RESEARCH ARTICLE

Individual and organizational barriers faced by physiotherapists in implementing evidence based practice — an analytical study

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Abstract

Objective: To determine the present barriers in the implementation of evidence-based physiotherapy practice.

Method: The analytical cross-sectional study was conducted in Lahore, Pakistan, from 06 January 2021 to 30th April 2021 and comprised physiotherapists practising either in government facility or in private clinic for a minimum of 2 years and who had either studied or had some idea about evidence-based physiotherapy practice. Data was collected using the Barrier Scale. Data was analysed using SPSS 16.

Results: Of the 235 subjects, 104(44.3%) were males and 131(55.7%) were females with an overall mean age of 31.5+9.5 years. Of the total, 151(64.30%) subjects had 2-5 years of experience, and 66(28.10%) had 6-7 years of working experience. There was no significant association of working experience with time on job to implement new ideas and time to read research ($p>0.05$).

Conclusion: The physiotherapist faced barriers at both organisational and individual levels.

Keywords: Evidence-based practice, Individual barriers, Organisational barriers, Physiotherapists.

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Introduction

Evidence-based practice (EBP) is an emerging topic in rehabilitation and physiotherapy. Although, it is increasingly used worldwide, a definite and appropriate definition has not been agreed upon among clinicians and researchers. Demand for the application of evidence on physical therapy practice and interest in it has increased over the last decade as is partially clear by a series of systematic reviews published in a special issue.[1-3] The concept of evidence-based medicine, or more broadly, EBP, has indicated a shift in healthcare professionals from a conventional concentrate on authorities-based procedures to direct clinical practice to a spotlight on data-based, clinically relevant studies. Sackett et al. focussed on evidence-based medicine (EBM) and supported "the use of current best evidence in making decisions about the care of individual patients."[4] American guidelines on hand, hip, and knee have emphasised that the physicians should have the power to identify a knowledge gap, formulate a clinically relevant question, conduct effective research within the literature and apply EBP. This includes a hierarchy of evidence, working out the validity of the studies, applying literature findings effectively to the patient's problem, understanding how patient values can affect the balance between potential benefits and drawbacks of accessible management options, and appropriately involving the patient within the decision.[5] The incapability to perform any of those functions may constitute a barrier to the application of EBP. A study analysed the gap between research and evidence, and suggested that problems in applying EBP included the size, difficulty of the research base, poor approach to evidence, organisational barriers and insufficient education level.[6] These barriers can be overcome by changing the attitude and mentality towards research or evidence-based related activities by special budgeting for it.[7] One study in Pakistan concluded that EBP use was not only beneficial in patient care. but it also promotes a process of critical thinking as well as problem-solving approach that is also cost-saving and updates patient care.[8] EBP is still considered to be in the developing stage, while business managers and organisations do not consult and limit its use in the process of clinical decision-making.[9] Thus, the use of EBP not only affects individuals practice, but can also affect the managerial level for implementation in any healthcare system to achieve specified goals set by the organisation. To this level, evidence based decision-making was absent in strategic planning because of flaws in infrastructure.[10] An Iranian study reported that the participants faced 56% and 57% barriers associated with organisational and individual aspects, respectively.[11] The current study was planned to find out the current barriers in the use and implementation of EBP and routine practices by physiotherapists (PTs) in an urban setting.

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Subjects and Methods

The analytical cross-sectional study was conducted in Lahore, Pakistan, from 06 January 2021 to 30th April 2021 after approval from the ethics review board of the University of Health Sciences (UHS), Lahore. The sample size was calculated using the following formula $Z_{1-\alpha/2}^2$ P (1-p)/ d^2.[12] in which $Z_{1-\alpha/2}^2$ was type 1 error, absolute error (d) was 0.05 (5%), expected proportion (p) was 600 based on the list of physiotherapists registered with the Pakistan Physical Therapy Association (PPTA)[13] and a response rate of 50%. The sample was raised using non-probability convenience sampling technique. Those included were PTs practising either in government facility or in private clinic for a minimum of 2 years and who had either studied EBP as a subject in any course or had some idea about it. Those involved only in academics and were not practicing in any clinical setup and who were practicing in clinical setups but had <2 years of experience were excluded.

Data was collected after taking written informed consent from each PT. A predesigned questionnaire for demographic details was used along with the Barrier Scale for which written permission via mail was taken from the authors.[14] Funk et al. did several test-retest studies to determine that the reliability for the four factors of the scale which is adequate. The Pearson correlations between two sets of data ranged from 0.68 to 0.83, which indicated "adequate stability" of the measures over time, establishing reliability.[14]

Data was encoded and analysed using SPSS 16. Descriptive statistics were reported as frequencies and percentages. Chi-square test was used to find the association between leading barriers and professional experience of the PTs. P<0.05 was considered significant.

Results

Of the 235 subjects, 104(44.3%) were males and 131(55.7%) were females with an overall mean age of 31.5±9.5 years. Of the total, 151(64.30%) subjects had 2-5

Table-1: Characteristics of the study subjects.

	Category	Frequency (%age)
Gender	Male	104 (55.70%)
	Female	131(44.30%)
Marital Status	Unmarried	149(63.40%)
	Married	86(36.60%)
Qualification	Undergraduate	103(43.80 %)
	Masters	124 (52.80%)
	PhD.	08(3.40%)
Workplace	Public Hospital	47(20%)
	Private Hospital	108(46%)
	Individual Clinic	80(34%)
Year of Experience	2-5	151(64.30%)
	6-7	66(28.10%)
	8-10	10(4.30%)
	10 <	08(3.40%)
Mode Routine Practice	Evidence Based Practice	43(18.30%)
	Past Experience	76(32.30%)
	Seniors Protocol	92(39.19%)
	Bookish Theory	24(10.21%)
Mean of Age	31.50±9.50	

Table-2: Barriers faced by the physiotherapists.

Barrier Scale Sections	To no extent	To a little extent	To a moderate extent	To a great extent
Research reports/articles are not readily available	26 (11.1%)	82(34.9%)	95(40.4%)	32(13.6%)
Implications for practice are not made clear	30 (12.8%)	83(35.3%)	94 (40%)	28(11.9%)
Statistical analyses are not understandable	34(14.5%)	70(29.8%)	68 (28.9%)	63(26.8%)
The research is not relevant to the Physiotherapist's practice	34 (14.5%)	101(43%)	80(34%)	20(8.5%)
The Physiotherapist is unaware of research	34(14.5%)	66(28.1%)	76(32.3%)	59(25.1%)
The research has not been replicated	37(15.7%)	90(38.3%)	85(36.2%)	23(9.8%)
The PT feels the benefits of changing practice will be minimal	30(12.8%)	85(36.2%)	74(31.5%)	46 (19.6%)
The PT is uncertain whether to believe the results of the research	63(26.8%)	85 (36.2%)	67(28.5%)	20 (8.5%)
The research has methodological inadequacies	34(14.5%)	94(40%)	86(36.6%)	21(8.9%)
The Physiotherapist feels results are not generalizable to own setting	35 (14.9%)	38 (16.2%)	100 (42.6%)	62 (26.4%)
The PT is isolated from knowledgeable colleagues with whom to discuss the research	39 (16.6%)	63 (26.8%)	83 (35.3%)	50 (21.3%)
The Physiotherapist sees little benefit for self	30 (12.8%)	85 (36.2%)	74 (31.5%)	46 (19.6%)
Research reports/articles are not published fast enough	29 (12.3%)	95 (40.4%)	86 (36.6%)	25 (10.6%)
The Physiotherapist does not see the value of research for practice	47 (20.0%)	65 (27.7%)	88 (37.4%)	35 (14.9%)
There is not a documented need to change practice	44 (18.7%)	54 (23.0%)	102 (43.4%)	35 (14.9%)
The conclusions drawn from the research are not justified	66 (28.1%)	92 (39.1%)	61 (26.0%)	16 (6.8%)
The literature reports conflicting results	39 (16.6%)	62 (26.4%)	96 (40.9%)	38 (16.2%)
The research is not reported clearly and readably	40 (17.0%)	79 (33.6%)	81 (34.5%)	35 (14.9%)
The Physiotherapist is unwilling to change/try new ideas	32 (13.6%)	73 (31.1%)	78 (33.2%)	52 (22.1%)

PT: Physiotherapist.

Table-3: Top 10 barriers and their association with years of experience.

	Barrier Scale Sections		Experience		
	To no extent	To a little extent	To a moderate extent	To a great extent	P-value
There is insufficient time on the job to implement new ideas	9 (3.8%)	41 (17.4%)	83 (35.3%)	102 (43.4%)	0.64
The Physiotherapist does not have time to read research	9(3.8%)	52(22.1%)	74(31.5%)	100(42.6%)	0.4
The facilities are inadequate for implementation	15(6.4%)	37(15.7%)	91(38.7%)	92(39.1%)	0.64
Administration will not allow implementation	17 (7.2%)	47 (20.0%)	80 (34.0%)	91 (38.7%)	0.21
Other staffs are not supportive of implementation	18 (7.7%)	64 (27.2%)	66 (28.1%)	87(37.0%)	0.96
The relevant literature is not compiled in one place	18 (7.7%)	62 (26.4%)	70 (29.8%)	85 (36.2%)	0.81
The amount of research information is overwhelming	16 (6.8%)	69 (29.4%)	74 (31.5%)	76 (32.3%)	0.87
The PT does not feel capable of evaluating the quality of the research	21 (8.9%)	63 (26.8%)	75 (31.9%)	76 (32.3%)	0.60
The Physiotherapist does not feel she/he has enough authority to change patient care procedures	20 (8.5%)	65 (27.7%)	74 (31.5%)	76 (32.3%)	0.34
Physicians will not cooperate with implementation	27 (11.5%)	46 (19.6%)	100 (42.6%)	62 (26.4%)	0.28

PT: Physiotherapist.

years and 66(28.10%) had 6-7 years of professional experience. In terms of education, the largest group was of those having post-graduate degrees 124(52.80%) (Table-1).

Among the barriers identified by the PTS, 'statistical analyses are not understandable' was marked 'to a great extent' by 63(26.8%), 'the PT feels results are not generalisable to one's own setting' 62(26.4%) and the PT is unaware of research by 59(25.1%) (Table-2).

There was no significant association of working experience with 'insufficient time on job to implement new ideas' and 'time to read research' and other barriers cited by the PTs (Table-3).

Discussion

Only 18.3% of PTs preferred EBP in the current study, with insufficient time on the job, time to read research inadequate facilities and administrative support were the greatest barriers, which were in line with earlier findings.[15] In the current study, 25.1% PTs stated they were unaware of and 28.5% had sound knowledge about EBP. A study in Italy reported the PTs were well aware of EBP implementation, and 60% of them were able to understand statistical analysis.[16] Priyanika J. et al, stated that availability of sources to information was the top barrier noted, but lack of time and support given by management were minor ones. They found that physiotherapists having experience of 1-5 years refined their skills and used EBP for achieving good prognosis. The senior physiotherapists (10+ year of experience) had access to publication but fresh graduates trusted their skills in searching the evidence.[17] The current study found a weak association of working experience with PTs' time to read research, and it had not affected young PTs. The increased workload is a major reason and this might be due to poor time management. PTs found "no time to implement new ideas on job place" and even they found "no time to read new researches" due to busy schedule and routine. In the current study, 38.7% responded that the administration was non-cooperative and 26.4% "could not generalise previously used evidence in their own clinical settings". This was also supported by a systemic review that favoured lack of support from the employer, lack of time, resources, and generalizability of results. But majority of the studies were in favour of the necessity and importance of EBP.[18]

A study in Colombia with a sample of 1064 PTs reported that 41% PTs said the biggest barriers were lack the skills, lack of understanding statistics, insufficient time and understanding of articles written in the English language.[19] Another Colombian study added to the list insufficient time as barrier.[20] In the current study, 26.8% PTs had no understanding of statistical analysis, which is in line with an earlier study.[21]

A study in Saudi Arabia reported 60% implementation among PTs, but it did not reach a good level of implementation.[22] A local study, however, stated that postgraduate students had a positive attitude towards research activities.[23] Another study stated that structural empowerment by organisations was considered the basis in terms of EBP implementation.[24]

In terms of limitations, the current study was done in a single city which can affect the external validity of the findings. Besides, the study only discussed the barriers as mentioned in a specific tool, and did not explore differences between males and females and between public-sector and private-sector PTs etc.

Conclusion

PTs faced barriers at both organisational and individual levels. The top barriers faced at the organisational level

were inadequate facilities, and being not authorised to change patient care procedures. At the individual level, research unawareness, limited time, non-beneficial effects of change in practice, and uncertainty of results were the reported barriers.

Disclaimer: The text is based on an academic thesis.

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