



Saudi Physiotherapists' Attitudes, Knowledge, Behaviors, and Barriers Towards Evidence-Based Practice

Suudi Fizyoterapistlerin Kanıta Dayalı Uygulamaya Yönelik Tutumları, Bilgileri, Davranışları ve Engelleri

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Abstract

Aim: This study investigated the attitudes, knowledge, behaviors and barriers of Saudi physiotherapists regarding EBP throughout Saudi Arabia.

Material and Method: A sample of 323 physiotherapists, represented all regions of Saudi Arabia, completed an EBP questionnaire, which was designed to cover the 6-domain of EBP; Attitudes, interest, attention to literature, information availability, educational background, and its barriers.

Results: About 91.5% of the participants reported that EBP is essential, literature helps practice 74.6%, EBP enhances patient care 79.6%, reimbursement rate 81.4%, and aids in decision-making 75.2%. A 62.2% showed that EBP does not consider the patient preferences, or constraints of the clinical practice 70.0%. A 79.9% were interested in enhancing their abilities, and to use evidence more frequently in daily work 74.0%. Whereas 71.3% disagree that their workplace encouraged the EBP usage, and 43.6% having access to databases at work and 66.6% at home. Fifty-one percent had not learned the EBP's fundamentals, 60.4% had not attended training sessions on finding research, and 74.9% were not confident in their capacity to evaluate professional literature. However, 62.2% were able to find pertinent research to address clinical concerns.

Conclusion: The Saudi physiotherapists have a generally positive attitude toward EBP. However, it places an unreasonable demand on physiotherapists, does not consider the clinical setting limitations or patient preferences. Their attention to literature was relatively low and need support from their workplaces. The lack of time was the primary barrier to EBP.

Keywords: Attitudes, barriers, evidence-based practice, literature, rehabilitation

Öz

Amaç: Bu çalışma, Suudi Arabistan genelinde Suudi fizyoterapistlerin Kanıta Dayalı Uygulama (KDU) ile ilgili tutum, bilgi, davranış ve engellerini araştırdı.

Gereç ve Yöntem: Suudi Arabistan'ın tüm bölgelerini temsil eden 323 fizyoterapistten oluşan bir örneklem, KDU'nun tutumlar, ilgi, literatüre dikkat, bilgi bulunabilirliği, eğitim geçmişi ve engelleri alt gruplarında 6 alanını kapsayacak şekilde tasarlanmış bir KDU anketini doldurdu.

Bulgular: Katılımcıların yaklaşık %91,5'i KDU'nun gerekli olduğunu, %74,6'sı literatürün uygulamaya yardımcı olduğunu, %79,6'sı KDU'nun hasta bakımını iyileştirdiğini, %81,4'ü geri ödeme oranını ve %75,2'si karar vermeye yardımcı olduğunu bildirdi. %62,2'lik bir oran, KDU'nun hasta tercihlerini veya %70,0'ı klinik uygulamanın kısıtlamalarını dikkate almadığını gösterdi. %79,9'u yeteneklerini geliştirmekle ve %74,0'ı günlük işlerinde kanıtları daha sık kullanmakla ilgilendi. %71,3'ü işyerlerinin KDU kullanımını teşvik ettiğine katılmadığını, veri tabanlarına erişime %43,6'sı iş yerinden, %66,6'sı ise evinden sahip olduğunu belirtti. Yüzde elli biri KDU'nun temellerini öğrenmemiştir, %60,4'ü araştırma bulma konusunda eğitim oturumlarına katılmamıştı ve %74,9'u mesleki literatürü değerlendirme kapasitelerine güvenmiyordu. Ancak %62,2'si klinik kaygıları giderecek uygun araştırmaları bulabildi.

Sonuç: Suudi fizyoterapistlerin KDU'ya karşı genel olarak olumlu bir tutumu var. Ancak KDU fizyoterapistlerden makul olmayan bir talepte bulunur, klinik ortamın sınırlamalarını veya hasta tercihlerini dikkate almaz. Literatüre olan ilgileri nispeten düşüktü ve işyerlerinin desteğine ihtiyaç duyuyorlardı. Zaman eksikliği KDU'nun önündeki birincil engeldi.

Anahtar Kelimeler: Tutumlar, engeller, kanıta dayalı uygulama, literatür, rehabilitasyon



INTRODUCTION

Decision-making in health care settings currently requires the implementation of evidence-based practice (EBP). The decision-making model entails combining clinical expertise with the top validated research findings and taking into account patient preferences.^[1] In fact, the assessment of EBP related outcomes became important for evaluating the quality of services provided by different health care systems.^[2] The use of EBP can result in an intervention that is cost-effective, safe, and beneficial.^[3] These reasons have caused EBP to become significantly more important in clinical practice.^[4] EBP is divided into five steps,^[5] applying this process requires evaluating evidence sources using critical thinking, then incorporating the evidence into patient care utilizing decision-making abilities.^[6]

It's crucial to assess a change in an EBP by comparing the outcomes before and after its implementation to see whether it leads to better practice. This approach remains briefly addressed in the literature.^[7] For instance, two recent studies revealed that Saudi primary healthcare workers only sometimes used EBP.^[8,9] Another study revealed low awareness and knowledge of physiotherapists towards EBP application.^[10] The attitudes of physiotherapists toward EBP have also been found to be influenced by cohort effects. For instance, it has been demonstrated that work experience reduces physiotherapists' perceptions of the relevance of EBP when measured against levels from their graduation,^[11] and it has been demonstrated that prior research expertise and a positive outlook on future research indicate a positive outlook toward the application of EBP.^[12]

Saudi Arabia offers very few physiotherapy programs, especially at the postgraduate level. Furthermore, there hasn't been much discussion of the EBP notion in Saudi Arabia's research community.^[10] In fact, there aren't recent Saudi studies that have acknowledged the necessity of integrating EBP into medical and physiotherapy curricula.^[13,14] Whereas, increasing the awareness of the importance of research would help the physiotherapists to need less time and resource when implementing EBP.^[15]

According to the World Confederation for Physical Therapy (WCPT), physiotherapists must possess certain competencies in order to use EBP, including the ability to critically examine research articles, find evidence, and assess their practices after implementation.^[16] Thus, educating physiotherapists in EBP and research techniques will offer a chance to maintain the profession's familiarity with current findings. It has been reported that teaching students about EBP can increase their knowledge and confidence when it comes to employing research terms.^[17] Therefore, continuous evaluation of the perception and barriers of EBP was very important to realize the required curriculum modifications to identify the knowledge gap which in turn improves services provided to patients.^[10,18]

However, few studies have been conducted on the physiotherapists perception and use of EBP in Saudi Arabia,^[10,19,20] but so far there has been no study examined the 6-domain of physiotherapy EBP which were established by previously validated questionnaire created by Simmons College, USA,^[21] and updated by Bernhardsson and Larsson.^[22] Also, there is no study evaluated the physiotherapy EBP on all thirteen regions of Saudi Arabia.^[23] According to recent studies, there is a large difference in Saudi physiotherapists' knowledge, attitudes, and adoption of EBP.^[10,20]

These studies had a diverse population because they enrolled physiotherapists working in outpatient settings,^[20] or working in clinical or academic setting.^[10] Another study looked at Saudi physiotherapists who only work at public hospitals in the Eastern region of Saudi Arabia.^[24] While the clinical practice guidelines availability, information accessibility, and attention literature, were not fully taken into account in most of the previous studies. The aforementioned studies show that they did not include all 6-domain of EBP, nor were they applied throughout Saudi Arabia. So, this study examined the attitude, beliefs, motivation, attention to literature, availability of information, educational background and barriers of Saudi physiotherapists regarding EBP.

MATERIAL AND METHOD

Participants

The Directorate of Health Affairs-Taif: Research and Studies Department (KACST, KSA: HAP-02-T-067) approved this cross-sectional study with approval number (ID: 319) which was adhered to the Declaration of Helsinki. The target population was graduated physiotherapists across Saudi Arabia who are registered with the Saudi Commission for Health Specialties (SCHS). The study included a total of 323 therapists, of both genders, it was a little more than the sample size estimated by the G*Power 3.1 software (University of Düsseldorf, Germany), which was 317 individuals based on $\alpha = 0.05$, power = 0.95, and effect size = 0.25. The undergraduate and internship physiotherapy students were excluded.

Procedures

This study adopted the Jette et al.^[21] and Bernhardsson and Larsson questionnaire,^[22] which were said to have adequate test-retest reliability and strong face and content validity. Physiotherapists in several nations have been polled using this questionnaire.^[21,25-28] The 6- domain were covered in the following order: EBP-related attitudes and beliefs (questionnaire items 1-9), interest in and motivation to engage in EBP (items 10 and 11), availability of information (items 15-20), educational background, knowledge and skills related to accessing and interpreting information (items 21-27), and perceived barriers to using evidence in practice (survey item 28). The majority of the items covering attitudes and beliefs, education, knowledge, and abilities pertinent to EBP were assessed using a 5-point Likert scale with the

anchors "strongly disagree" and "strongly agree." There were several questions about information access that required "yes/no" answers.

Between November 2022 and March 2023, a 5-month period was used to conduct the survey. It was delivered straight to the workplace, by email and WhatsApp, or both. A 446 physiotherapists were invited to participate. They were given 2 weeks to complete the questionnaires. A reminder with the same response timeline was given to participants who did not respond within this time frame. The non-responders received a second notification after 2 weeks. A final notification was delivered 2 weeks later. Only 357 respondents provided their response, 28 participants were excluded due to incomplete questionnaire information. Moreover, some participants were excluded; 5 internship students, 1 not physiotherapist (Figure). The final accepted participations were 323 with a response rate 72.4%.

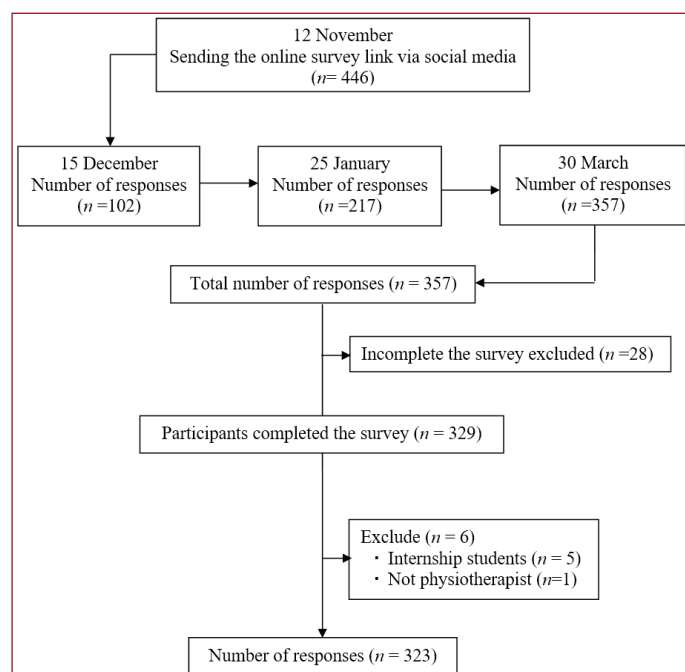


Figure 1. Flow diagram of the study

Data analysis

Using Windows-compatible SPSS software, version 20.0, the data were descriptively analyzed. The frequencies of responses were shown in tabular formats, which show the frequency and significance of each item. To ascertain the factors that influence physiotherapy EBP, the Chi-square test was performed. The significance level was calculated using a 95% confidence interval. With a 5-point Likert scale and a positive response set (i.e., agreement with the statement suggested positive regard for EBP), the "strongly agree" and "agree" categories, as well as the "neutral," "strongly disagree," and "disagree" categories, were combined for those items so that responses fell into one of two categories: "agree" or "disagree." For questions with a negative answer set, the

"neutral" category was combined with the "agree" and "strongly agree" categories.

The "do not know" option was coupled with the "no" category for the items that had a "yes/no/do not know" choice set because it was thought that not knowing if, for instance, a workplace had Internet connection would be just as detrimental to a respondent as not having access. The lowest category (<2) was set apart from the higher categories of items that were categorized according to the frequency with which articles were read or databases were accessed/month because it was thought that the lowest level of access indicated a lack of attention to the literature, which was inconsistent with the goals of EBP. For items intended to measure the level of understanding of research words, the categories "understand entirely" and "understand slightly" were combined, producing a two-category response: "understand at least somewhat" or "do not understand".

RESULTS

In all, 323 physiotherapists (160 male and 163 female) participated in the study, without significant difference between both genders ($p= 0.867$). About 85% have bachelors degree of physiotherapy, and 89.9% working in urban areas. Sixty percent aged (20-29 years), 23.50% (30-39 years) and 2.40% (40-49 years). Twenty-eight percent have a license (less than 3 years ago), 45.5% (3-5 years ago), 8.7% (6-10 years ago), 1.6% (11-15 years ago) and 1.6% (16-20 years ago). Nearly 70% of physiotherapists were keen to join more than one training course/year, 50% treated 5-10 patients/day, 57.3% need more than 75 minutes to provide patient care 66.6% of their patients were orthopedic cases, and the majority of their patients were adults 62.2%.

Attitudes and beliefs

The majority of physiotherapists said they agreed that EBP is essential 91.5%, literature is helpful in practice 74.6%, and that it enhances patient care 79.6%. The reimbursement rate increases by incorporating EBP into their practice 81.4%, evidences help in decision making 75.2%, and 42% of the participants stated there wasn't enough strong evidence to support certain areas of their practice. They frequently selected "neutral" response more than other responses when asked if the adoption of EBP places an unreasonable demand on physiotherapists 36.5%, with total agreement 70.9%. EBP does not take into account the limitations of clinical practice setting 46.3%, with total agreement 70.0%, or takes into account patient preferences 37.2%, with total disagreement 62.2%, as shown in Table 1.

Interest in and motivation to engage in EBP

Seventy-four percent of the participants agreed that they needed to utilize evidence more frequently in their daily practices, and 79.9% were interested in learning or enhancing the skills required to execute EBP (Table 2).

Attention to literature

Only 37% of the participants read one article monthly, or none at all, 41.2% said they typically read between 2 and 5 articles/month, 43.7% used expert literature 2-5 times/month when making clinical decisions, and 48% conduct one database search every month on average, as shown in **Table 3**.

Availability of information

About 63.2% of the participants incorporated patient preferences with practice guidelines, and 71.3% disagreed that their workplaces encourage the application of evidence in practice (**Table 4a**). Whereas 83% of the participants claimed the availability of the practical guidelines of their practice, while 66.6% more participants reported having access to pertinent databases at home and 43.6% at work, as shown **Table 4b**.

Educational background and required skills

Fifty-one percent of the participants disagreed that their academic preparation included learning the principles of EBP, and 60.4% had not attended training sessions on how to discover research that was pertinent to their field of practice. Also, 58.8% disagreed that they had expertise about using databases like MEDLINE and Pedro, 86.4% reported not having received any training in the critical evaluation of research literature, and 74.9% expressed lack of confidence in their capacity to examine professional literature. However, 62.2% expressed confidence in their ability to locate pertinent research to address their clinical problems (**Table 5a**). The participants' knowledge of the terms such as relative risk, absolute risk, systematic review, odds ratio, meta-analysis, confidence interval, and publication bias were 55.4%, 54.8%, 55.7%, 63.5%, 70.9%, 88.6%, and 70.0%, respectively, as shown **Table 5b**.

Table 1. Attitudes and beliefs of physiotherapist toward EBP

Items	Number (%)					p-value
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	
Q1. Application of EBP is necessary in the practice of physiotherapy	0 (0.0)	10 (3.10)	23 (7.12)	162 (50.15)	128 (41.34)	0.001
Q2. Literature and research findings are useful in my day-to-day practice	0 (0.0)	9 (2.78)	73 (22.60)	163 (50.46)	78 (24.16)	0.001
Q3. EBP places an unreasonable demand on physiotherapists.	14 (4.33)	80 (24.77)	118 (36.53)	89 (27.55)	22 (6.81)	0.001
Q4. EBP improves the quality of patient care.	0 (0.0)	0 (0.0)	66 (20.43)	125 (38.70)	132 (40.87)	0.001
Q5. EBP does not consider the limitations of my clinical practice setting.	14 (4.33)	63 (19.50)	149 (46.13)	81 (25.08)	16 (4.33)	0.001
Q6. The physiotherapy reimbursement rate will increase if I incorporate EBP into my practice.	0 (0.0)	9 (2.79)	51 (15.79)	168 (52.01)	95 (29.41)	0.001
Q7. Strong evidence is lacking to support most of the interventions I use with my patients.	9 (2.79)	86 (26.63)	94 (29.10)	115 (35.60)	19 (5.88)	0.001
Q8. EBP helps me make decisions about patient care.	0 (0.0)	12 (3.72)	68 (21.05)	166 (51.39)	77 (23.84)	0.001
Q9. EBP does consider patient preferences.	9 (2.79)	72 (22.29)	120 (37.15)	112 (34.67)	10 (3.10)	0.001

P < 0.05 means significant difference

Table 2. Interest in and motivation to EBP

Items	Number (%)					p-value
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	
Q10. I need to increase the use of evidence in my daily practice.	0(0.0)	18(5.57)	66(20.43)	168(52.01)	71(21.98)	0.001
Q11. I am interested in learning or improving the skills necessary to incorporate EBP into my practice.	0(0.0)	0(0.0)	65(20.12)	172(53.25)	86(26.63)	0.001

P < 0.05 means significant difference

Table 3. Attention to literature

Items	Number (%)					P-value
	≤ 1	2-5	6-10	11-15	> 16	
Q12. Number of scientific articles related to my clinical work that I read, per month	118 (36.53)	133 (41.18)	46 (14.24)	20 (6.19)	6 (1.86)	0.001
Q13. Number of uses of professional literature and research findings in the process of clinical decision making.	101 (31.27)	141 (43.65)	54 (16.72)	15 (4.64)	12 (3.72)	0.001
Q14. Number of use of databases to search for practice-relevant literature/research.	155 (47.99)	118 (36.53)	20 (6.19)	20 (6.19)	10 (3.96)	0.001

P < 0.05 means significant difference

Table 4a. Availability of information to promote EBP

Items	Number (%)					p-value
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	
Q16. I can incorporate patient preferences with practice guidelines	8 (2.48)	11 (3.41)	100 (30.96)	185 (57.28)	19 (5.88)	0.001
Q19. My workplace supports the use of current research in practice.	45 (13.93)	56 (14.34)	139 (43.03)	67 (20.74)	16 (4.95)	0.001

P < 0.05 means significant difference

Table 4b. Availability of information to promote EBP

Items	Number (%)			p-value
	Yes	No	Do not know	
Q15. Practice guidelines are available for topics related to my practice.	268 (82.97)	55 (17.03)	0 (0.00)	0(0.00)
Q17. I am able to access relevant databases and the Internet at my workplace.	141 (43.56)	100 (30.96)	82 (25.39)	0.001
Q18. I am able to access relevant databases and the Internet at home or locations other than my workplace.	215 (66.56)	47 (14.55)	61 (18.89)	0.001

P < 0.05 means significant difference

Table 5a. Education, knowledge, and skills related to EBP

Items	Number (%)					p-value
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	
Q20. I learned the foundations for EBP as part of my academic preparation	24 (7.43)	31 (9.60)	110 (34.06)	127 (39.32)	31 (9.60)	0.001
Q21. I have received formal training in search strategies for finding research relevant to my practice	29 (8.98)	95 (29.41)	71 (21.98)	107 (33.13)	22 (6.81)	0.001
Q22. I am familiar with the medical search engines (eg, MEDLINE, Pedro database)	44 (13.62)	59 (18.27)	87 (26.93)	144 (44.58)	19 (5.88)	0.001
Q23. I received formal training in critical appraisal of research literature as part of my academic preparation	83 (25.70)	107 (33.13)	89 (27.55)	35 (10.84)	9 (2.79)	0.001
Q24. I am confident in my ability to critically review professional literature	40 (12.38)	80 (24.77)	122 (37.77)	71 (21.98)	10 (3.10)	0.001
Q25. I am confident in my ability to find relevant research to answer my clinical questions	9 (2.79)	28 (8.67)	85 (26.32)	176 (54.49)	25 (7.74)	0.001

P < 0.05 means significant difference

Table 5b. Education, knowledge, and skills related to EBP

Rank your understanding of;	Understand completely	Understand somewhat	Do not understand	p-value
1. Relative risk	59 (18.27)	120 (37.15)	144 (44.58)	0.001
2. Absolute risk	67 (20.74)	110 (34.06)	146 (45.20)	0.001
3. Systematic review	107 (33.13)	73 (22.60)	143 (44.27)	0.001
Q26. 4. Odds ratio	110 (34.06)	95 (29.41)	118 (36.53)	0.282
5. Meta-analysis	151 (46.75)	78 (24.15)	94 (29.10)	0.001
6. Confidence interval	201 (62.23)	85 (26.32)	37 (11.46)	0.001
7. Publication bias	144 (44.58)	82 (25.39)	97 (30.03)	0.001

P < 0.05 means significant difference

Barriers

The participants said that the biggest barrier to use EBP was a lack of time, 25.4%, lack of research abilities was rated as the second barrier by over 22.9% of the participants, and almost 18.0% identified the third significant barrier as not understanding statistical analysis, as shown in **Table 6**.

Table 6. The greatest barriers to the use of EBP

Items	Number (%)	p-value
Q27-1 1 st barrier; Insufficient time	82 (25.39)	0.001
Q27-2 2 nd barrier; Lack of research skills	74 (22.91)	0.001
Q27-3 3 rd barrier; Lack of understand statistical analysis	58 (17.96)	0.001

P < 0.05 means significant difference

DISCUSSION

In comparison to the previous conducted studies in Saudi Arabia,10,14,19,20,24 this study investigated the 6-domain of the EBP, which makes it more comprehensive than those studies that studied specific domains without paying enough attention to other domains such as attention to literature and information availability. Therefore, the current study's findings can be relied upon more than others in making the necessary decisions to enhance EBP implementation.

Attitudes and beliefs

The current study physiotherapists are largely supportive of EBP. They believed the necessity of EBP, use of literature

in practice, and improvement of patient care. Which was consistent with the previous studies.^[10,14,20,21] Furthermore, a recent study^[24] was conducted on 118 physiotherapists of Eastern region of Saudi Arabia showed that 90% agreed that EBP is necessary. Another study concluded that 81-95% of the physiotherapists consider research is important in clinical practice, and 95% believed that reading pertinent publications was crucial for their profession, which were slightly higher than the current study (91.5% and 74.6% respectively). Additionally, they found that 81.4% of physiotherapists claimed that physiotherapy practice should be backed by evidence,^[10] which was closely similar to the present finding (81.4%). These agreements could be return to consistency of the physiotherapy curriculums have adopted in different educationl institutions of Saudi Arabia.

The Colombian physiotherapists responded with low scores in comparison to the current findings, As 61.3% of physiotherapists thought that literature was helpful for practice and 71.6% felt that EBP is vital,^[29] whereas the Brazilian physiotherapists reported similar results, 92.2% saw the EBP was essential for their profession. However, their score regarding that the EBP improves patient care was 89% which was higher than the present findings.^[30] Furthermore, the use of research findings in practice was deemed beneficial by 78% of Canadian physiotherapists, which was slightly lower than the present study.^[25] These differences could be attributed to the difference in education curriculums of these countries. As the EBP is shaped through efficient evidence-based teaching and learning practices.^[15]

The current study showed that 70.9% of Saudi physiotherapists saw that applying EBP imposes unreasonable demand, in comparison to 61% of the American physiotherapists.^[21] Moreover, 70.0 and 62.2% considered that EBP does not take into account the limitations of clinical practice setting or takes into account patient preferences. The physiotherapists of the Eastern region of Saudi Arabia, recorded better results which were 25%, 19%, and 18% respectively.^[24] So, more focus is required to enhance the awareness and knowledge of EBP, where the work workplace setting is crucial for fostering a favorable attitude toward EBP.^[20,31] Also, 75.2% of participants agreed that using EBP is essential when deciding how best to treat patients, that was consistent with Saudi physiotherapists of the Eastern region, 80%.^[24] However, supporters of EBP typically assert that a clinician's decision regarding the most appropriate intervention includes taking into account the patient's preferences, conditions, and values.^[32]

EBP interesting and motivation

Seventy-four percent of the participants need to increase the use evidence in daily practice which was less than the previous study, 84%.^[21] In addition, a recent research showed that 88% of the Saudi physiotherapist were interested in incorporating EBP in patient care and thought that doing so would enhance patients' conditions,^[24] compared to the present study which showed only 80%. A more recent study

showed that the Egyptian physiotherapists agreed that treatment interventions need to be supported by evidence, 95.3%,^[15] which was higher than the present result, that could be attributed to implementation of EBP course in their educational curriculum. So that, it was very important to include all regions of the Saudi Arabia in this study, where it will be possible to evaluate the EBP comprehensively, and compare its implementation with other countries, thus develop comprehensive reform policies.

Furthermore, 79.9% of the participants were interested to learn EBP skills which was lesser than the finding of the American study, 85%.^[21] This comparison showed that Saudi physiotherapists were less motivated than American physiotherapists to use EBP in their regular practice and develop their abilities. This emphasizes the importance of creating motivation for Saudi physiotherapists that makes them more enthusiastic about EBP. Another study was conducted on 68 Saudi pediatric physiotherapists revealed that almost 78% were motivated to apply EBP in their everyday practice, and 82.3% had reported using the best available scientific evidence in clinical practice,^[33] which were slightly higher than the present study, 74% and 79.9% respectively. Whereas, this study was conducted on pediatric physiotherapists without other specialities, and perhaps the small sample size had a positive effect on their responses.

Attention to literature

More than 41% of the participants read 2-5 clinical practice-related publications/month, 43.7% consult the literature 2-5 times/month when making clinical decisions, and 48% conduct one database search/month. These findings were greater than Jette et al.'s findings^[21] who stated that 17% read less than two articles/month, and 25% used literature in clinical decision making less than twice a month. The relatively low level of attention to literature is supported by the physiotherapists in England and Australia who preferred peers to academic research when it came to learning about patient management.^[34] However, 87.9% of Egyptian physiotherapists believed that it was necessary to update their knowledge by reading relevant articles, and 72.7% believed that practicing physiotherapy effectively requires a comprehension of research techniques.^[15] The lack of time, difficulty in understanding the scientific writing and statistical data, and inability to access the scholarly literature are different reasons which could explain the low attention to literature.

Availability of information

Sixty-three percent of the participants considered patient preferences with practice guidelines, which was higher than Egyptian physiotherapists value, 44.9%.^[15] However, the physiotherapists in the Eastern region of Saudi Arabia reported only 18%.^[24] So, investigating all regions of Saudi Arabia was more reliable than one or two regions. Additionally, 83% stated that practical guidelines were

accessible, which was slightly higher than the previous study, 80%.^[21] The American physiotherapists^[21] having access to databases at home, 89% greater than at work, 65%. These values were greater than the current results which were 66.6% and 43.6%, respectively. This difference explored that the Saudi health institutions need to change their viewpoint in facilitating difficulties to activate EBP.

Besides, only 25.7% of participants believed that their work supports the use of EBP, which was much lesser than Jette et al.'s finding^[21] which was 67%. So, decision-makers should take into account the institutional support to increase the adoption of EBP.^[24] This concurs with Shousha et al.¹⁵ who reported that increasing resources such as open-access and peer-reviewed publications would assist in the implementation of EBP. Evaluating the availability of information that required to promote EBP and supporting of work places were of the domains that were missed in majority of studies conducted in Saudi Arabia.

Educational background and required skills

About 51% of the participants did not learn the foundations of EBP, which shows the necessity of developing the educational programs as the scientific principles of the EBP model were more easily understood by undergraduate students who had studied it.^[35] Also, 60% had not received continuing education on EBP, that was higher than the Egyptian physiotherapists, 45.5%.^[15] However, it was less than the findings of the study was conducted 7 years ago in Saudi Arabia, which reported that 70.2% of the universities did not provide the physiotherapy students with official EBP training,^[10] which inversely affected the students' satisfaction level of clinical training.^[36] So, EBP training is necessary to encourage decision-makers to embrace it more frequently in clinical practice.^[37]

The present study showed that 58.8% had knowledge about using databases, and 60.4% had not engaged in educational course for EBP. In contrast, 88% of the Colombian physiotherapists received the basic knowledge about EBP.^[29] Accordingly, the undergraduate physiotherapy curriculums need to incorporate the basics of EBP. As there are several chances to expand the scope of EBP and support the health requirements of the local communities, despite the fact that the student enrollment in physiotherapy programs in Saudi Arabia is progressively rising.^[38]

Although 62.2% were confident in their ability to locate research, which was similar to American physiotherapists,^[21] only 13.6% of the current participants received training in the critical evaluation of research literature, compared to 59% of American physiotherapists, and 55% felt competent to evaluate scholarly literature, which was greater than the current participants, 25.1%. This reflects that the teaching research skill are lacking in the Saudi educational institutions. Moreover, the decision-makers should take into account the development of research skills since these factors may aid to increase the adoption of EBP.^[24]

Knowledge of research methodology concepts like relative risk, absolute risk, systematic review, odds ratio, meta-analysis, confidence interval, and publication bias was slightly low, ranging from 54.8% to 70.9%, except for the confidence interval, 88.6%. The Saudi physiotherapists understanding of "systematic reviews" completely was 64.9%,^[10] which was higher than the present finding, 55.7%. Whereas these results were higher than Shousha et al.'s findings^[15] who reported understanding of terms such as systematic review and randomized controlled trial were 40.2% and 42.3% respectively. This discrepancy can be explained by physiotherapists' inadequate knowledge of EBP^[5,39] and their incapacity to evaluate quantitative research designs.^[29]

EBP barriers

The recognition of the EBP barriers is essential and should be considered as the first step towards establishment of the problem preventing its implementation.^[40] The first barrier of the current study was the insufficient time, 25.4%, it was consistent with most physiotherapy studies,^[21,24,25,27,41-43] which may be attributed to that 57.3% the current participants need more than 75 minutes to provide patient care. The second barrier was lack of research skills 22.9%, which was similar to American physiotherapist,^[21] where 20% lacked the search skills. The inability to understand statistical analysis was the third barrier, 18.0%, highlighting the importance of incorporating statistics course in the physiotherapy educational curriculums. The second and third barriers were consistent with the finding of The Saudi physiotherapists of Eastern region reported self-efficacy in identifying evidence in the literature and translating research findings into clinical practice were their second and third barrier which was consistent with the present findings.^[24]

Da Silva et al.^[44] reported that the three main barriers were a lack of time, a challenge understanding statistics, and a lack of support which was consistent with the current findings. However, the Colombian physiotherapists^[29] found the deficiency in research skills was their primary barrier, while the Brazilian physiotherapists reported that the most common barrier was to accessing full-text publications.^[30]

The paediatric physiotherapists in Saudi Arabia said that their biggest challenges were finding full-text articles and limited time, followed by insufficient management support, lack of enthusiasm for research, and inadequate EBP training,^[33] which illustrates that the lack of time is a common between this study and the current research. However, another Saudi study.^[10] found that the first barrier was the inadequate teaching during academic training, 43.1% followed by a lack of research abilities and knowledge, 36.4% which was higher than the present findings, which was against the previous reports.^[21,25,27,41-43] From the foregoing, it was clear that the barriers to the implication of EBP differ from one region to another in Saudi Arabia, this was one of the motives for conducting this study, in which physiotherapists from all regions of Saudi Arabia participated.

Limitations

One of the strengths of this study was that the details of the participants' practice settings were available which make the results are generalizable to the intended population. However, this study was limited to the following; Firstly, the study included only physiotherapist of Ministry of Health without consideration of private sector due to difficulty in communicating and obtaining personal and professional data. Secondly, a convince sampling technique was adopted, as there was no way to access all physiotherapists in Saudi Arabia. However, the study was strengthened by calculation of the sample size determination. Thirdly, the response bias cannot be assessed because data about non-respondents were not available. In self-report surveys, the response bias can be seen in acquiescence, social desirability, negative affectivity, and extreme response styles.^[45] However, when conducting sociological research, self-report surveys should be taken into account because they are the most reliable way to gauge people's attitudes, beliefs, and opinions,^[46] which has a fundamental role during conduction of research that evaluates the educational programs.^[47] Finally, the current study did not investigate the relationship between age, gender, years of experience, academic degree, geographic region, and physiotherapy EBP, so as not to increase the study size, which evaluated the 6-domain of the EBP, and none was excluded.

CONCLUSION

The Saudi physiotherapists are usually supportive of EBP and express interest in honing their abilities and using more research in clinical settings. However, the EBP places an unreasonable demand on physiotherapists, does not take into account the limitations of clinical practice setting or patient preferences. Their attention to literature was relatively low. So, they need support from their workplaces, training sessions for finding research, building knowledge for using databases and regulation of workloads to enhance the EBP implementation. The limited time was the primary barrier to implement the EBP, lack of research skills was the second barrier, and third barrier was the inability to understand statistical analysis.

Clinical Implications

- Workplaces supports such as access to relevant databases, training courses, and regulation of workloads will assist in implementation of EBP.
- For distinctive patient care, the physiotherapy educational curriculums should include intensive research methodology and statistics courses.
- Physiotherapists should be updated with the recent research findings, this requires increased organizational responsibility to alert them to the latest research evidence.
- It is imperative that the EBP's barriers be addressed as soon as possible.

ETHICAL DECLARATIONS

Ethics Committee Approval: The study was carried out with the permission of Directorate of Health Affairs-Taif: Research and Studies Department Ethics Committee (Date: 26.01.2020, Decision No: KACST, KSA: HAP-02-T-067).

Informed Consent: Because the study was designed retrospectively, no written informed consent form was obtained from patients.

Referee Evaluation Process: Externally peer-reviewed.

Conflict of Interest Statement: The authors have no conflicts of interest to declare.

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