



"EXPLORING PAIN ASSESSMENT PRACTICES IN MUSCULOSKELETAL PHYSIOTHERAPY: A SURVEY OF KARACHI PHYSIOTHERAPISTS"

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Abstract:

Introduction: Musculoskeletal pain, whether acute or chronic, poses a significant burden on individuals and healthcare systems. Accurate pain assessment is crucial, especially in physiotherapy, where professionals play a vital role in managing musculoskeletal conditions.

Objective: The study seeks to investigate the current trends in pain assessment practices among physiotherapists in Karachi, focusing on the methods employed and adherence to standardized scales.

Methods: An observational cross-sectional survey was conducted, involving 100 physiotherapists. A structured questionnaire with 14 questions gathered data on demographic information, pain assessment practices, and reasons for tool usage or non-usage. Statistical analysis, including chi-square tests, was performed using SPSS version 21.

Results: The majority of physiotherapists (68%) actively use pain assessment scales, with the Visual Analog Scale (VAS) being the preferred choice for 70.5% of respondents. Reasons for scale selection include reliability, ease of interpretation, and common usage. Non-usage is attributed to perceived time constraints. Additionally, 74% of physiotherapists reported using assessment tools, with functional assessments being the most prevalent.

Conclusion: This study provides valuable insights into current trends in pain assessment practices among physiotherapists in Karachi. The widespread use of standardized pain assessment scales and

tools highlights their importance in facilitating effective communication and treatment planning. The findings contribute to the understanding of physiotherapy practices in managing musculoskeletal pain in the diverse healthcare landscape of Karachi. This knowledge is essential for optimizing patient care and enhancing the overall effectiveness of physiotherapy interventions in the region.

Keywords: Musculoskeletal pain, Physiotherapy, Pain, Visual Analog Scale (VAS)

INTRODUCTION:

Musculoskeletal pain, affecting muscles, bones, joints, ligaments, and tendons, is a prevalent type of pain (1). It can manifest as either acute or chronic. Acute musculoskeletal pain, often severe and brief, is primarily caused by local factors like fractures, sprains, dislocations, and infections (2). Conversely, chronic musculoskeletal pain persists over an extended duration and is often linked to conditions such as cancer and arthritis (3). Health care professionals commonly cite musculoskeletal problems as their most frequently reported issues (4).

Musculoskeletal pain poses a significant burden on individuals and healthcare systems alike. The accurate assessment of pain is crucial in guiding effective therapeutic interventions, particularly in the field of physiotherapy (5). Physiotherapists play a vital role in managing musculoskeletal conditions and employ various assessment tools, including pain rating scales, to evaluate the intensity and impact of pain on patients' daily lives (6).

Pain is a subjective sensation encompassing various features such as quality, location, intensity, emotional impact, frequency, and more. Among these characteristics, pain intensity holds significant clinical relevance. As a subjective experience, pain lacks an objective method for measurement. However, patients can reliably and validly express their pain intensity by self-rating the sensation on various types of scales. Standardized methods for assessment are essential to facilitate accurate communication between healthcare providers and patients. (7). Among the various methods employed for measuring pain intensity, several widely used assessment scales include the Visual Analog Scale (VAS), Numeric Rating Scale (NRS), Verbal Rating Scale, and the McGill Pain Questionnaire. These scales provide individuals with diverse options to articulate and quantify their pain experiences, contributing to a more comprehensive understanding of pain intensity(8). Physiotherapists, as primary care providers for musculoskeletal concerns, often rely on these scales to gauge the intensity and nature of pain reported by their patients (9).

Several studies have underscored the competence of physiotherapists in assessing and managing musculoskeletal disorders. Both general practitioners (GPs) and physiotherapists have expressed confidence in the ability of physiotherapists to serve as the first point of contact for musculoskeletal issues (10, 11). Furthermore, assessments conducted at physiotherapy clinics have been found to be cost-effective, emphasizing the efficiency and expertise of physiotherapists in this domain (12).

In the specific context of Karachi, a bustling metropolitan city with diverse healthcare practices, it becomes imperative to explore the current trends in the use of pain rating scales during musculoskeletal physiotherapy assessments. This research aims to observe and analyze the prevalent practices among physiotherapists in Karachi, shedding light on the methods employed for pain assessment and their adherence to standardized scales.

MATERIAL AND METHODS:

The study aimed to investigate the prevailing trends in the use of pain rating scales among physiotherapists in Karachi during musculoskeletal physical therapy assessments. Physiotherapists working in various hospitals across Karachi participated by responding to structured questionnaires distributed for this purpose.

The research employed an observational study design, specifically adopting a cross-sectional survey methodology. The study was conducted within the premises of hospitals and rehabilitation centers situated in Karachi over a span of 6 months. A sample size of 100 physiotherapists was purposefully selected to participate in the study, using a non-probability purposive sampling technique.

Inclusive criteria for participant selection included physiotherapists with over 1 year of experience and those actively engaged in treating patients with musculoskeletal disorders. On the other hand, exclusive criteria involved physiotherapists with less than 1 year of experience, those not treating musculoskeletal disorders, physicians treating such disorders, and physiotherapy technicians.

Data collection was facilitated through a structured questionnaire consisting of 14 different questions. The target population for this study comprised physiotherapists practicing in Karachi, Pakistan. Ethical considerations were given due attention throughout the research process. The purpose of the study was communicated to the selected participants before data collection, and measures were taken to ensure the safety and well-being of the participants. All collected data were coded to safeguard the identity of participants and maintain confidentiality. Additionally, any inquiries from participants regarding the study were addressed to their satisfaction, adhering to ethical standards in the research process.

Statistical Analysis:

Data analysis was conducted using SPSS version 21. Descriptive analysis for categorical variables was reported as frequency and percentage. The chi-square test was employed to assess differences in Pain Assessment Scales and Reasons for Usage. Statistical significance was considered at a threshold of $p < 0.05$.

RESULTS:

In this research, a sample of 100 physiotherapists employed across various hospital sectors in Karachi was surveyed. The data gathered through questionnaires revealed insights into the utilization of pain assessment scales by these physical therapists.

Table 1 mentioned the demographic data of physical therapists. In terms of age distribution, the majority fall within the age groups of 20-30 (30%) and 31-40 (42%), with decreasing percentages in the higher age brackets. The gender distribution indicates that 62% of the physical therapists are male, while 38% are female. Regarding the sector of employment, a significant portion works in private settings (56%), followed by the government sector (32%) and private clinics (12%). Additionally, the table highlights that 68% of the physical therapists use pain scales in their practice, while the remaining 32% do not incorporate pain scales in their assessments or treatments.

Table 1: Demographic Data of Physical Therapist

Age Group	Number of PTs	Percentage
20-30	30	30%
31-40	42	42%
41-50	18	18%
51-60	8	8%
61 and above	2	2%
Gender		
Male	62	62%
Female	38	38%
Sector		
Government	32	32%
Private	56	56%
Private Clinics	12	12%
Use of Pain Scales		
Yes	68	68%
No	32	32%

Table 2 presents a comprehensive analysis of pain assessment practices and the general utilization of assessment tools among the surveyed physical therapists.

Particularly, 68% of the participants reported actively incorporating pain scales in their practice, while 32% indicated not using pain assessment scales. Among those not using pain assessment scales, the predominant reasons cited were the perceived time-consuming nature (53.1%) and a lack of understanding on how to use these scales (15.6%).

Examining the pain scales used by the 68% of therapists who do utilize them, the Visual Analog Scale (VAS) emerged as the most prevalent choice, with 70.5% adoption, followed by the Numeric Rating Scale (NRS) at 13%, the Verbal Rating Scale (VRS) at 7.3%, and the McGill Pain Scale at 5.88%. Further insights into the rationale behind selecting specific pain scales revealed that 48.5% of therapists favored scales that were less time-consuming, while 23.8% each emphasized ease of interpretation and reliability.

Regarding the number of patients subjected to pain scales, a significant portion (48.5%) reported using these scales for fewer than five patients, while 30.8% used them for 5-10 patients, and 11.7% for more than ten patients. Moving beyond pain assessment, the overall usage of assessment tools was reported by 74% of the participants. Among these tools, functional assessments were the most prevalent (44.6%), followed by diagnostic tools (39.1%) and other scales (5.4%).

For those not incorporating assessment tools (26%), the primary reasons included a high patient load (42.3%), a lack of understanding (19.2%), and various other reasons (53.8%).

Table 2: Analysis of Pain Assessment Practices and General Tool Usage among Physical Therapists

Category	Number of PTs	Percentage
Use of Pain Scales		
Yes	68	68%
No	32	32%
Reasons for Not Using Pain Assessment Scales (N=32)	17	53.1%
- Time Consuming	5	15.6%
- No Idea How to Use		
Pain Scales Used by PTs (N=68)		
- VAS	48	70.5%
- NRS	9	13%
- VRS	5	7.3%
- McGill	4	5.88%
Reasons for Using Specific Pain Scale (N=68)	16	23.8%
- Easy to Interpret	16	23.8%
- More Reliable	11	16%
- Most Commonly Used	33	48.5%
- Less Time Consuming		
Number of Patients Using Pain Scales (N=68)	33	48.5%
<5 Patients	21	30.8%
5-10 Patients	8	11.7%
>10 Patients		
Usage of Assessment Tools (N=100)	74	74%
- Yes	26	26%
- No		
Types of Assessment Tools Used by PTs (N=74)	29	39.1%
- Diagnostic Tools	33	44.6%
- Functional Assessment	4	5.4%
- Other Scales		
Reasons for Not Using Assessment Tools (N=26)	11	42.3%
- Too Many Patients	5	19.2%
- No Idea	14	53.8%
- Other Reasons		

Table 3 presents a study of assessment tool usage among participants in different working sectors, with a focus on the utilization of assessment tools and the corresponding p-values. Notably, within the government sector, 17 participants reported using assessment tools, while 15 participants indicated not using them, resulting in a total of 32 participants.

In the private sector, a substantial majority of participants, 47 out of 56, reported actively using assessment tools, with only 9 participants indicating non-usage. Likewise, in private clinics, 10 participants reported tool usage, while 2 participants did not, resulting in a total of 12 participants. The overall total across all working sectors indicated that out of 100 participants, 74 reported using assessment tools, while 26 did not.

The observed p-value, less than 0.01, emphasizes a statistically significant relationship between the working sector and the utilization of assessment tools among the participants.

Table 3: Study of Assessment Tool Usage in Various Working Sectors

Working Sector participants study	Do you use assessment tools		TOTAL	p- value
	YES	NO		
Government	17	15	32	<0.01
Private	47	09	56	
Private Clinic	10	02	12	
TOTAL	74	26	100	

Table 4 provides a comprehensive overview of the utilization of various pain assessment scales and the reasons behind their usage among the participants.

The Visual Analog Scale (VAS) emerged as the most preferred pain assessment tool, with 46 participants choosing it, citing reasons such as being the most reliable (9 participants), easy to interpret (24 participants), most commonly used (8 participants), and less time-consuming (5 participants). The statistical analysis revealed a highly significant p-value of less than 0.001, indicating a strong association between the preference for the Visual Analog Scale and the reasons for its usage.

The Numeric Rating Scale (NRS) was selected by 9 participants, with reasons including it being perceived as the most reliable (3 participants), easy to interpret (4 participants), and most commonly used (1 participant). The Verbal Rating Scale (VRS) and McGill Pain Questionnaire were chosen by 5 and 4 participants, respectively, with varying reasons for their selection.

Interestingly, 36 participants indicated the use of "Others/NA," primarily driven by the non-applicability of the listed reasons.

Table 4: Pain Assessment Scales and Reasons for Usage

Pain Assessment Scale	Most Reliable	Easy to Interpret	Most Comm only used	Less time Consuming	N/A	Total	p-value
Visual Analog Scale (VAS)	9	24	8	5	0	46	<0.001
Numeric Rating Scale (NRS)	3	4	1	1	0	9	
Verbal Rating Scale (VRS)	2	2	1	0	0	5	
McGill Pain Questionnaire	2	1	1	0	0	4	
Others/NA	0	1	0	0	35	36	
Total	16	32	11	06	35	100	

DISCUSSION

This study reveals that the majority of physical therapists incorporate pain assessment scales and assessment tools into their daily practice. The prevailing consensus among these therapists indicates that the Visual Analog Scale (VAS) is widely considered the most reliable, commonly used, and easily explainable tool to patients. The Numeric Rating Scale (NRS) emerges as the second choice, and the Verbal Rating Scale (VRS) is recognized as the third scale, valued for its reliability and ease of explanation to patients.

Similarly a research investigation focusing on the utilization of unidimensional pain scales, including the Numerical Rating Scale (NRS), Verbal Rating Scale (VRS), or Visual Analogue Scale (VAS),

suggests these scales as valuable tools for evaluating pain intensity (PI). The study concludes that the Visual Analogue Scale (VAS) is particularly suitable for the unidimensional assessment of PI across various settings (13).

Another study conducted a comprehensive review of the utilization of pain measurement tools (PMTs) in palliative care research within a multilingual multicenter setting. The study's findings indicate that visual analogue scales, numerical rating scales, and verbal rating scales are deemed valid for assessing pain intensity in clinical trials and various other study types (8).

Furthermore, a study utilizing data from a randomized controlled trial involving postoperative patients compared Visual Analog Scale (VAS) and Numeric Rating Scale (NRS). The study concluded that VAS scores demonstrated greater sensitivity to patients' pain intensity compared to NRS. Consequently, the researchers recommended the use of VAS in research settings for its ability to provide continuous scores (14).

A study conducted on three frequently employed pain rating scales—Visual Analog Scale, Verbal Rating Scale, and Numerical Rating Scale—affirms the validity, reliability, and appropriateness of all three scales for clinical practice. However, it notes that the Visual Analog Scale poses more practical challenges compared to the Verbal Rating Scale or the Numerical Rating Scale. The Numerical Rating Scale is recognized for its good sensitivity and the ability to generate data suitable for statistical analysis in audit purposes, making it preferable for general applications. On the other hand, patients seeking a straightforward pain rating scale tend to prefer the Verbal Rating Scale, despite its lower sensitivity and the potential for misunderstood data (15).

CONCLUSION:

In conclusion, this study reveals a prevalent utilization of pain assessment scales and tools among physical therapists in Karachi. Despite the challenges posed by a high patient load, the majority of therapists actively incorporate these instruments into their daily practice. The Visual Analog Scale (VAS) emerges as the preferred choice, considered not only the most commonly used but also perceived as more reliable and easily understandable for pain assessment. These findings underscore the importance of standardized pain assessment tools in the clinical practices of physical therapists, providing valuable insights for optimizing patient care and treatment planning in the dynamic healthcare landscape of Karachi.

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