

Current Physiotherapy Practices of Outcome Measures in the Management of Low Back Pain: A Cross-Sectional Study

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Abstract

Background: The patients with low back pain have the frequency to seek physiotherapy. There are various outcome measures for low back pain with proven reliability and validity.

Objective: To investigate the practice level of physiotherapists working in clinical settings about the usage of outcome measures for low back pain and its barriers.

Study type, settings & duration: A cross-sectional study was conducted at different public and private hospital/ clinical setting or health care setting of Karachi, Pakistan from August to December 2019.

Methodology: A questionnaire was used to conduct study among 335 physiotherapists. Frequencies and percentages were reported of all descriptive variables. Mean and standard deviation was used to report continuous data.

Results: Among 335 physiotherapists, 118 (35.2%) were males, and 217 (64.8%) were females with a mean age of 29.88±5.92 and clinical experience of 5±5.9 years. About 244(72.8%) physiotherapists use outcome measures. Mostly, physiotherapists use a pain visual analogue scale. Approximately 88 (26.2%), 83 (24.7), and 61 (18.2%) physiotherapists identify lack of access to information, lack of time and knowledge as barriers to use outcome measures, respectively.

Conclusion: The outcome measures in low back pain being used in physiotherapy practices like other health care professions. However, the lack of access to the information is the most perceived barrier to use outcome measures. The study suggests improving physiotherapists' access to outcome measures and their relevant information can enhance its usage.

Key words: Backache, health care, outcome assessment, pain, physical therapists.

Introduction

Low Back Pain (LBP) is a common health problem among the current population, affecting approximately 85% of adults in their

lifetime and becoming a formidable burden to the low and middle-income countries, as revealed by the explorations made through the last decade.¹ The disability-adjusted life years due to LBP have increased from 58.2 million to 83 million in 2010.² However, it is the reason for a substantial economic burden in both developed and developing countries.²⁻⁵ This conveys the most people who are suffering from LBP seek physiotherapy. The physiotherapists use many rehabilitative approaches to treat LBP, such as therapeutic exercises, manual therapy, and application of modalities based treatment on the clinical reasoning with history and clinical findings of the patient. Along with clinical findings, the outcome measures are endorsed during the managing and clinical reasoning process to evaluate LBP improvements and scale treatment goals.⁶ The tools used for measuring the interventional outcomes in health

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Authors Contribution

SAW conceptualized the project. AAMB, SIHN & MN and did the data collection. AAMB & SSA did the literature search. SAW & SSA performed Statistical analysis. Drafting, revision & writing of manuscript were done by SAW, AAMB & SSA.

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care practice are known as outcome measures.⁷ In physiotherapy practice, primary outcomes consider alterations in impairments, functional limitations, participation restrictions, and patient life quality. Many research settings have been used outcome measures for LBP over 20 years to appraise the efficacy of management procedures.⁷ According to the Chartered Society of Physiotherapy, the physiotherapist must demonstrate measurable improvements in the clinical outcomes of their patients as part of daily practice.⁸ The assessment and treatment outcome measures are probable to have a rising influence on physiotherapists and their practices.⁸ The way of gathering information with outcome measures is using paper-based or electronic questionnaires.^{8,9} Several factors can influence the use of outcome measures which might lessen their power to be interpreted.¹⁰ They include an absence of specific knowledge and confidence regarding the use of outcome measures, lack of infrastructure for collecting outcome measures and lengthy-time taking that hurdles regular duty hours.¹⁰

LBP patients are commonly treated in physiotherapy practice.⁶ There are various outcome measures for LBP.⁷ Mostly, they have proven reliability and validity.⁸ Though, little evidence is available about which outcome measure physiotherapists use to assess and treat LBP and which influential factors are perceived in current physiotherapy practice to use outcome measures among previous studies.^{5-7,10,11} As far as authors' knowledge, no study has been done among Pakistani physiotherapists. Thus, this study aims to investigate the practice level of physiotherapists working in clinical settings about the usage of outcome measures for low back pain and its barriers.

Methodology

The study recruited 335 physiotherapists using the non-probability purposive sampling technique. The inclusion criteria were physiotherapists working in different inpatient and outpatient hospital/clinical setting having physiotherapy practices of musculoskeletal conditions in Karachi. However, the physiotherapists who refused to give consent and did not practice with LBP patients were excluded from the study. The sample size of 335 was calculated using online open epi version¹⁵ 3.01 confidence level 95%, confidence limits 5% and design affect 1%. The previous study showed 68% of physiotherapists use a visual analogue scale.⁶ The three investigators were assigned to collect data in different clinical settings. After making an appointment, the assigned investigator approached every physiotherapist and

provided the self-administered questionnaire to those who fulfilled the study criteria. The Investigators informed the participants about the objective of the study and took the informed consent. Every participant took approximately 10 to 15 minutes to fill the questionnaire. The questionnaire was designed and extracted from previous studies.⁶⁻⁸ It comprised demographics along with open and closed-ended questions regarding the use of outcome measure, its perceived barriers and information on resources used by physiotherapists working with LBP patients. The items of the questionnaire were included from previous studies with modifications based on the objective of the study and were reviewed and corrected after pretesting.^{6,7,8} The data collection was done between August and December 2019. Frequencies and percentages were reported of all descriptive variables. Mean and standard deviation was used to report continuous data.

The ethical approval was obtained from institutional review board of Dow University of Health Sciences, Karachi vide reference no. IRB-1289/DUHS/APPROVAL/2019/68.

Results

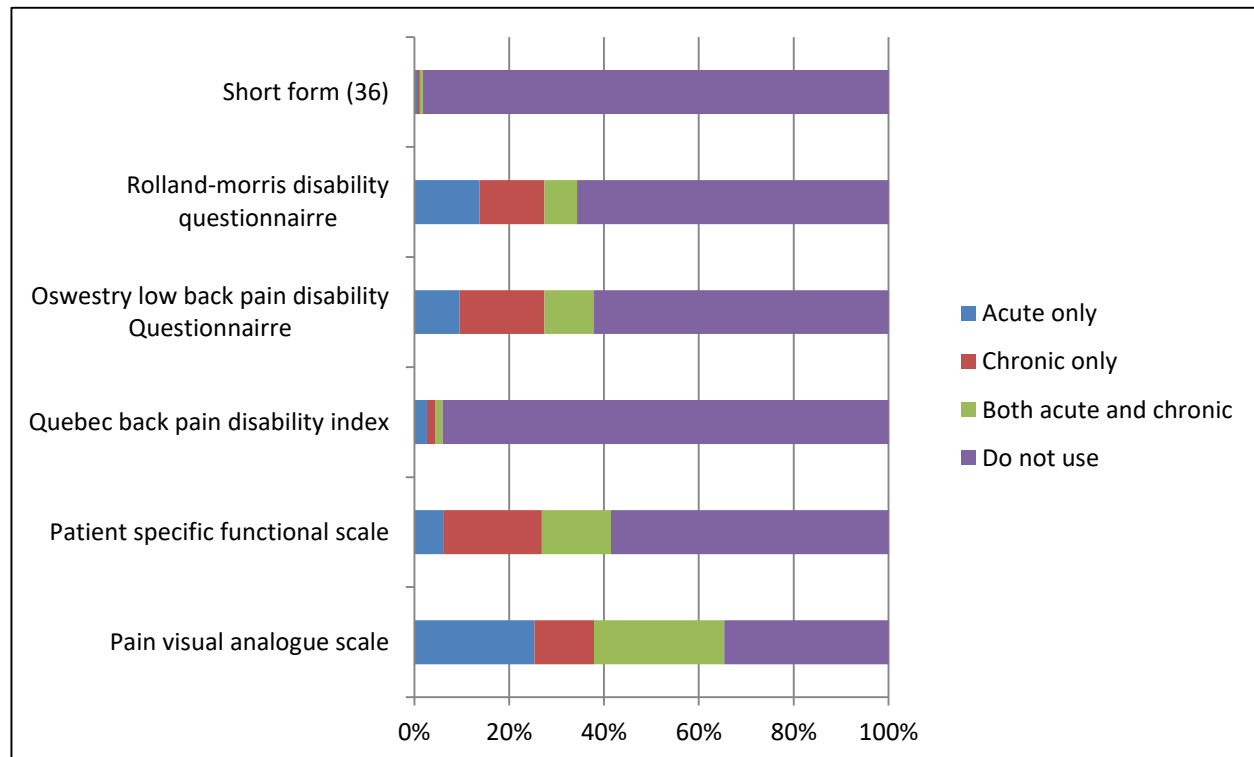
The study included a total of 335 physiotherapists. The mean age and clinical experience of the physiotherapist were 29.59 ± 5.8 and 5.1 ± 4.9 years. There were 118 (35.2%) males and 217 (64.8%) females. The academic qualification of all physiotherapists showed 177 (52.8%) graduates and 88 (26.3%) postgraduates. Most of the participants, 145 (43.3%), worked in both outpatient and inpatient hospital settings. However, 75 (22.4%) worked in a hospital-based outpatient department only, and about 27 (8.1%) were working in a hospital-based inpatient department. Approximately 70 (20.8%) physiotherapists were only worked in rehabilitation centers. Most of the physiotherapists did not have any specialization degree, as shown in Table-1.

Table 1: Frequency and percentages of physiotherapists with specializations.

Specializations	Frequency (%)
Musculoskeletal physiotherapy	33 (9.9%)
Neuromuscular physiotherapy	14 (4.2%)
Orthopedics physiotherapy	5 (1.5%)
Pediatrics physiotherapy	5 (1.5%)
Advanced physiotherapy	8 (2.4%)
Soft tissue manipulation	4 (1.2%)
No specialization	266 (79.4%)

Table 2: Physiotherapists using methods of recording treatment outcomes in low back pain.

Methods	Acute only n=335 (%)	Chronic only n=335 (%)	Acute and chronic n=335 (%)	Do not use n=335 (%)
Subjective changes in pain level	122 (36.4)	39 (11.6)	88 (26.3)	86 (25.7)
Pain maps	53 (15.8)	68 (20.3)	39 (11.6)	174 (52.2)
Patient's individual goal	68 (20.3)	94 (28.1)	87 (26.0)	86 (25.7)
The observed improvement in functions	71 (21.2)	86 (25.7)	79 (23.6)	99 (29.6)
Range of movement	94 (28.1)	66 (19.7)	93 (27.8)	82 (24.5)
Muscle strength	65 (19.4)	86 (25.7)	89 (26.6)	95 (28.4)
Clinical outcome measures	69 (20.6)	103 (30.7)	74 (22.1)	89 (26.6)

**Figure; Physiotherapists using clinical outcome measure for low back pain in the past 6 months.**

The frequency and percentages of physiotherapists using different methods of recording treatment outcomes in LBP are shown in Table-2. Overall, 246 (73.4%) physiotherapists used clinical outcome measures as methods of recording treatment outcomes during different stages of LBP severity (Table-2).

About 178 (53.1%) and 140 (41.8%) physiotherapists were completely and moderately satisfied with the method of recording treatment outcome they use.

Mainly, 219 (65.4%) and 139 (41.5%) physiotherapists used pain visual analogue scale and patient-specific functional scale as clinical outcome measures during different stages of LBP severity (Figure).

About 310 (92.5%) physiotherapists responded that their organization encouraged them to use clinical outcome measures. Results showed 177 (52.8%) and 117 (34.9%) strongly agreed and agreed that health professionals should measure the outcome of treatment. About 181 (54%) physiotherapists strongly agreed, and 121 (36.1%) agree that clinical outcome measures enabled a better understanding of patients' progress. Almost 206 (61.5%) physiotherapists strongly agreed, and 103 (30.7%) physiotherapists agreed that reliable and valid outcome measures should be used to monitor treatment progress. Whereas 142 (42.4%) physiotherapists strongly agreed and 139 (41.5%) agreed that patient satisfaction was also the most important outcome. Only 26 (7.8%) physiotherapists

strongly agreed, and 19 (5.7%) agreed that their patients were all dissimilar; clinical outcome measures would not be valuable. About 7 (2.1%) physiotherapists strongly agreed, and 5 (1.5%) agreed that clinical outcome measures were not suitable for acute LBP. However, 88 (26.2%), 83 (24.7), and 61 (18.2%) physiotherapists strongly agreed and agreed to have a lack of access, time and knowledge of information using clinical outcome measures for LBP, respectively. The total number of our study population who strongly agreed and agreed to have lack of access to information was 131 (39.12%), lack of time was 117 (35%), and lack of knowledge is 87 (26%) as barriers in using clinical outcome measures for LBP. Whereas only a few [8 (2.4%) and 22 (6.6%)] physiotherapists strongly agreed and agreed respectively that available clinical outcome measures are not appropriate for the ethnic/cultural mix of their patients. About 44 (13.1%) and 45 (13.4%) physiotherapists strongly agree and agree respectively that patients failing to complete a path of treatment puts them off using clinical outcome measures.

About 243 (72.5%), 216 (64.5%), 195 (58.2%), 132 (39.4%), and 117 (34.9%) physiotherapists used books, colleagues, professional journals, in-service training and conferences respectively as resources to obtain information about outcome measures in the past year.

Discussion

The use of specific outcome measures plays a great role in diagnosing and measuring the improvement in LBP patients.^{16,17} This study aimed to explore outcome measures in LBP and barriers experienced in musculoskeletal physiotherapy practice in Karachi, Pakistan. The study found that the majority of physiotherapists used outcome measures in their practice with low back pain. They reported a lack of access to the information, time and knowledge to information using clinical outcome measures as the common barriers in current clinical physiotherapy practice in LBP. Östhols et al conducted a survey on physiotherapists about the use of outcome measures in LBP in Sweden. They found that patient-reported outcome measures were minimal compared to clinical tests for patients with LBP.⁶ In the current study, the mean age of physiotherapists, was about 29 years with 5 years of work experience and more than half of participants were females. A study conducted among physiotherapists of Germany reported the mean age of the participants was 38 years. More than half of

study participants were females.¹⁴ This age difference accompanied the work experience of physiotherapists, which mainly was 10 years in that study. However current study included the mean clinical work experience as 5 years. The findings of the present study showed that most of the physiotherapists used the pain visual analogue scale to report pain severity for LBP. The earlier studies of Östhols et al and Copeland et al support the finding of the present study. In both of those studies, most participants affirm the use of pain visual analog scale as an outcome measure in patients with low back pain.^{6,7} These similar results could be because the pain visual analog scale is easy to understand and comprehend.^{15,18} In the present study, most physiotherapists also considered a passive range of motion as a measure of recording treatment outcome. This finding is also parallel with the study of Copeland et al. They found that physiotherapists used to record the change in range of motion and pain level to report the therapy outcomes.⁷ The range of motion has been reported as a validated and reliable method of reporting outcomes in low back pain.^{16,19}

The barriers to using outcome measures are suggested to be targeted to facilitate good physiotherapy practice.^{17,20,21} The current study reported a lack of access to information, time and knowledge to use clinical outcome measures for LBP as barriers. Among these barriers, access to information about clinical outcome measures is one of the most frequent barriers. The previous studies identified the same sort of perceived barriers. Their results were consistent with each other for lack of time as the most perceived barrier in physiotherapy practice for LBP.^{6,7,11,16} However, the current study revealed that mostly physiotherapists perceive less access to clinical outcome measures as a barrier in physiotherapy practice for LBP. These results enlighten the issue that there is less availability of information access among a given population of physiotherapists than studies conducted in various areas.^{4,5,8,13}

It is concluded that physiotherapists are using outcome measures in their clinical practice for patients with LBP. This suggests an excellent base to direct an individualized treatment approach. However, the lack of access to the information is one of the most perceived barriers they encounter in using outcome measures. Encouragement for the use of outcome measures and providing access to information, and providing time to administer outcome measures would likely increase its use. Further studies can be carried out on the association of outcome measures knowledge among physiotherapists.

Conflict of interest: None declared.

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