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## Original Article

# Prevalence of Low Back Pain among Physiotherapists Working in Clinics and Hospitals of Islamabad

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## ABSTRACT

Lower back pain (LBP) is a prevailing musculoskeletal condition that affects nearly all individuals at certain point in their lives. Although the majority of individuals with LBP experience temporary pain or disability and rapidly resume normal activities regardless of treatment, a small percentage develop chronic pain and disability. Among those with long-term pain and disability, few return to normal activities after experiencing LBP for more than one year. Despite the lack of discrimination based on gender, race, or work environment, certain professionals, such as physiotherapists, are at a heightened risk of developing LBP. **Objective:** To determine the prevalence of lower back pain among physiotherapists working in clinics and hospitals of Islamabad. **Methods:** A descriptive cross-sectional study was performed using demographic data, visual analogue scale (VAS) and OSWESTRY low back disability questionnaire to determine the prevalence of lower back pain among physical therapists working in clinics and hospitals of Islamabad. The study participants were physiotherapists working in Islamabad with age between 23 to 35 years. Data were analyzed by SPSS version-25. **Results:** A total of 50 physiotherapists participated in the study. Results showed that out of 50 participants, 50% had moderate amount of pain following the mild pain that was 44% and 6% showed no pain measured through Visual analogue pain scale. **Conclusions:** The present study concludes that low back pain is prevalent among physiotherapists working in clinics and hospitals of Islamabad.

## INTRODUCTION

Lumbar pain, commonly referred to as lower back pain (LBP), is a prevalent medical condition characterized by pain originating from the lower back region and often radiating to one or both legs. LBP is recognized as a leading cause of disability and absenteeism from work, resulting in a significant socioeconomic burden, particularly in western industrialized countries [1]. According to current estimations, a substantial portion of the adult population, ranging from 50% to 80%, experiences episodes of lower back pain (LBP) at least once during their lifetime [2, 3]. Numerous studies have focused on the occurrence of low back pain (LBP) in the general and working population, with estimates ranging from 62% to 80% of the population

suffering from LBP [4]. The condition known as Low Back Pain (LBP) is distinguished by the presence of one or more of the following diagnostic criteria: persistent pain lasting for a minimum duration of one-year, daily pain persisting for at least three months, intense pain which subsists for a duration of one day or longer, and pain which necessitates medical attention and/or sick leave [5]. Despite its indiscriminate nature with respect to gender, race, or occupational environment, certain professions have been identified as being more susceptible to LBP than others [6]. Physical therapists are a population at risk for the development of low back pain (LBP). A study conducted on physical therapists has reported lower backache to be the



most common type of musculoskeletal disorders related to work [7, 8]. Physiotherapy is divided into different categories including kinesiotherapy (therapeutic gymnastics, movement therapy), physiotherapy (treatment involving natural or artificial physical stimulus), and massage. The physiotherapist has a different type of work in each of these departments, which may cause unusual strains in the locomotive system. Common stressors that pose a particular risk to a given physiotherapy domain include mechanical overload resulting from patient or equipment lifting, regular repeating of identical movements, enforced body positioning, bending and torso rotation with weight, deficient patient-lifting equipment, improper patient-lifting techniques, and unpredictable patient movements or falls [9, 10]. Long-term bending while doing massage therapy tasks necessitates standing efforts, static physical burden involving trunk turning & flexion, dynamical physical load - physical exertion, and monotype of movements [9, 11]. Intense loading in the workplace or imperfect musculoskeletal techniques used in handling patients may cause higher levels of lower back pain related to work. In the context of patient treatment, therapists may inadvertently overwork their muscles and joints while performing therapeutic maneuvers, leading to an increased risk of LBP [12, 13]. Several studies have assessed the risk factors that are most commonly associated with lower back pain (LBP) related to work in physiotherapists (PTs). The identified risk factors include providing medical care to a significant volume of patients within a single day, being in the same position for an extended duration, and assisting or relocating patients who are dependent [14, 15]. In order to address work-related lower back pain (LBP), it is necessary to incorporate at least one self-protective behavior along with the utilization of different tools and equipment [16]. Furthermore, due to work-related lower back pain (LBP), physical therapists (PTs) might seek medical care, adjust their activities of daily living (ADL) and recreational pursuits, or make alterations to their area of specialization, either within the field or by opting to leave it altogether [7, 17]. The primary aim of this survey was designed to determine the prevalence of LBP among physiotherapists working as clinical practitioners.

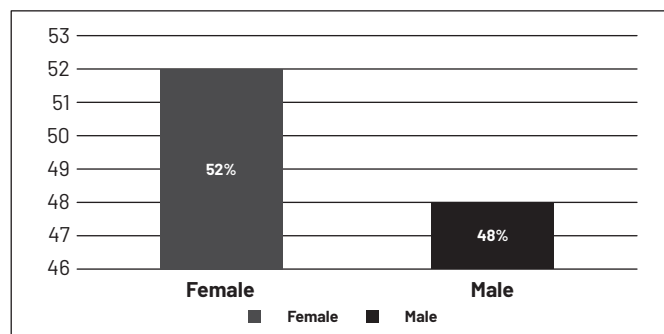
### METHODS

A cross-sectional study was carried out in National Institute of Rehabilitation Medicine, Poly Clinic Hospital and Majestic Medicine Revitalizing Center Islamabad from June 2022 October 2022. The study was completed in a duration of 4 months after the approval of institutional review board and ethical committee (IRB & EC) of Bashir Institute of Health Sciences. A total of 50 participants were

chosen using a non-probability convenience sampling method and the sample size was computed using Slovin's formula  $n=N/(1+Ne^2)$  with confidence interval at 95% and margin of error=0.05. The study included both female and male physiotherapists working in clinics and hospitals with age ranging 23 to 35 years. Pregnant physiotherapists and those with a history of spinal surgery, spinal injury, any spinal deformity and any trauma were excluded from the study. After getting an informed consent, data were collected directly from the participants using visual analogue scale, and OSWESTRY low back disability questionnaire. For descriptive analysis frequency and percentages, data were analyzed through SPSS version 25.0.

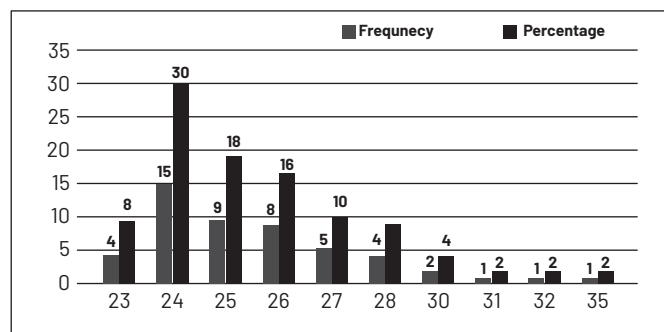
### RESULTS

The present study comprised a sample of 50 participants falling within the age bracket of 23 to 35 years. Demographic analysis revealed that 24 (48%) of the total participants were male physiotherapists, while 26 (52%) were female physiotherapists Figure 1.



**Figure 1:** Percentage of Gender of Gender Distribution

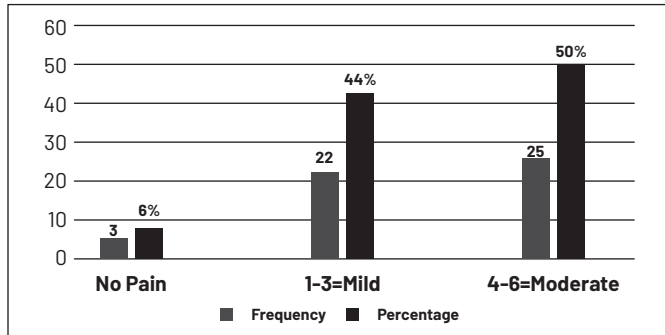
Age distribution revealed that the majority (30%) were 24 years old. Participants aged 25 and 26 years old accounted for 18% and 16% of the sample, respectively, while those aged 23, 27, and 28 years constituted 8%, 10%, and 8% of the sample, respectively. The remaining age categories were represented by 4% of 30 years old, and 2% each for 31, 32- & 35-years old participants Figure 2.



**Figure 2:** Percentage of Age Distribution of Participants

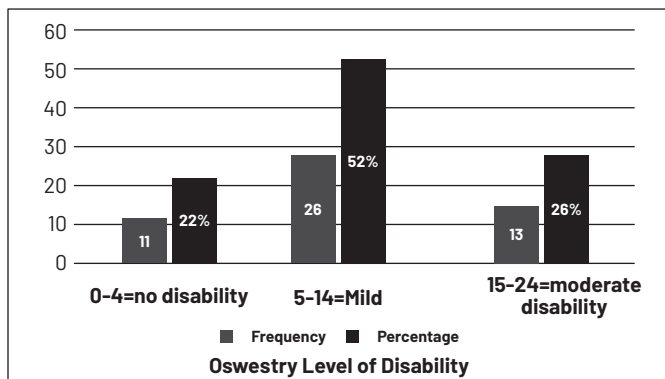
In this study, pain was assessed utilizing the Visual Analogue Pain Scale. The results indicated that among the

participants, a majority of 25 individuals (50%) reported experiencing a moderate level of pain, with 22 individuals (44%) reporting mild pain, and only 3 individuals (6%) reporting no pain Figure 3.

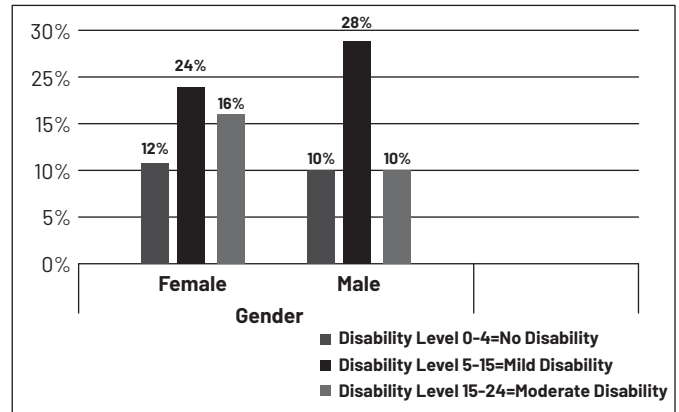


**Figure 3:** Frequency and Percentage of Pain using Visual Analogue Scale

The Oswestry Lower Back Pain Index questionnaire was utilized to measure the degree of disability resulting from lower back pain. Analysis of the responses revealed that 26 out of 50 participants, corresponding to 52%, reported experiencing mild disability, 13 participants or 26% reported moderate disability, whereas 11 participants corresponding to 22% reported no disability Figure 4.



**Figure 4:** Frequency and Percentage showing Disability Level Regarding the prevalence of pain and disability in a particular gender the results revealed that among the female physiotherapists, 6 (12%) had no disability, 12 (24%) had mild disability, and 8 (16%) had moderate disability. In comparison, among the male physiotherapists, 5 (10%) had no disability, 14 (28%) had mild disability, and 5 (10%) had moderate disability Figure 5.



**Figure 5:** Level of disability among male and female physiotherapists

It was also found that the participants face daily life functional disabilities caused by low back pain. Functional disability encountered by the participants across various daily life activities is shown in Table 1-2.

**Table 1:** Frequency and Percentage of participants having functional disability in terms of pain intensity, lifting and sleeping

Level of Pain					
	Capable of enduring the pain without the need for pain relievers	Pain is severe, but managed without the use of painkillers	Pain relievers provide total alleviation from pain	Pain relievers provide a moderate alleviation of pain	Pain relievers provide minimal alleviation of pain.
Frequency (%)	18(36)	23(46)	5(10)	3(6)	1(2)
Lifting					
	Can effortlessly handle heavy loads without experiencing pain	Lifting heavy load causes more pain.	Unable to pick heavy load off the floor due to pain, can lift only if suitably placed	Unable to pick heavy load due to pain, but can pick light to medium load if suitably placed	Can only pick light loads
Frequency (%)	10(20)	21(42)	10(20)	8(16)	1(2)
Sleeping					
	Pain does not hinder sound sleep	Can achieve good sleep only with the aid of medication	Even with aid of medication, sleeps less than 6 hrs.	Even with aid of medication, sleeps less than 4 hrs.	Even with aid of medication, sleeps less than 2 hrs.
Frequency (%)	28(56)	13(26)	7(14)	2(4)	0

**Table 2:** Frequency and Percentage of participants having functional disability in terms of sitting, standing and walking

Sitting					
	Can use any chair of their choice for sitting	Can use only selected chair for sitting as long as one like	Cannot sit >1 hour due to pain	Cannot sit > ½ hour due to pain	Cannot sit >10 minutes due to pain
Frequency (%)	11(22)	25(50)	10(20)	3(6)	1(2)
Standing					
	Can stand without additional pain for as long as desired	Can stand for as long as desired, but it causes additional pain	Cannot stand > 1 hour due to pain	Cannot stand > ½ hour due to pain	Cannot stand >10 minutes due to pain
Frequency (%)	9(18)	28(52)	9(18)	4(8)	2(4)
Walking					
	No hindrance in walking due to pain	Pain prevents walking more than one mile	Cannot walk > ½ mile due to pain	Cannot walk > ¼ mile due to pain	Can only ambulate using walking aids
Frequency (%)	22(44)	10(20)	14(28)	4(8)	0

## DISCUSSION

In this study, the prevalence of lower back pain among physiotherapists working in clinical settings or hospitals was investigated. The Visual analogue scale and Oswestry disability index were used to measure lower back pain. The study found that lower back pain is prevalent among physiotherapists, and previous research has also shown that low back pain risk can be heightened by factors like abnormal posture, job-related hazards, and specific occupational aspects such as lifting or moving dependent patients, as well as the physical therapist's age and gender. Abolfotouh *et al.*, conducted a cross-sectional study in which 259 physical and occupational therapists from rehabilitation centers in Saudi Arabia were selected. The study revealed that rehabilitation professionals experienced a 73.7% 1-year prevalence of low back pain, with 52.5% experiencing severe pain lasting  $\geq 1$  day, 22.4% experiencing chronic lower back pain, 23.9% seeking medical leave due to lower back pain, and 18.5% seeking treatment due to pain in lumbar region [18]. In our study, 52% of participants experienced mild and 26% experienced moderate level disability due to low back pain while performing their daily functional activities. The results are similar to the study mentioned above in term of lower back pain prevalence but in our study majority of the physiotherapists experienced mild pain unlike the study by Abolfotouh *et al.*, in which 52.5 % experienced severe pain [18]. In Bloemfontein, South Africa, Barnes *et al.*, conducted a study examining the prevalence of work-related low back pain among actively practicing physiotherapists. The study included the participation of 84 physiotherapists, and the findings revealed that 67% of the respondents had encountered work-related low back pain (WRLBP) [19]. The result of our study in which 52% physiotherapists experienced lower back pain supports these findings. A study was carried out by Alghadir *et al.*, in Riyadh, Saudi Arabia, aiming to investigate the occurrence of work-related low back pain (LBP) among physical therapists. The study also examined the factors linked to work-related LBP and its consequences. To collect data, a self-administered online questionnaire was distributed to 600 members of the Saudi PT association. The findings from the study indicated that 89.65% of the therapists experienced LBP after commencing their PT practice, while 35.6% reported LBP during the survey period [20]. In our study, we found that pain with lifting heavy weights was reported by 42% of participants, 14% need medication to sleep properly without pain and 28% cannot walk more than half mile due to pain. Transferring of dependent patients, as well as the age and gender of physical therapists, are also linked to the occurrence of low back pain among the participants in this population. Glowinski *et al.* carried out a

study aimed at determining the prevalence, risk factors, and symptoms of back pain among physiotherapists in Poland. The study encompassed a cohort of 240 physiotherapists, and the Oswestry Disability Index (ODI) questionnaire was utilized to evaluate the responses [21]. According to the data, physiotherapists had a 91.7% incidence of spinal pain (88.9% for massage, 97.3% for physical therapy, and 91.1% for kinesiotherapy). This study is similar to our study that they also assessed prevalence of low back pain among physiotherapists by using Oswestry disability index. The findings of this study align with our own results regarding the prevalence of lower back pain among physical therapists. The prevalence of pain in lower back and functional limitations among physiotherapists working in clinical settings and hospitals is a growing concern. This issue has been identified as a significant occupational health problem worldwide. Despite their extensive knowledge and experience in managing musculoskeletal disorders, physiotherapists are not immune to the experiencing low back pain and related functional impairments. As such, preventative measures and interventions aimed at mitigating the risk of low back pain and functional limitations among physiotherapists are warranted. Moreover, further studies should be conducted on a larger scale with a larger sample size, so that the result can be more generalized. Psychosocial measures should also be emphasized in future studies.

## CONCLUSIONS

The present study concludes that low back pain is prevalent among physiotherapists working in clinics and hospitals, and it was also significantly associated as a cause of functional disability in terms of daily activities.

## Authors Contribution

Conceptualization: AJ

Methodology: AJ, TJ, SK

Formal Analysis: AJ, ST, MW

Writing-review and editing: AJ, ST, MN, HMK

All authors have read and agreed to the published version of the manuscript.

## Conflicts of Interest

The authors declare no conflict of interest.

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