

Prevalence of Neck Pain in Physiotherapist

Ms. Shruti Sanjay Gaikwad¹, Dr. Shweta Kulkarni²

¹Intern, Physiotherapy Department, TMV's Indutai Tilak College of Physiotherapy

²Associate Professor, Physiotherapy Department, TMV's Indutai Tilak College of Physiotherapy

Abstract

Background: Neck pain is one of the most common musculoskeletal disorders among health professionals, including physiotherapists, who are often involved in activities that include holding a posture for a longer duration and performance of repetitive movements. The increased usage of smartphones and laptops enhances bad postures, particularly bending of the neck in flexion, adding to the problems related to neck pain.

Objective: The present study has been taken up to assess the prevalence of neck pain among physiotherapists and their relation with gender and age.

Methods: This was a cross-sectional study conducted on 100 physiotherapists, of which 63 were females and 37 were males. Neck pain prevalence was assessed with the Neck Disability Index questionnaire. Data collection was done in person from November 2023 to February 2024. Results were statistically analyzed, with descriptive statistics shown in tabulations, graphs, and figures.

Results: The overall prevalence of neck pain among the participants was 64%. In accordance with the NDI scale, the physiotherapists self-reported 39% to have mild disability; 23%, moderate disability; only 2% were severely disabled and none with complete disability. On a gender basis, females revealed a slightly higher prevalence of neck pain, 25%, compared to their male counterparts, 24%.

Conclusion: In this study, a high prevalence of neck pain was found among physiotherapists, with a slightly increased occurrence in females. These findings bring out the importance of increasing awareness toward ergonomic practices and health regarding posture to decrease neck pain in physiotherapists. The modifiable risk factors identified will have an emphasis on the promotion of good postures with lifestyle modifications to aid in the prevention of neck pain in physiotherapists. Making these changes and taking up appropriate treatments form an important aspect of the management of work-related musculoskeletal disorders.

Keywords: Neck pain, Physiotherapist, Prevalence, Work-related musculoskeletal disorders

Introduction

Pain is defined as an unpleasant and emotional experience associated with or without actual tissue damage. Two types - Acute or Chronic. ⁽⁶⁾

Acute pain is a sudden sharp and intense (severe) pain of short duration. It is easily identified and described. It is often localized in a small area before spreading to neighboring areas. It is usually treated by medications. ⁽⁶⁾

Chronic pain is the intermittent or continuous pain with different intensities. It lasts for longer periods. It is not easily described as acute pain. It is usually associated with a long term illness. ⁽⁶⁾

Neck pain is becoming increasingly common throughout the world. Incidence is higher in middle-income countries and in urban areas compared with rural areas. ⁽¹⁾

Many environmental and personal factors influence the onset and course of neck pain ^[1]

Most people experience neck pain at some stage in their lives.

Neck pain is usually first experienced in childhood or adolescence and, like low back pain, runs an episodic course over a person's lifetime. ⁽¹⁾

Most studies have verified that the prevalence of neck pain increases with age. ⁽¹⁾

Having a history of neck or low back pain, poor self-assessed health and poor psychological status have also been found to increase the risk of neck pain onset. Other evidence suggests that occupation, headaches, emotional problems, low job satisfaction, sedentary work postures, a poor physical work environment (e.g., poor keyboard or mouse position), ethnicity and smoking may be associated with the onset of neck pain. ⁽¹⁾

Other factors associated with poor neck pain outcomes include a previous neck injury, high pain intensity, self-perceived poor general health, worrying, fear avoidance and getting angry or frustrated. ⁽¹⁾

Neck pain and its related disability have a huge impact on individuals and their families, communities, health-care systems and businesses. Individuals may have difficulties with many activities, such as driving a car, turning the head and working on a computer. They may also have a reduced ability to participate in work, social and sporting endeavors, which in turn can further increase the burden associated with neck pain. ⁽¹⁾

The Cervical Spine consists of several pairs of Joints. It consists of 7 Vertebrae and 8 Nerve Roots. The Principal Motion is Flexion Extension. Other motions are Side flexion and Rotation. ⁽⁷⁾

The Data shows that prevalence of neck pain in general population ranges from 0.4 - 86.8% in the world. ⁽²⁾

Most neck pain results from complex relationships between individual and workplace risk factors. No prevention strategies have been shown to reduce the incidence of neck pain in workers. ⁽⁴⁾ So, Howard Vernon developed the neck disability index (NDI) in 1989. ⁽⁵⁾

Published in 1991, the Neck Disability Index (NDI) was the first instrument designed to assess self-rated disability in patients with neck pain. ⁽⁵⁾

The Neck disability index (NDI) is a condition specific disability measure. It was devised in an outpatient physiotherapy department by Vernon and Mior in 1991 and is based on the Oswestry disability index. The questionnaire was devised and validated in English. It consists of ten questions each with six answers (scoring 0–5 points). ⁽⁵⁾

Methodology

Study Design: This was an epidemiological study aimed at determining the cases of neck pain amongst physiotherapists and the potential risk factors for its occurrence. The study design herein was survey-based, observational, and quantitative. A Neck Disability Index questionnaire was hence used in this research.

Participants: In this research, the questionnaires were administered to the respondents personally. The aim of the study, procedure, benefits, information confidentiality, and remunerations were explained with the informed consent. Participants were chosen by certain inclusion and exclusion criteria. Out of the total 100 samples of physiotherapists taken for this research, all the respondents willingly responded to the questions. Among them 99 fitted in the inclusion criteria.

Questionnaire : The NDI questionnaire was used to calculate the prevalence of neck pain. The modification, according to the objectives of the study, was validated by the institutional ethical committee, TMV's Indutai Tilak College of Physiotherapy.

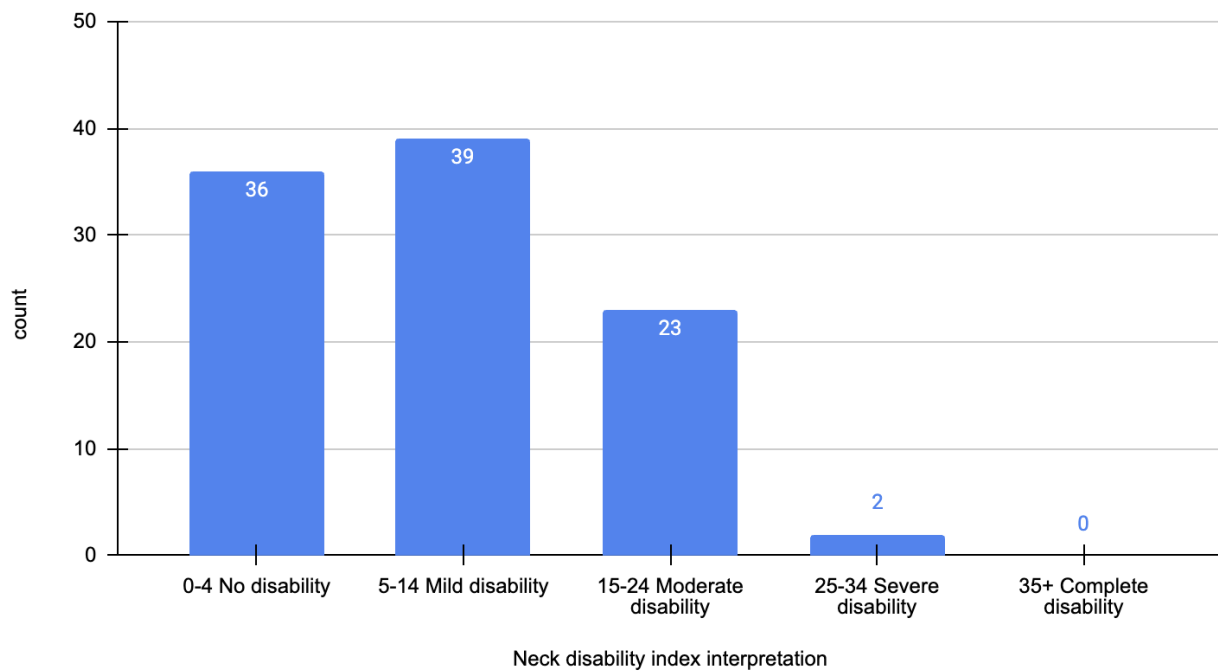
Ethics, Consent, and Permissions: Participants were provided with an informed consent document that introduced the research project with the title of the study, aims of the study, and assurance of confidentiality of provided information. Consent was taken from every participant individually.

Data Collection: The study questionnaire was administered personally upon the respective participants. Data collection took place from November 2023 to February 2024. A questionnaire instrument with questions on personal and work demographics, and neck pain, was prepared.

Results and data analysis

Graph 1: Distribution of physiotherapists with neck pain.

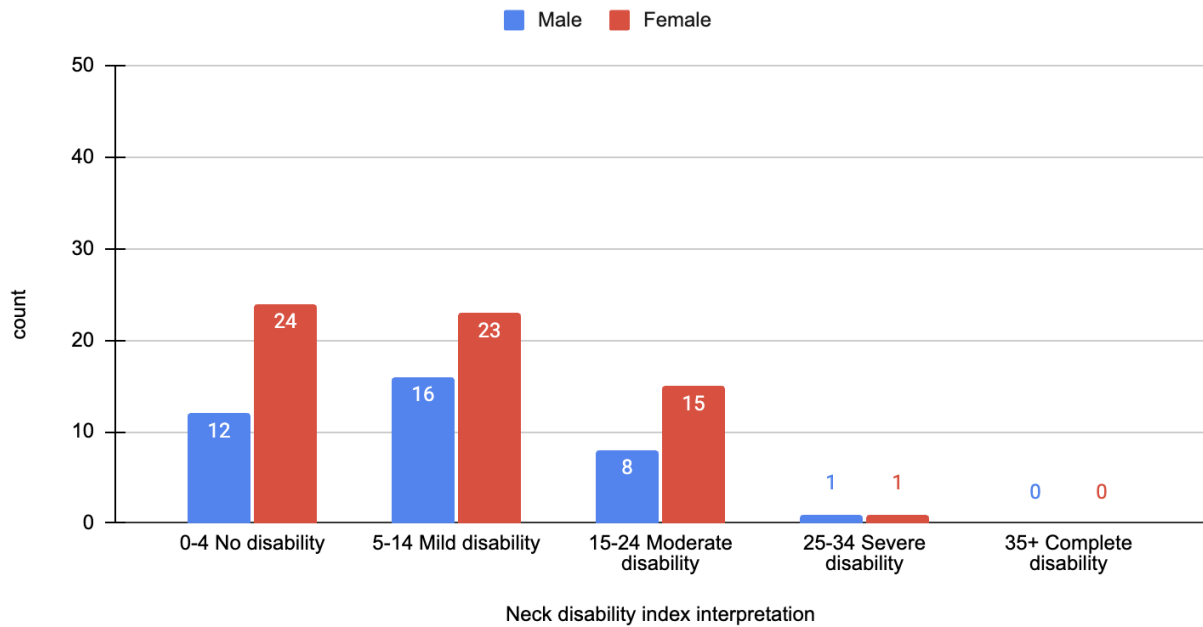
Neck Pain Analysis



Graph 2: Gender Analysis of neck pain.

Disability Index	Totals	Male	Female
0-4 No disability	36	12	24
5-14 Mild disability	39	16	23
15-24 Moderate disability	23	8	15
25-34 Severe disability	2	1	1
35+ Complete disability	0	0	0
Total	100	37	63

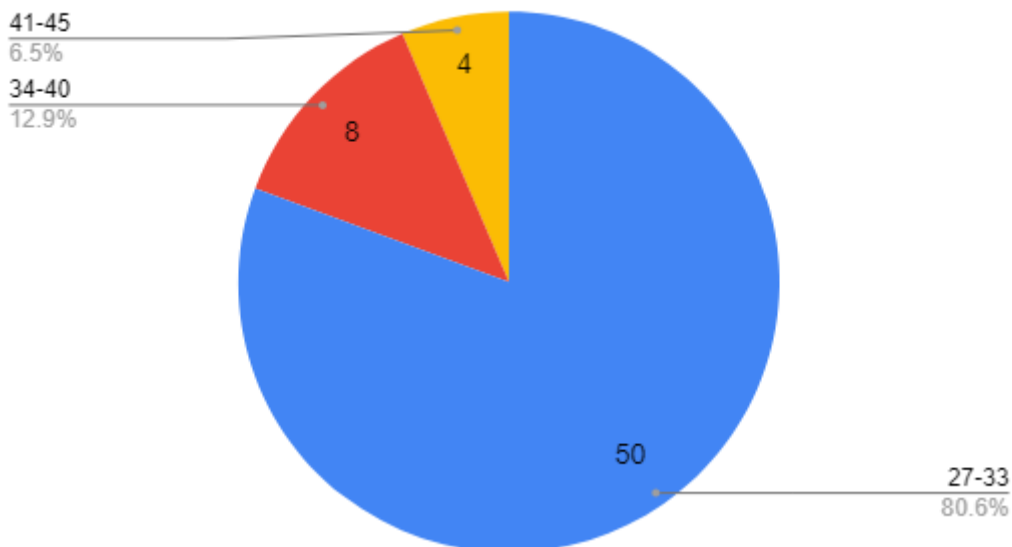
Neck Pain Analysis Gender bifurcation



Graph 3: Age group distribution of Neck pain

Age Group	Count
27-33	50
34-40	8
41-45	4

Neck Pain observed across age groups



DISCUSSION

A total number of 100 Physiotherapist's were studied. According to the diagnostic criteria of the Neck pain disability scale ,the prevalence of neck pain was 64% (n =100). The total Physiotherapist's diagnosed with Neck pain were 64. Out of 66 Physiotherapist's, 39% have mild disability, 23% have moderate disability, 2 have Severe disability, 0 have complete disability. A gender-based analysis was done. It Indicated a slightly higher prevalence of neck pain in females compared to males. Out of 63 females and 37 males studied. 25% females and 24% males were diagnosed with Neck pain respectively.

The overall prevalence of neck pain in the general population ranged between 0.4% and 86.8% (mean: 23.1%); point prevalence ranged from 0.4% to 41.5% (mean: 14.4%); and 1 year prevalence ranged from 4.8% to 79.5% (mean: 25.8%) (Table 4). Due to the heterogeneity of the data, the mean estimates need to be interpreted with caution. (1)

The mean overall prevalence was 27.2% in females and 17.4% in males. In high-income countries, the overall prevalence ranged from 0.4% to 86.8% (mean: 26.3%), while in low- and middle-income countries, it ranged from 0.8% to 80.0% (mean: 17.5%). In children and adolescents, the overall prevalence ranged from 8.7% to 78% (mean: 33.4%) and, in adults, it ranged from 0.4% to 86.8% (mean: 21.9%). Prevalence ranged from 0.4% to 86.8% in urban areas (mean: = 20.7%) and from 0.8% to 80.0% in rural areas (mean: 17.0%). (1)

In another review of the epidemiology of neck pain, Hogg-Johnson et al. found that the 12-month prevalence of neck pain in the general adult population and workers ranged from 12.1% to 71.5%, while the annual prevalence among children ranged between 34.5% and 71.5% [157] (Table 4). Most studies have verified that the prevalence of neck pain increases with age, peaks in the 35–49-year age group and then begins to decline. Most evidence indicates a higher prevalence of neck pain among women compared with men [157] .(1)

Being in clinical years, history of trauma, positive family history, being overweight and long computing period was associated with higher prevalence of symptoms, normal BMI and adjusted hours of computing appeared to be protective. (17)

Younger age and fewer years of experience had an increased prevalence of WMSD as they might be a victim of WMSDs due to their inappropriate handling and treatment technique (11)

Most injuries were found to be related to the lower back, since all of the upper body's weight bears down on the lumbar vertebrae, followed by the upper back and the cervical vertebrae which are the thinnest and most delicate vertebrae in the spine.(8)

The frequency and severity of MSDs seem to rise abruptly duringthe first 5 years of work (8)

More experienced physiotherapists were found to suffer less due to the adoption of good work practices and appropriate work equipment. (8)

Even though male physiotherapists worked more and endured long working hours in a standing position, they seem to suffer less from MSDs than female physiotherapists. This finding is in line with previous studies and is probably due to the differences in the nature of the female body versus the male body, since a number of physiotherapy acts require additional physical strength (8)

It has been suggested that the usually higher prevalence of WRMDs in female physiotherapists may be related to their height and body weight which put them at a disadvantage during patients' treatment and/or transfer [5]. Also, women do have a higher prevalence than men for many upper extremity musculoskeletal disorders, even after controlling for confounders such as age or work factors [24]. It is interesting however

that the prevalence of WRMDs in our study was higher in individuals with normal body weight (94.6%) than obese ones (71.4%). (9)

These include a lower pain threshold in women compared to men [14], inherent differences in somatic and visceral perception [15], lower levels of physical activity among female students in our society compared to their male counterparts, and a higher trend in females in addition, experience mental and psychological stress compared to men [16, 17]. (16)

Musculoskeletal injuries in physiotherapists were mainly caused by work practices, procedures, by the workplace, and other special characteristics. During physical therapy acts, the vast majority reported to perform the same task over and over, causing injuries of the spine, upper and lower back, and the upper and lower extremities. Moreover, they reported the frequent adoption of awkward body positions that are laborious and tiresome. For example, protracted standing positions, working in the same position for long periods (e.g., standing, bending over, sitting, kneeling), working in “unnatural” static postures in which flexion and/or rotation of the spine and neck are greater than 20 degrees, (8)

Caring and working hard that have been opined as making it difficult for physiotherapists to do their job in a way that minimizes the risk of WRMDs (9)

Around 60% physiotherapists reported pain due to remaining in the same position for long periods of time. With around 55% of them reporting pain due to lifting of the objects, 48% due to bending and twisting, 42% experienced pain while giving manual therapy, 41% reported pain while performing repetitive tasks, 40% due to performing overhead activities, 35% reported pain during shifting of the patient, 19% reported pain while pushing or pulling the loads and 13% reported while working in awkward positions. (12)minimizes the risk of WRMDs (9)

The work factors commonly identified by physiotherapists in this study as contributing to the occurrence of their WRMDs in decreasing order of importance were: treating a large number of patients in one day, working in the same position for long and lifting or transferring dependent patients, and performing manual therapy techniques. Thus, mobilization and manipulation have been identified as work factors to the occurrence of upper limb, (9)

Lifting, working in awkward postures, and stooping were also common causes of WMSD in nurses [37]. Ngan et al. stated that poor body mechanics during patient handling is the leading reason for WMSD in healthcare workers (10)

The main implications of WMSD to the profession and professionals are their effects on job performance, ability to work, ability to perform some treatment techniques (e.g. manual therapy), medical costs, and career changes. In some cases, PTs have to change practice settings or reduce working hours, and sometimes have to retire early or leave the profession early due to WMSD (10)

Common QOL issues reported by students to be associated with neck and back pain include headaches and pain during reading, standing and sitting. There was also a high prevalence of students with moderate to severe NP (12%) and LBP (30%), which was associated with fewer hours per week studying. A study by Nolet, et al. reported an association of worsening neck pain with poorer physical health-related quality of life, while a study by Mesas, et al. reported higher work absenteeism in patients with chronic pain that were stronger in younger patients compared to older patients [33,34]. Musculoskeletal pain in medical students may be associated with worse academic performance in medical students and should be further explored. Ergonomic training has been shown to be effective for improving musculoskeletal pain in a study by Kajiki, et al. [35]. Efforts to improve education on the prevalence and impact of musculoskeletal

pain in the axial skeleton may improve understanding, prevention and treatment of NP and LBP in American medical students. (15)

This situation increases MSDs and musculoskeletal injuries, affecting quality of life, while the increased rate of burnout syndrome takes troublesome dimensions [15,16]. Moreover, this situation gives rise to other kinds of risks, such as psychosocial risks [13]. Stress, low wages/profit, the daily physical and emotional contact with patients, and their problems, were additional stress factors that make the situation even worse, as reported by more than half of the participants Education and practicing special techniques in order to reduce the required forces could play a key role in dealing with these issues. (8)

The most commonly adopted coping strategies among physiotherapists in our study were therapists modifying their position or the position of their patients, therapists selecting techniques that will not aggravate or provoke their discomfort, and therapists adjusting bed or plinth height. (9)

Many physiotherapists do not report WMSD, as the perception of injury is such that due to WMSD, they could not meet the expected demands. At the same time, physiotherapists can underestimate the severity of the injury and think that they will resolve the problem themselves before consulting a doctor or supervisor. (11)

LIMITATIONS

The outcome measure that was used is limited to measure the ergonomic risk factors in detail that physiotherapists could encounter during clinical practices. For these reasons, the results from this study cannot be generalized to all physiotherapists.

This study is limited as it did not reflect the workplaces of registered members. work may only be a contributory factor in the etiology of musculoskeletal disorders among workers and it may be difficult to distinguish between work-related musculoskeletal disorders and musculoskeletal disorders since their consequences in response to work demands may be similar.

CONCLUSION

Nowadays, Smartphones have become very common in our daily life. Prolonged use of Smartphones and laptops may lead to bad posture as the most commonly adopted posture is neck flexion, which may lead to neck pain. It is important to raise awareness of the importance of adopting a healthy sitting position and limiting the amount of time spent using mobile phones. These measures are aimed at reducing the occurrence of neck pain in medical students. By identifying and treating modifiable risk factors, the occurrence of neck pain can be recognized and prevented. Thus, it is highly recommended to use good postural habits. Modification in the lifestyle while doing the professional work is the only solution to cope with these conditions. Physiotherapist's can deal with their work related musculoskeletal disorders symptoms by altering treatment techniques, improving body mechanics, and by self-treating or seeking PT treatment from a colleague.

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