBP physiotherapy. However, these aspects must be investigated to enhance physiotherapy practices and services in Indonesia. Therefore, this research aimed to investigate the physiotherapists' attitudes, knowledge, and practice of EBP in Indonesia and evaluate the participants' relevant sociodemographic and professional characteristics.

Methods

A quantitative descriptive study was conducted to investigate the attitudes, knowledge, and practice of physiotherapists in Indonesia. A total of 156 participants who met the study eligibility criteria were involved in this study. The inclusion criteria were as follows: 1. physiotherapists who are currently working in Indonesia, 2. registered as a member of the Indonesian Physiotherapy Association (IPA), 3. age no more than 65 years old (≤ 65 years old).

An online self-administered questionnaire-based survey that consisted of sociodemographic characteristics questions and validated Indonesian versions of the Evidence-Based Practice Questionnaire (EBPQ) was sent to physiotherapists through WhatsApp and email from June to July 2021.

The Evidence-Based Practice Questionnaire by Upton and Upton is a 24-item self-report questionnaire that assesses healthcare professionals' perceptions of EBP in terms of their knowledge, attitudes, and practice. The Indonesian translation of Upton and Upton's EBPQ was shown to be valid and reliable (Fajarini et al., 2018). The Pearson correlation coefficient varies from 0.451 to 0.875, indicating that all 24 items are all valid. Cronbach's an of 0.96 was obtained from the reliability analysis (a = 0.92, 0.80, and 0.96 for practice, attitude, and knowledge, respectively).

The EBPQ contains three distinct subscales: EBP practice (six items), attitudes (four items), and knowledge/skills (14 items). Each item is rated on a scale of one to seven, with a higher score indicating a more positive response (i.e. a more favorable attitude or greater use and knowledge of EBP) (Eid AbuRuz et al., 2017).

The association of practice and attitude with sociodemographic and professional factors of the participants were analyzed using Mann Whitney test and the Kruskal-Wallis test. Paired t-test and One-way ANOVA test were also performed when comparing the knowledge with that of sociodemographic variables. Statistical significance was accepted for values of $p < 0.05$. A statistical software package IBM SPSS Statistics version 22.0 for Windows was used for all analyses. The study was approved by the Health Research Ethics Committee UPNVJ (Number 231/V/2021/KEPK). Informed consent was obtained from all participants.

Results

A total of 156 participants completed the questionnaire, which includes 73 (46.8%) males and 83 (53.35%) females. The majority of participants were between the ages of 25 and 34 (n=57.7%) and possessed a bachelor's degree (n=30.1%). In terms of overall years of experience, most of the participants had worked for two to five years (n=23.1%) (Table 1).

Table 1. Sociodemographic characteristics of the participants

Characteristics	n	%
Gender		
Male	73	46.8
Female	83	53.2
Age		

25-34	90	57.7
35-44	36	23.1
45-54	19	12.2
>55	11	7.1
Educational Level		
Diploma	44	28.2
Bachelor of applied science	22	14.1
Bachelor's degree	47	30.1
Master's degree	41	26.3
Doctoral degree	2	1.3
Being Clinical Instructor		
Yes	56	35.9
No	100	64.1
Working Experience		
2-5	36	23.1
>5	31	19.1
>10	34	21.8
>15	22	14.1
>20	33	21.1
Professional category		
Clinician	125	80.1
Educator/lecturer	11	7.1
Clinician & Educator/lecturer	20	12.8

The mean scores and standard deviations of EBPQ subscales can be seen in Table 2**.** Each item of EBPQ is rated on a scale of 1 to 7, with a higher score indicating a more positive attitude toward EBP or greater usage and knowledge of EBP.

The item "critically appraising literature" had the lowest score on the practice subscale, while "evaluating the practice's outcomes" received the highest score. The mean (SD) score of participants for the item "critically appraising literature" was 4.77 (1.65), but the mean (SD) score of participants for "evaluating the practice's outcomes" was 5.79 (1.39), indicating a more positive attitude towards EBP.

The lowest score on the attitude subscale was "making time in a work schedule for research," with a mean (SD) score of 4.95 (1.43). However, the most positive item of attitude was "EBP is fundamental to professional practice". The participants' mean (SD) score for this item was 6.18 (1.04) out of 7.

The item with the lowest knowledge score was "research skills", and the mean (SD) score of participants was 4.81 (1.23). The item with the greatest knowledge score, on the other hand, was "sharing of ideas and information with colleagues," which received a mean (SD) score of 5.71 (1.15).

Table 2. Mean scores and standard deviations of EBPQ subscales

No	Item (Questions)	Score (mean ± SD)
	Practice	
1	Formulated a clearly answerable question as the beginning of the process toward filling this gap	4.77 ± 1.65
2	Tracked down the relevant evidence once you have formulated the question	5.22 ± 1.53
3	Critically appraised, against set criteria, any literature you have discovered	4.71 ± 1.70
4	Integrated the evidence you have found with your expertise	5.12 ± 1.58
5	Evaluated the outcomes of your practice	5.79 ± 1.39

6	Shared this information with colleagues	5.30 ± 1.59
	Attitude	
1	Making time in a work schedule for research	4.95 ± 1.43
2	Welcoming questions on own practice	5.97 ± 1.15
3	EBP is fundamental to professional practice	6.18 ± 1.04
4	Changing practice due to evidence found	5.54 ± 1.25
	Knowledge	
1	Research skills	4.81 ± 1.23
2	IT skills	5.38 ± 1.15
3	Monitoring and reviewing of practice skills	5.38 ± 1.17
4	Converting your information needs into a research question	5.08 ± 1.30
5	Awareness of major information types and sources	5.37 ± 1.23
6	Ability to identify gaps in your professional practice	5.27 ± 1.22
7	Knowledge of how to retrieve evidence	5.31 ± 1.20
8	Ability to analyze critically evidence against set standards	5.06 ± 1.38
9	Ability to determine how valid (close to the truth) the material is	5.08 ± 1.32
10	Ability to determine how useful (clinically applicable) the material is	5.26 ± 1.30
11	Ability to apply information to individual cases	5.35 ± 1.21
12	Sharing of ideas and information with colleagues	5.71 ± 1.15
13	Dissemination of new ideas about care to colleagues	5.53 ± 1.19
14	Ability to review your own practice	5.51 ± 1.11

The overall EBPQ average score is 127.67, with a mean of 5.31 out of 7. The mean scores and standard deviations for the EBPQ subscales are shown in Table 3. The attitude (5.66±0.95) had the highest EBP score, followed by the knowledge (5.25±1.01) and practice (5.23±1.30). Education level (p=0.001), professional category (p=0.002), and clinical instructor status (p=0.024) were the characteristics related with increased EBP competency. There were no significant differences in mean EBPQ subscale scores by age and years of work experience.

The association between EBP knowledge, attitude, and practice of physiotherapists' demographic and professional characteristics was investigated using bivariate analysis (Table 3). There was a significant association between physiotherapists' educational level (p=0.001), professional category (p=0.033) and clinical instructor status (p=0.002).

Table 3. Practice, Attitude, and Knowledge towards EBP by Sociodemographic Variables

Characteristic	Practice mean ± SD	Attitude mean ± SD	Knowledge mean ± SD	Total EBPQ mean ± SD
Age				
25-42	5.17 ± 1.28	5.69 ± 0.98	5.22 ± 0.96	5.28 ± 0.93
35-44	5.21 ±1.24	5.62 ± 0.81	5.19 ± 1.05	5.26 ± 0.97
45-54	5.63 ±1.09	5.81 ± 1.00	5.87 ± 0.77	5.79 ± 0.75
>55	4.24 ±1.69	5.70 ± 1.18	5.09 ± 1.44	4.91 ± 1.31
	p = 0.097	p = 0.796	p = 0.059	p = 0.078
Educational Level				
Diploma	4.69 ± 1.35	5.41 ± 0.95	5.03 ± 0.91	5.00 ± 0.88
Bachelor of applied science	5.17 ± 1.58	5.39 ± 1.24	5.32 ± 1.22	5.29 ± 1.18
Bachelor/Profession	4.95 ± 1.31	5.75 ± 0.85	5.10 ± 1.13	5.14 ± 1.00
Master	5.89 ± 0.69	6.03 ± 0.77	5.71 ± 0.70	5.80 ± 0.64
Doctor/PhD	6.10 ± 1.14	6.50 ± 0.70	6.31 ± 0.65	6.28 ± 0.47

	p = 0.000*	p = 0.010*	p = 0.008*	p = 0.001*
Professional category				
Clinician	5.03 ± 1.36	5.60 ± 0.96	5.15 ± 1.02	5.18 ± 0.97
Educator/lecturer	5.75 ± 0.79	5.93 ± 0.74	5.56 ± 0.86	5.67 ± 0.78
Clinician & Educator	5.73 ± 0.94	6.12 ± 0.90	5.96 ± 0.76	5.93 ± 0.70
	p = 0.033*	p = 0.023*	p = 0.003*	p = 0.002*
Working Experience				
2-5	5.10 ± 1.21	5.59 ± 0.76	5.09 ± 0.80	5.17 ± 0.76
>5	5.15 ± 1.24	5.66 ± 0.96	5.09 ± 0.98	5.19 ± 0.93
>10	5.45 ± 1.37	5.89 ± 1.10	5.64 ± 1.07	5.63 ± 1.06
>15	5.01 ± 1.25	5.39 ± 0.82	4.93 ± 0.99	5.02 ± 0.91
>20	5.09 ± 1.46	5.81 ± 1.04	5.55 ± 1.10	5.45 ± 1.05
	p = 0.386	p = 0.089	p = 0.021*	p = 0.101
Being Clinical Instructor				
Yes	5.51 ± 1.29	5.79 ± 1.06	5.52 ± 1.17	5.54 ± 1.09
No	4.98 ± 1.28	5.63 ± 0.89	5.16 ± 0.90	5.18 ± 0.86
	p = 0.002*	p = 0.169	p = 0.034*	p = 0.024*

Age and total years of experience, on the other hand, were not associated with the EBPQ practice subscale. A significant association between attitude mean score and physiotherapists' educational level (p=0.010), as well as professional category (p=0.023), was also found. There was no association between mean scores for the EBPQ attitude subscale and age, working experience, and clinical instructor status.

Furthermore, there was a significant association between knowledge mean score and physiotherapists' educational level (p=0.008), professional category (p=0.003), working experience (p=0.021), and clinical instructor status (p=0.034). The age of physiotherapists was not shown to be significantly related to the knowledge subscale.

Discussion

The current study aimed to explore the attitudes, knowledge, and practice of physiotherapists in Indonesia toward Evidence-Based Practice (EBP) and to estimate the participants' related sociodemographic and professional factors. A total of 156 physiotherapists were involved in this study. The results of this study indicate that physiotherapists in Indonesia had positive attitudes toward EBP and perceived knowledge sufficient to implement EBP.

The Indonesian physiotherapists' attitudes, knowledge, and practice regarding EBP were assessed using the self-administered Evidence-Based Practice Questionnaire (EBPQ). It was revealed that the item "making time in a work schedule for research" had the lowest score and was the most unfavourable component of attitudes. Many participants agreed that their workloads are highly demanding to keep them updated with the latest evidence. However, the majority of the study's participants had a favourable perspective regarding EBP. In comparison to other items in the attitude component, the item "EBP is fundamental to professional practice" received the highest score. Other criteria, such as "welcoming question on own practice" and "changing practice due to evidence found," were also rated as positive by physiotherapists in this study. The present study's findings show similarities with earlier research among physiotherapists and other health care professionals. A Multiple Center Cross-Sectional Survey in China, for example, reported that nurses may have recognized the value of EBP and the need of applying it (Zhou et al., 2016). They may, however, hesitate when EBP is implemented due to a lack of time and

increased job stress (Zhou et al., 2016). Another study found that physiotherapists in Saudi Arabia have positive attitudes about EBP (Hasani et al., 2020). Nonetheless, respondents highlighted time restrictions and insufficient skills as the key perceived barriers to successfully adopting EBP (Hasani et al., 2020). Some research has found that one of the barriers to physiotherapists using EBP in clinical settings is a lack of time (Vongsirinavarat et al., 2020; Yahui & Swaminathan, 2017).

In terms of knowledge, this study revealed that physiotherapists have an adequate understanding of how to utilize EBP in clinical practice. The majority of the items, with the exception of one, received a score greater than 5, indicating a higher understanding of EBP. The physiotherapists rated lower on "research skills" than on other items. Similarly, a study conducted in the United Arab Emirates found that physiotherapists have favorable attitudes toward EBP. Nevertheless, a lack of research knowledge and skills is one of the major impediments to the widespread use of EBP (AlKetbi et al., 2021). According to a study conducted by Vongsirinavarat et al. (2020), a lack of research skills is a barrier to EBP implementation for physiotherapists (Vongsirinavarat et al., 2020). Furthermore, a cross-sectional study in Italy revealed that most physiotherapists overrated their knowledge of EBP. In contrast to the findings of this study, the majority of respondents were confident in their abilities to objectively evaluate the quality of study designs and statistical analyses (Castellini et al., 2020).

This study found that most physiotherapists in Indonesia could implement EBP in their daily work. However, critically evaluating literature and developing specific questions remained challenging in clinical settings. This finding is consistent with a prior study in which physiotherapists expressed a need for more confidence in evaluating literature. The explanation for this could be a barrier to research knowledge and skills (Dao et al., 2018). An individual's research skills may be influenced by their educational levels. In this study, it was found a significant relationship between physiotherapists' educational background and their average practice score.

The level of academics was found to be significantly associated with all EBP components (attitudes, knowledge, and practice). Ph.D. and Master's degree holders were more likely to have higher scores of attitudes, knowledge, and practices towards EBP as compared with BSc and diploma holders. Previous studies have found a significant correlation between greater academic degrees and increased knowledge of EBP, improved implementation of EBP, as well as more favourable attitudes toward EBP (Hasani et al., 2020; Yahui & Swaminathan, 2017). Higher educational degrees have been linked to a desire for lifelong learning, which has been associated with EBP adoption (Scurlock-Evans et al., 2014). Additionally, those with advanced educational degrees are likely to have gained more complete knowledge and skills related to EBP in their prior studies, including research design and statistics, than those with less advanced academic degrees, such as BSc and diploma holders. As a result, physiotherapists with a higher degree of education had a more positive view of EBP, acquired appropriate knowledge about EBP, and expressed a greater willingness to adopt EBP in their workplaces. According to a prior study, completing a Master's degree program may be the factor most strongly associated with a more thorough understanding of knowledge, utilization, and attitudes about EBP (Castellini et al., 2020). Thus, it might be appropriate to provide national-level support for obtaining access to Master's programs and to raise the standard of training courses by integrating the concepts of evidence-based practice into them.

The professional category was significantly linked to attitudes, knowledge, and practice of EBP. The findings of this study indicate that being a clinical

physiotherapist and lecturer at the same time has a more positive attitude and knowledge of EBP. Despite the fact that the mean score for attitude, knowledge, and practice of becoming a clinical physiotherapist was also high, it was the lowest when compared to other groups. According to a study by Alshehri et al (2017), academic physiotherapists were found to have a higher level of knowledge than those who practised in the field. The gap between academic and clinical physiotherapists in terms of attitudes, knowledge, and practice might be explained by differences in education levels and research skills. Lecturers regularly participate in workshops designed to advance their knowledge, are exposed to new information on a regular basis, and attend relevant conferences. Therefore, this study suggests that clinical physiotherapists who have diplomas or even bachelor degrees who have yet to receive any research or EBP training need additional education. This can be done by starting extensive in-service training programs emphasising EBP and offering scholarship opportunities to people who desire to obtain a bachelor's or master's degree. Moreover, it is essential to integrate an EBP course into the training programs for physiotherapists at higher educational institutions. This integration will empower these professionals to apply EBP principles in their work once they graduate effectively (Kaseka & Mbakaya, 2022).

In this study, no statistically significant correlation was demonstrated between age, job experience, and the total score for EBP. However, it was found that there was a link between physiotherapists' working experience and knowledge of EBP. The physiotherapists with more working experience are likelier to have good knowledge of EBP. This might be explained by the fact that, compared to physiotherapists with less work experience, those with extensive job experience tend to have better levels of education and have taken part in more significant EBP training within the physiotherapy field. Prior research has indicated that physiotherapists with less job experience are less likely to use EBP (Yahui & Swaminathan, 2017). Furthermore, it was discovered that years of expertise had a substantial impact on the adoption of EBP (Alshammari et al., 2021). In contrast to this study, previously, age has already been shown as a predictor of positive attitudes and beliefs regarding EBP (Vongsirinavarat et al., 2020). In the United States and Canada, young and newly licensed physiotherapists were more likely to hold positive beliefs toward EBP (Salbach et al. 2007, Jette et al. 2003).

In this study, being a Clinical Instructor (CI) was also discovered to be a contributing factor to EBP use, since it has got a significant association with EBP utilization. An association between CI status and knowledge and practice has been observed in this study, although no correlation was found between being a CI and attitudes. It is possible that the physiotherapists in this study have positive attitudes toward EBP regardless of whether they were CIs or not. It has previously been found clinical instructors in physiotherapy possessed positive attitudes toward evidence-based practice and are knowledgeable about it (Bierwas et al., 2016).

Limitations

The current study has some limitations. First, a limited number of physiotherapists, which could restrict the generalizability of the findings. Additionally, the sample may not accurately represent the entire population of physiotherapists. Second, because the study relies on self-reported data, there is a possibility of social desirability bias, in which participants provide answers that are more socially acceptable or align with what they perceive as the desired response. This could impact the accuracy and reliability of the findings.

Contribution to global physiotherapy practice

The current study evaluates the knowledge, attitude, and practice of EBP of physiotherapists in Indonesia. By identifying the gaps in knowledge, it can help increase awareness and understanding of the importance of integrating evidence into clinical decision-making. Relying on the most reliable evidence for treatment decisions empowers physiotherapists and other health care professionals to offer interventions that are not only more effective and efficient but also yield enhanced patient outcomes, shortened recovery periods, and an elevated quality of life for patients.

Conclusion

In conclusion, physiotherapists in Indonesia possess a positive attitude, knowledge, and practice of EBP. Possessing a higher level of education, working as a clinician and educator, and being a clinical instructor may facilitate the adoption of EBP. The findings of this study may benefit in promoting EBP among physiotherapists and identifying approaches to facilitate the adoption of EBP within the physiotherapy profession. Moreover, the findings can be used by leaders and stakeholders to make decisions about the development of physiotherapy in Indonesia, including both education and practice.

Author Contribution

All authors have taken complete responsibility for the entire content of this manuscript and given their approval for its submission.

Conflict of interest

The authors declare no conflict of interest.

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