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Article

The Prevalence and Associated Factors of Neck Disability Among Physiotherapists in Saudi Arabia

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Abstract: Background/Objectives: Years lived with disability due to neck pain have been increasing among young adults in the Middle East and North Africa (MENA) region and globally. Literature on neck disability among working physiotherapists is lacking in Saudi Arabia. This study aims to determine the prevalence of neck disability and associated risk factors and quality of life (QoL) among working physiotherapists in Saudi Arabia. **Methods:** A cross-sectional survey was conducted among 411 registered physiotherapists in Saudi Arabia. Neck Disability Index (NDI) and World Health Organization Quality of Life Brief Version (WHOQOL-BREF) questionnaires were used along with descriptive data. Prevalence rates were analysed in number and frequency. The chi-square test and Kruskal-Wallis tests were applied to analyze the association and difference between the variables. Multinomial logistic regression is applied to predict the risk variables. **Results:** The median age was 27 years, and results revealed that 54.25% of the physiotherapists had neck disability; of them, 42.31% had mild, 9.98% moderate, and 1.71% severe, and only one male physiotherapist (0.25%) had complete neck disability. The workplace and its relationship with NDI were significant at 0.0001, but logistic regression was insignificant at $p > 0.05$. **Conclusion:** Majority of physiotherapists experienced some degree of neck disability, predominating mild symptoms and higher in females than males in Saudi Arabia. None of the risk factors were predictors of NDI. Furthermore, the quality of life of the therapists was not significantly impacted, likely due to the mild nature of neck disability. Therefore, future studies are required with additional risk factors to assess neck disability.

Keywords: neck disability; quality of life; physiotherapist; Saudi Arabia

1. Introduction

The term "work-related musculoskeletal disorders" (WMSDs) refers to musculoskeletal diseases commonly encountered in workplace activities, which are becoming increasingly prevalent in the modern world and are the second most common cause of temporary or short-term disabilities [1]. One of the most prevalent musculoskeletal conditions is neck pain, which affects 42-67% of young people. According to the Global Burden of Disease (GBD) study, neck pain is the second leading cause of Years Lived with Disability (YLD) among young adults aged 20-24 years [2, 3].

The Global Burden of Diseases, Injuries, and Risk Factors Study (GBDRFS) provides a comprehensive examination of health loss attributable to illnesses, injuries, and risk factors in 204 nations and territories. According to Years Lived with Disability (YLDs), neck pain ranked eleventh out of 369 disorders in GBD 2019. Globally, neck pain remains a common condition that causes significant disability and financial burden. In 2020, an estimated 203 million people worldwide suffered from neck pain. The global age-standardized prevalence rate of neck pain was estimated to be 2450 per 100,000 people, while the global age-standardized rate of YLD was 244 per 100,000. The projected number of cases is anticipated to increase by 2050 [4, 5]. Among all diseases in 2019, the

prevalence of musculoskeletal (MSK) disorders ranked fifth in Kuwait, sixth in Bahrain, Oman, Qatar, and the United Arab Emirates, and seventh in Saudi Arabia [6].

In 2019, there were 1.7 million regional Years Lived with Disability (YLDs), 3.8 million new cases of neck pain in the Middle East and North Africa (MENA) region, and 17.4 million prevalent cases of neck pain. In 2019, Saudi Arabia reported 1,000,012 incident cases and 100,132 YLDs. According to the MENA study, point prevalence increased nearly continuously, plateauing between the ages of 45 and 79. While the total number of incident cases for both sexes peaked in the 40-44 age range in 2019, the incidence rates of neck pain in the MENA region surged in the 45-49 age group [7].

Several risk factors have been identified for the development of this global issue, leading to chronic pain and neck disability. Types of profession and working hours have been shown to impact the likelihood of neck discomfort [8] and are associated with other risk factors [9]. A meta-analysis (2017) reported that low levels of job satisfaction, computer keyboard use, lack of task diversity, and medium to high levels of muscle tension were identified as significant risk factors [10]. In 2018, a systematic review reported that perceived muscle strain, and a depressing attitude, and uncomfortable prolonged postures were the predominant psychological risk variables [11]. A systematic review (2020) reported that stress due to long periods of sitting or standing, duration of daily computer use, repetitive neck and back movements, and female sex were identified as significant risk factors among healthcare professionals in the age range of 18-29 years [12].

Moreover, neck discomfort and chronic stress due to increasing job demands have been reported as a risk factor for the altered quality of life (QoL) [13]. Though physical examinations and diagnostic tools help identify neck pain, patient-reported outcome measures (PROMs) are instruments used to quantify patient-reported outcomes (PROs) of functional status, health-related quality of life, and individual treatment experiences [14]. The Neck Disability Index (NDI) [15, 16] and the World Health Organization Quality-of-Life brief (WHOQOL-BREF) [17] are the scales that are most frequently used to estimate the prevalence of neck disability and QoL.

Finally, monitoring national trends related to neck discomfort is essential for updating treatments based on available resources and needs [7]. According to the MENA study report, age ranges up to 40 years were not reported in Middle Eastern regions. Although there were few studies that reported the prevalence of neck pain among general populations [18, 19] and healthcare professionals globally [20, 21] as well as in Saudi Arabia [9, 22, 1], evidence is lacking on the prevalence of neck disability and QoL among working physiotherapists in Saudi Arabia. To address this knowledge gap and contribute to global and regional metadata on vulnerable professional groups, this study aimed to determine the prevalence of neck disability, assess the relationship between neck disability and risk factors, and examine the relationship with QoL among working physiotherapists in Saudi Arabia.

2. Materials and Methods

2.1. Study Design and Participants

This is a cross-sectional study. An online survey was conducted using Google Forms, which included physiotherapists from around Saudi Arabia. The survey form was sent to licensed physical therapists with at least one year of professional experience via emails during 2024. Physiotherapists were able to participate in this study if they were licensed physiotherapists with at least one year of professional experience. On the other hand, the participants were excluded from the study if they were non-physiotherapy participants or did not have a Saudi Arabian professional license and did not agree to fill out the questionnaire. To achieve a 5% margin of error and a 95% confidence interval, a sample of 411 licensed physiotherapists was recruited based on the total number of licensed physiotherapists in Saudi Arabia, as registered with the Saudi Commission for Health Specialties (SCFHS).

2.2. Tools to Measure Neck Disability and Quality of Life

NDI had been applied the most and was the only instrument that had been revalidated in several study populations and languages [16, 23]. Each section was scored on a five-point ordinal scale. The sum of the points from each section was used to determine the final score. A high score indicated a serious functional impairment brought on by neck discomfort. The NDI can be expressed as a percentage or as a raw value that has been multiplied by two. A 0–5 scale was used to rate each region, where 0 meant "no pain" and 5 meant "worst imaginable pain." Both a raw score (up to 50) and a percentage can be used to analyze the exam results. No activity restrictions are indicated by 0 points, or 0%, whereas entire activity restrictions are shown by 50 points, or 100%. Higher scores indicate greater impairment. A 5-point change in the NDI was determined to be clinically significant, with a sensitivity of 0.78 and a specificity of 0.80. The chronicity of neck pain or the degree of disability depends on the percentage obtained. With an alpha coefficient of 0.80, the total index was determined to have a good degree of internal consistency, a valid and reliable tool.

The WHOQOL-BREF instrument is a self-administered questionnaire designed to evaluate the four key quality of life (QoL) dimensions as defined by the World Health Organization (WHO): environment, social relationships, psychological health, and physical health (The WHOQOL Group 1998). The first two items evaluate the general sense of health and quality of life independently. Each question on the tool is scored on a 5-point Likert scale, with 1 denoting "very poor," "very dissatisfied," "none," or "never," and 5 denoting "very good," "very satisfied," or "extremely" or "always." The scores of all four domains are then added up and scaled in a positive direction, with higher scores indicating better quality of life. Numerous studies have evaluated the WHOQOL-BREF instrument's validity and reliability and recognized it as an appropriate tool for measuring quality of life [24].

2.3. Data Collection

A self-administered online questionnaire was developed based on published, pre-tested questionnaires that consisted of three sections. Section one has sociodemographic traits, including age, sex, level of education, living region, workplace, subspecialty, level of experience, number of working hours per week, Body Mass Index (BMI), and smoking. The second section has NDI. In NDI, each section was scored on a five-point ordinal scale. The sum of the points from each section was used to determine the final score. A high score indicated a serious functional impairment. The average duration of the scale was between 3 and 7.8 minutes. The third section was the WHOQOL-BREF instrument, which has four domains such as physical health, psychological health, social relationships, and environment. Then we categorized every domain according to scoring into five categories (very poor, poor, neither poor nor good, good, and very good). The data obtained was collated and analyzed for statistical analysis and interpretation.

2.4. Statistical Analysis

Demographic characteristics were presented in descriptive statistics such as median and interquartile range (IQR) and frequencies based on the distribution of data for normality. The chi-square test was used to find the association between the categorical variables across the groups, and Kruskal-Wallis was used to compare continuous variables. The multinomial logistic regression analysis was generated to predict the risk variables with NDI and between NDI with four domains of WHOQOL-BREF. The analysis was done using IBM SPSS v.26 (IBM Corp., Armonk, NY, USA).

3. Results

3.1. Participants

A total of 433 participants completed the online questionnaire. From which, a total of 411 answers were analyzed. The median age was 27 years, and males represented 40.9% (168) and females were 59.1% (243). For level of education, most of the participants, 363 (88.3%), were educated at the bachelor’s degree level. The 411 participants reside across five regions in the Kingdom of Saudi Arabia (KSA), with the majority from the central (26.8%) and southern (26.8%) regions. They hail from various regions in KSA, including the central (110, 26.8%), southern (110, 26.8%), western (105, 25.5%), northern (45, 10.9%), and eastern (41, 10%) regions. For the workplace, most of the participants were working in private medical rehabilitation centers (248, or 60.3%). In terms of their physical therapy (PT) specialty, the study included participants with different subspecialties, which included orthopedics 196 (47.8%), pediatrics 75 (18.2%), neurology 65 (15.8%), general 44 (10.7%), and geriatrics 15 (3.6%). Out of 411 participants, 321 (78.1% of them) had 1-5 years of experience and 78.2% work from 5-8 h per day. The demographics of the participants presented in Tables 1 & 3 and the median and interquartile range (IQR) for both NDI and WHOQOL-BREF presented in Table 2.

Table 1. Descriptive characteristics of participants (n=411).

Demographic characteristics	Median (IQR)
Age (Years)	27 (24, 30)
Underweight (<18.5 kg/m2)	18 (17.8, 18.3)
Normal (18.5–24.9 kg/m2)	21 (19, 22)
Overweight (25–29.9 kg/m2)	27 (25.5, 27.5)
Obese (≥30 kg/m2)	32 (3.0.3, 33)

*kg/m²: Kilograms per metre square.

Table 2. Descriptive statistics for both NDI and WHOQOL-BREF.

Questionnaires	Median (*IQR)
Neck-Disability Index (NDI)	5 (2, 10)
Quality of Life (QoL)	14 (12, 16)
Physical health	4 (3, 4)
Psychological health	3 (3, 4)
Social relationship	3 (3, 4)
Environment	3 (3, 4)

* IQR: Inter Quartile Range.

Outcomes of Neck Disability Index

Calculate the total score of the neck disability index, which ranges from 0 to 50, and then divide it into five categories (no, mild, moderate, severe, and complete) of neck disability according to their score. Among the physiotherapists surveyed, 54.25% of the physiotherapists had some degree of neck disability; of them, 42.31% (males: 58; 14.11%, females: 116; 28.2%) had mild neck disability, 9.98% (males: 15; 3.65%, females: 26; 6.33%) had moderate, 1.71% (males: 1; 0.25%, females: 6; 1.46%) had severe, and only one male physiotherapist (0.25%) had complete neck disability. A chi-square test was used to compare between the categorical variables across the five groups, and a Kruskal-Wallis test was used to compare between the age and the results showed that there is a significant difference in terms of workplace only (p-value < 0.0001). The relationship between demographics and NDI is shown in Table 3.

Table 3. Demographic characteristics of the participants and its relationship with NDI .

Demographics	Total (n=411)	No disability (n=188)	Mild neck disability (n= 174)	Moderate neck disability (n=41)	Severe neck disability (n=7)	Complete neck disability (n=1)	P value
Age (years), Median (IQR)	27 (4)	27 (3)	27 (5)	27 (5)	26 (14)	NA	0.14*
Gender							
Male	168 (40.9%)	93 (22.64%)	58 (14.11%)	15 (3.65%)	1 (0.25%)	1 (0.25%)	0.6 ≠
Female	243 (59.1%)	95 (23.11%)	116 (28.2%)	26 (6.33%)	6 (1.46%)	0 (0%)	
Highest level of education							
Diploma	5 (1.2%)	1 (0.5%)	3 (1.7%)	1 (2.4%)	0 (0%)	0 (0%)	0.96 ≠
Bachelor's degree	363 (88.3%)	170 (90.4%)	150 (58.7%)	36 (87.8%)	7 (100%)	1 (100%)	
Master's degree	41(9.9%)	17 (9.04%)	20 (11.4%)	4 (9.7%)	0 (0%)	0 (0%)	
PhD	2 (0.5%)	0 (0%)	2 (1.1%)	0 (0%)	0 (0%)	0 (0%)	
Living region							
Central Region	110 (26.8%)	45 (26.9%)	55 (31.4%)	8 (19.5%)	2 (28.6%)	1 (100%)	0.52 ≠
Eastern Region	41 (10%)	23 (12.2%)	14 (8%)	4 (9.8%)	0 (0%)	0 (0%)	
Western Region	105 (25.5%)	48 (25.5%)	46 (26.3%)	9 (22%)	2 (28.6%)	0 (0%)	
Southern Region	110 (26.8%)	56 (29.8%)	40 (22.9%)	13 (31.7%)	1 (14.3%)	0 (0%)	
Northern Region	45 (10.9%)	16 (8.5%)	20 (11.4%)	7 (17.1%)	2 (28.6%)	0 (0%)	
Workplace							
Ministry of Health hospitals	94 (22.9%)	37 (19.7%)	43 (24.6%)	12 (29.3%)	2 (28.6%)	0 (0%)	0.0001 ≠
Primary health centers ministry of health	16 (3.9%)	5 (2.7%)	5 (2.9%)	4 (9.8%)	1 (14.3%)	1 (100%)	
University hospitals	22 (5.4%)	8 (4.3%)	5 (2.9%)	7 (17.1%)	2 (28.6%)	0 (0%)	
Private medical rehabilitation centers	248 (60.3%)	122 (64.9%)	111 (63.4%)	15 (36.6%)	1 (14.3%)	0 (0%)	
Military hospitals	31 (7.5%)	16 (8.5%)	11 (6.3%)	3 (7.3%)	1 (14.3%)	0 (0%)	
Physical Therapy specialty							
Neurology	65 (15.8%)	27 (14.4%)	29 (16.6%)	6 (14.6%)	2 (28.6%)	1 (100%)	0.71 ≠
orthopedic	196 (47.8%)	95 (50.5%)	82 (46.9%)	18 (43.9%)	2 (28.6%)	0 (0%)	
Geriatrics	15 (3.6%)	6 (3.2%)	5 (2.9%)	4 (9.8%)	0 (0%)	0 (0%)	
Cardiothoracic	7 (1.7%)	1 (0.5%)	5 (2.9%)	1 (2.4%)	0 (0%)	0 (0%)	
Pediatric	75 (18.2%)	33 (17.6%)	32 (18.3%)	9 (22%)	1 (14.3%)	0 (0%)	
Oncology	9 (2.2%)	4 (2.1%)	4 (2.3%)	1 (2.4%)	0 (0%)	0 (0%)	
General	44 (10.7%)	22 (11.7%)	18 (10.3%)	2 (4.9%)	2 (28.6%)	0 (0%)	
Work Experience (years)							
0	43 (10.4%)	18 (9.6%)	18 (10.3%)	5 (12.2%)	2 (28.6%)	0 (0%)	0.98 ≠
1-5	321 (78.2%)	149 (79.3%)	136 (77.7%)	31 (75.6%)	5 (71.4%)	1 (100%)	
6-9	33 (8%)	15 (8%)	15 (8.6%)	3 (7.3%)	0 (0%)	0 (0%)	
≥ 10	14 (3.4%)	6 (3.2%)	6 (3.4%)	2 (4.9%)	0 (0%)	0 (0%)	
Number of working hours per day							
<5 hours	34 (8.3%)	15 (8%)	12 (6.9%)	6 (14.6%)	1 (14.3%)	0 (0%)	0.91 ≠

5-8 hours	321 (78.2%)	145 (77.1%)	139 (79.4%)	32 (78%)	5 (71.4%)	1 (100%)	
9-12 hours	51 (12.4%)	26 (13.8%)	22 (12.6%)	2 (4.9%)	1 (14.3%)	0 (0%)	
>12 hours	5 (1.2%)	2 (1.1%)	2 (1.1%)	1 (2.4%)	0 (0%)	0 (0%)	
Number of days per week							
1-3 days	28 (6.8%)	12 (6.4%)	9 (5.1%)	7 (17.1%)	0 (0%)	0 (0%)	
4-5 days	216 (52.4%)	98 (52.1%)	93 (53.1%)	20 (48.8%)	5 (71.4%)	0 (0%)	0.23 ≠
6-7 days	167 (40.8%)	78 (41.5%)	73 (41.7%)	14 (34.1%)	2 (28.6%)	1 (100%)	

* Kruskal wallis test; ≠ Chi-square test.

Outcomes of WHOQOL-BREF

WHOQOL-BREF is categorized into 4 domains: physical health, psychological health, social relationships, and environment. Every domain is categorized into five options (very poor, poor, neither poor nor good, good, and very good) (21). Table 4 shows the frequency and percentage of the WHOQOL-BREF as a total and in relation to the neck disability index categories. The results showed that the participants had (good or very good) quality of life in all four domains. The overall median IQR of quality of life was 14 (12, 16) as depicted in table 2.

Frequency and percentage of the results in the five groups of NDI revealed that participants with no neck disability showed the most frequencies in (neither poor nor good and good) quality of life compared to moderate, severe, and complete. Chi-square test results showed that there is no significant difference in physical, psychological health, and environment domains across the five groups of NDI.

Table 4. Frequences of WHOQOL-BRIEF by the NDI categories.

*WHOQOL-BRIEF	Total (n=411)	No neck disability (n=188)	Mild neck disability (n=175)	Moderate neck disability (n=41)	Severe neck disability (n=7)	Complete neck disability (n=1)	p value
Psychological health							
Very poor	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	
Poor	43 (10.5%)	21 (11.2%)	20 (11.5%)	2 (4.9%)	0 (0%)	0 (0%)	
Neither poor nor good	122 (29.7%)	59 (31.4%)	47 (27%)	14 (34.1%)	1 (14.3%)	1 (100%)	0.32
Good	175 (42.6%)	79 (42%)	75 (43.1%)	19 (46.3%)	2 (28.6%)	0 (0%)	
Very good	71 (17.3%)	29 (15.4%)	32 (18.4%)	6 (14.6%)	4 (57.1%)	0 (0%)	
Social relationships							
Very poor	24 (5.8%)	10 (15.3%)	12 (6.9%)	2 (4.9%)	0 (0%)	0 (0%)	
Poor	48 (11.7%)	22 (11.7%)	19 (10.9%)	5 (12.2%)	1 (14.3%)	1 (100%)	
Neither poor nor good	147 (35.8%)	69 (36.7%)	60 (34.5%)	18 (43.9%)	0 (0%)	0 (0%)	0.1
Good	135 (32.8%)	65 (34.6%)	58 (33.3%)	10 (24.4%)	2 (28.6%)	0 (0%)	
Very good	57 (13.9%)	22 (11.7%)	25 (14.4%)	6 (14.6%)	4 (57.1%)	0 (0%)	
Environment							
Very poor	10 (2.4%)	5 (2.7%)	5 (2.9%)	0 (0%)	0 (0%)	0 (0%)	
Poor	57 (13.9%)	25 (13.3%)	25 (14.4%)	6 (14.6%)	0 (0%)	1 (100%)	
Neither poor nor good	162 (39.4%)	79 (42%)	66 (37.9%)	16 (39%)	1 (14.3%)	0 (0%)	0.4
Good	143 (34.8%)	66 (35.1%)	60 (34.5%)	13 (31.7%)	4 (57.1%)	0 (0%)	

Very good	39 (9.5%)	13 (6.9%)	18 (10.3%)	6 (14.6%)	2 (28.6%)	0 (0%)
Physical health						
Very poor	4 (1%)	3 (1.6%)	1 (0.6%)	0 (0%)	0 (0%)	0 (0%)
Poor	61 (14.8%)	23 (12.2%)	25 (14.4%)	11 (26.8%)	1 (14.3%)	1 (100%)
Neither poor nor good	161 (39.2%)	82 (43.6%)	66 (37.9%)	13 (13.7%)	0 (0%)	0 (0%)
Good	161 (39.2%)	69 (36.7%)	73 (42%)	14 (34.1%)	5 (71.4%)	0 (0%)
Very good	24 (5.8%)	11 (5.9%)	9 (5.2%)	3 (7.3%)	1 (14.3%)	0 (0%)

* NDI, Neck Disability Index; WHOQOL-BREF: World Health Organization Quality of Life Brief Version.

Association Between Workplace and Neck Disability Outcomes

Multinomial logistic regression was conducted to examine the significant demographic variable, workplace, in relation to neck disability. Legression analysis, with no neck disability as the reference category, revealed the following: working in Ministry of Health hospitals was associated with increased but non-significant odds of mild neck disability (odds ratio = 1.690, 95% CI: 0.698, 4.094, p = 0.245). Similarly, working in primary health centers of the Ministry of Health (odds ratio = 1.455, p = 0.614), university hospitals (odds ratio = 0.909, p = 0.890), and private medical rehabilitation centers (odds ratio = 1.323, p = 0.498) showed no significant association with mild neck disability.

For moderate neck disability, working in primary health centers of the Ministry of Health showed a non-significant increase in odds (odds ratio = 4.267, 95% CI: 0.703, 25.878, p = 0.115). However, working in university hospitals showed a marginally significant increase in odds of moderate neck disability (odds ratio = 4.667, 95% CI: 0.945, 23.039, p = 0.059). There were no significant associations for Ministry of Health hospitals or private medical rehabilitation centers.

For severe neck disability, working in primary health centers of the Ministry of Health showed a non-significant increase in odds (odds ratio = 3.200, p = 0.439), and working in university hospitals similarly showed non-significant odds (odds ratio = 4.000, p = 0.286). Working in private medical rehabilitation centers was negatively associated with severe neck disability but did not reach statistical significance (odds ratio = 0.131, p = 0.158).

The model's Nagelkerke R² was 0.096, indicating modest explanatory power. The Cox and Snell R² was 0.084, and the McFadden R² was 0.043, providing additional context for model fit. These findings suggest that workplace setting may play a role in predicting different levels of neck disability, particularly for moderate and severe categories, with University Hospitals showing a stronger association with moderate neck disability, but statistically insignificant.

4. Discussion

This study is the first to evaluate the degree of neck disability and its impact on QoL of physiotherapists caused by WMSDs in Saudi Arabia. Physiotherapists' professional and social lives are limited since the existence of painful conditions alone does not imply the presence of a disability. Results revealed that 54.25% of the physiotherapists had neck disability; of them, 42.31% (males: 58; 14.11%, females: 116; 28.2%) had mild neck disability, 9.98% (males: 15; 3.65%, females: 26; 6.33%) had moderate, 1.71% (males: 1; 0.25%, females: 6; 1.46%) had severe, and only one male physiotherapist (0.25%) had complete neck disability. There was a significant difference in terms of workplace; however, logistic regression shows that the relationship between workplace and neck disability was not significant. There was no significant association between WHOQOL-BREF domains and five groups of neck disability index, demonstrating that QoL remained unaffected as the logistic regression did not yield any predictors.

Our results are consistent with a previous study conducted in Croatia [21], which showed that 48.5% of the physiotherapists in their study were affected by neck pain. Of these, 44.2% had mild disability, 9.5% had moderate disability, and only 1.5% had severe disability, moreover, female therapists were more affected than males in both the studies and they did not evaluate QoL.

However, our findings are inconsistent with those of a previous study in Saudi Arabia, which assessed the prevalence of neck pain among office workers, considering all professionals at the Ministry of Health (MOH) reported having neck discomfort in the week before the study, with 64% of them reporting regular neck pain during a 12-month period [25], but our study's sample was exclusive of physiotherapists, who constituted 54.25% of neck disability alone as evaluated using NDI. This can be explained by the fact that this occupational group faces daily challenges related to patient lifting and transferring and working unpleasant postures and performing repetitive duties, all of which may lead to the development of work-related musculoskeletal disorders (WMSDs). The only physical labor comparable to this kind of work is that of nurses tending to immobile patients. In this line of work, low back discomfort, as well as shoulder and neck pain, are a frequent complaint.

Moreover, a prior Chinese study [26] discovered that among physiotherapy students, the lifetime, 12-month, and 7-day prevalence of neck pain was 75.5%, 62.8%, and 39.2%, respectively. The rates among Australian undergraduate physiotherapy students were greater than previously reported (lifetime prevalence: 60.9%; 12-month prevalence: 54.8%; 7-day prevalence: 32.3%) [27]. A prior Saudi Arabian survey found that 56.9% of surgeons reported having neck pain, with general surgeons accounting for the largest percentage (42.6%), followed by orthopedic and obstetrician-gynecologists. Our findings indicated that there was no statistically significant correlation between years of experience and neck pain, which is consistent with prior Saudi research on surgeons [28]. In contrast, a study conducted at King Abdulaziz University Hospital in Jeddah found that surgeons with 5-10 years of experience reported a higher percentage of musculoskeletal complaints [29]. Furthermore, contrary to our findings, previous studies have suggested that physical and mental exhaustion, as well as job dissatisfaction, may increase the incidence of neck pain [30, 31]. Notably, research has demonstrated a significant correlation between psychological illnesses and neck discomfort [30, 32]. A Saudi study found that 89.1% of participants believed that neck pain could evoke unpleasant emotions, potentially triggering psychological illnesses such as anxiety and sadness [26]. Given the established link between depression, anxiety, and pain perception, it may be worthwhile investigating the complex relationships between neck discomfort, depression, and anxiety [33]. The results of our study show that neither the participants' sex nor the length of their workdays is a risk factor for neck pain. This contradicts the findings of the earlier Saudi investigation (26). Additionally, a relationship exists between the gender of the surgeon and the prevalence of MSP; their findings show that male surgeons had a greater prevalence of MSP. This outcome was identical to one obtained from research conducted at a tertiary care hospital with 121 surgeons. 61.2% of the respondents, or 80% of the total, were male surgeons with musculoskeletal symptoms (29). Other research has indicated a higher occurrence among female individuals; therefore, more research is necessary to fully understand the impact of gender.

Ensuring the long-term professional health and well-being of physiotherapists is essential for enabling them to provide optimal patient care. In the future, prospective studies that examine the physiological and psychological roots of pain should be conducted. Additionally, training programs aimed at preventing musculoskeletal injuries should be made available during residency to address campaign targets regarding work-related musculoskeletal disorders (WMSDs). This will lower the number of occupational musculoskeletal injuries, increase surgical longevity, and enhance the lives and careers of physiotherapists.

This study has certain limitations. The study collects data subjectively using a self-administered questionnaire, and participant responses may vary depending on their psychological and emotional state, which could impact the study's findings. The sample was context-specific and had a narrow age range, potentially restricting the applicability of the findings to broader populations.

5. Conclusions

The majority of physiotherapists (54.25%) experienced some degree of neck disability, predominating mild symptoms and higher in females than in males in Saudi Arabia. None of the risk factors were predictors of NDI. Furthermore, the quality of life of the participants was not

significantly impacted, likely due to the mild nature of neck disability. Therefore, future studies are required with additional risk factors to assess neck disability.

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Abbreviations

The following abbreviations are used in this manuscript:

QoL	Quality of Life
NDI	Neck Disability Index
WHOQOL-BREF	World Health Organization Quality of Life Brief Version
WMSD	Work-related Musculo Skeletal Disorders
GBD	Global Burden of Disease
YLD	Years Lived with Disability
GBDRFS	Global Burden of Diseases, Injuries, and Risk Factors Study
MENA	Middle East and North Africa
PROMs	Patient-reported outcome measures
PROs	Patient-Reported Outcomes
SCFHS	Saudi commission for health specialties
BMI	Body Mass Index
IQR	Inter Quartile Range
KSA	Kingdom of Saudi Arabia
PT	Physical Therapy

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