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Original Article

Prevalence of Neck Pain and Disability in Medical Students of Sialkot

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ABSTRACT

Neck pain is a pervasive musculoskeletal disorder and one of the leading causes of disability worldwide. It ranks as the fourth most typical cause of disability. **Objectives:** To determine the prevalence of neck pain and disability in medical students of Sialkot. **Methods:** It was cross-sectional study and simple random sampling technique was used. 465 male/female medical student 18-25-year-old were participated. Subjects with other neck pathologies like cervical stenosis were excluded. Data were collected from three different institutes of Sialkot i.e., University of Sialkot, Sialkot College of Physical Therapy and University of Management and Technology. Northwick Park Neck Pain Questionnaire was used to collect data. Study ran from 20 May to 22 September 2021.Statsitical analysis done through SPSS version 20. Histogram, bar charts used to display data. Ethical approval obtained from institute before conducting research. **Results:** Results were calculated using Northwick Park Neck Pain Questionnaire (NPQ) percentages. 15.9% had no disability, 58.1% had mild disability, and 19.4% had moderate disability while 6.7% were suffering from severe disability. The overall neck pain prevalence was 58.1% and it caused mild disability in medical students. **Conclusions:** It is concluded that neck pain is quite common among medical students as more than half of participants were suffering from this issue. Lifting heavy objects being in uncomfortable posture during daily activities and reading for extended hours aggravate the pain. Occasional disturbance of sleep was also noted.

INTRODUCTION

Neck pain (NP) is a common cause of illness, poor academic performance, and university lesson absenteeism, all of which have an impact on students' future jobs and result in disability [1,2]. In rising civilizations, neck pain is a major problem and is considered to be a complex ailment [3]. It could be felt from along the spine, from the back of the neck to the upper back or shoulder [4]. It has the ability to cause impairment and disability [5]. In health surveys and primary care, neck pain is the second most popular musculoskeletal disorder imposes a significant financial and health burden, as well as being a frequent cause of disability [6]. Neck pain or discomfort is caused by a postural or mechanical problem and it affects approximately 2-3% of the population at some point in their lives [5]. Studies conducted at Pakistan, Australia, New York, United States of America (USA), China and Brazil found that 65, 52.8, 35, 33.8, 8.23% of medical students had NP respectively [7-10]. Neck pain has a multi-factorial origin, and there are several factors contributing to its onset and perpetuation. According to Guzman and his colleagues, physical, psychosocial and individual-related factors were the most reportable factors of NP among medical students [11]. A study in Nigeria revealed that the lifetime prevalence of NP among the respondents was

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34.9% [12]. In medical students all over the world, neck pain is the serious health problem and absenteeism. They are more susceptible and seem to have neck pain due to the amount of study necessary to achieve professional goals. Among medical students, it is likely to be linked with a history of neck pain, physical activity, reading time and an uncomfortable neck position [13]. Significant risk factors for neck pain in students are older age, higher BMI, carrying heavy objects and bags during the day, daily sleep duration and computer use [14] because university students spend so much time sitting or working, sometimes with poor posture, it's probable that they'll suffer from musculoskeletal problems on a regular basis. The frequency of musculoskeletal system discomforts was examined in depth with the neck and shoulders being the most afflicted locations [15]. University students appear to be a high-risk group for neck pain, which frequently leads to poor concentration and academic performance [12]. Even though modern gadgets can aggravate neck pain, it cannot be said that this was the cause of it in the first place, it is seen that physical activity played a protective role in neck pain [16].

The primary goal of the current study was to bridge the knowledge gap in the literature by evaluating prevalence of neck pain and disability in medical students of Sialkot.

METHODS

Study design was a cross-sectional survey. Data were obtained from Sialkot College of Physical Therapy, University of Management and Technology and University of Sialkot. Study ran 22 May to 20 September 2021. Sampling technique was Simple random technique. Sample size was 465 calculated from Rao Software. Inclusion criteria was undergraduate and post-graduate medical students of age 18-28 years, both genders male /female. Students who refused to participate in the research, population other than Sialkot, subjects have any other neck pathology (tumor, thyroid, cervical stenosis) excluded. Data collection tools were Northwick Park Neck Pain questionnaire. Ethical approval obtained from institute before conducting research. Data analysis was done using Statistical Package for Social Sciences (SPSS) Software version 20 through descriptive statistics using histogram, bar charts and tables to display data.

RESULTS

Total 465 students were included in this research. 33.8% students showed no pain, 31.2% students showed mild pain while 6.2% experienced very severe pain. In 37% responders sleep is occasionally disturbed while 39.8% have normal sleep. 44.9% students have no feeling of pins but 29.2% participants occasionally felt pins and needles. Out of 465 participants 14.2% students had pain increased during reading, 8.8% can't read for longer time. 212 students (45.59%) can work without extra pain, 124 students (26.67%) can do work but with extra pain but 28 (6.2%) cannot work at all. Calculated the results through Northwick Park Neck Pain Questionnaire 15.9% had no disability, 58.1% had mild disability, and 19.4% had moderate disability while 6.7% were suffering from severe disability. In the end results were most of the students were suffering with mild disability. Table 1 depicts total 465 students filled the questionnaire and 157 of those had no pain while 29 students which make 6.2% had very severe pain in the neck with 49 students showing fairly severe pain145 had mild pain 85 had moderate pain.

Table 1: Neck Pain Intensity

Pain Intensity	Frequency (%)
No Pain	157 (33.8)
Mild Pain	145 (31.2)
Moderate Pain	85 (18.3)
Fairly Severe Pain	49 (10.5)
Very Severe Pain	29 (6.2)
Total	465 (100.0)

Out of 465 participants 185 had never disturbed sleep while 175 having occasionally disturbed, 57 had regular disturbed,34 subjects less than 5 hour 17 had less than 2-hour sleep disturbed by neck pain(table 2).

Table 2: Sleep Disturbed by Neck Pain

Sleep Disturbance	Frequency (%)
Never Disturbed	185 (39.8)
Occasionally Disturbed	172 (37.0)
Regularly Disturbed	57 (12.3)
Less than 5-Hours Sleep	34 (7.3)
Less than 2-Hours Sleep	17 (3.7)
Total	465 (100.0)

Table 3 shows 209 out of 465 doesn't feel pins, needles or numbness at night, 136 participants had mentioned of pins felt occasionally at night with no sleep problem, 60 have regular sleep disturbance at night while 23 participants had Less than 2-hour sleep disturbed 37 had disturbed sleep Less than 5 hour

Table 3: Pins, Needles or Numbness in Arms at Night

Pins, Needles or Numbness in Arms at Night	Frequency (%)
Not Felt at Night	209 (44.9)
Occasionally Felt at Night	136 (29.2)
Sleep Regularly Disturbed	60 (12.9)
Less than 5-Hour Sleep	37 (8.0)
Less than 2-Hours Sleep	23 (4.9)
Total	465 (100.0)

Table 4 shows duration of symptoms in neck pain sufferers. Out of 465 students 210 have normal feeling in neck and arms, 122 had symptoms that last less than an hour, 52 were having symptoms on and off for 1-4 hours and 44 have

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symptoms for more than 4 hours while rest. There were 37 students which make 8% only had symptoms all day without break.

Table 4: Duration of Symptoms

Duration of Symptoms	Frequency (%)
Neck and Arms Feel Normal All Day	210 (45.2)
Symptoms on Walking Less than 1 Hour	122 (26.2)
Symptoms Present on and off for 1- 4 Hours	52 (11.2)
Symptoms Present on and off More than 4 Hours	44 (9.5)
Exhibit Symptoms Continuously All Day	37 (8.0)
Total	465 (100.0)

Table 5 shows most participants can do usual work without pain aggravation (45.6%) while 26.7% have some extra pain during work but can still continue rest have pain aggravation during work that prevents them from work so they have to reduce the worktime with 6% have to stop working due to neck pain.

Table 5: Neck Pain while Doing Work/Housework

Work/Housework	Frequency (%)
Can Perform Daily Work Without Extra Pain	212 (45.6)
Can Perform Daily Work but Gives More Pain	124 (26.7)
Can't Perform Work More than Half of The Usual Time	52 (11.2)
Can't Perform Work More Than Quarter of Usual Time	49 (10.5)
Pin Prevents from Working at All	28 (6.0)
Total	465 (100.0)

Table 6 shows NPQ percentages that ranges 0%-100% in which 0% have no disability with 74 participants, 1-40% with 270 students having mild disability, 41-70% with 90 students having only moderate disability, 71-100% with 31 students only showing that small amount has severe disability out of total 465 participant.

Table 6: Northwick Park Neck Pain Questionnaire (NPQ) Percentages

NPQ Percentages	Frequency (%)
0% (No Disability)	74 (15.9)
1%-40% (Mild Disability)	270 (58.1)
41%-70% (Moderate Disability)	90 (19.4)
71%-100% (Severe Disability)	31 (6.7)
Total	465 (100.0)

Table 7 shows the frequency and percentage of both genders in their respective NPQ percentages from 0%-100.

Table 7: NPQ Percentages in Both Genders

NPQ Percentages	Male (%)	Female (%)
0% (No Disability)	18 (3.87)	56 (12)
1%-40% (Mild Disability)	56 (12)	214 (46)
41%-70% (Moderate Disability)	24 (5.16)	66 (14.2)
71%-100% (Severe Disability)	7 (1.5)	24 (5.1)

DISCUSSION

Current study conducted to determine the prevalence of neck pain and disability in medical students of Sialkot. Total 465 students were included in this research. 33.8% students showed no pain, 31.2% students showed mild pain while 6.2% experienced very severe pain. In 37% responders sleep is occasionally disturbed while 39.8% have normal sleep. 44.9% students have no feeling of pins but 29.2% participants occasionally felt pins and needles. Out of 465 participants 14.2% students had pain increased during reading, 8.8% can't read for longer time. 212 students (45.59%) can work without extra pain, 124 students (26.67%) can do work but with extra pain but 28 (6.2%) cannot work at all. Calculated the results through Northwick Park Neck Pain Questionnaire 15.9% had no disability, 58.1% had mild disability, and 19.4% had moderate disability while 6.7% were suffering from severe disability. In the end results were most of the students were suffering with mild disability. Current study discovered that medical students had a prevalence of neck pain of 58.1%, whereas Sachdev *et al.*, research showed the university of Baluchistan found that physical therapy students had a prevalence of neck pain of 69% these findings were accordance to current research [17]. Ayaz *et al.*, study done at the Abbottabad Women's Medical College out of 83 participants, 4 (4.8%) reported intolerable neck pain, 14 (16.9%) severe neck pain, 33 (39.8%) moderate neck pain, 13 (15.7%) light neck pain, 19 (22.9%) merely uncomfortable neck pain and 56 (67.5%) said that their neck pain kept them awake at night these findings were compatible to current study findings which were Out of 465 participants 185 had never disturbed sleep while 175 having occasionally disturbed, 57 had regular disturbed,34 subjects less than 5 hour 17 had less than 2 hour sleep disturbed by neck pain [18]. Dighriri *et al.*, research showed rate of neck pain among Australian medical students was 97.3% these findings were in line to current research in Sialkot universities, prevalence of neck pain was 58.1% in medical students. The incidence of neck pain ranged from 75.08% of 2nd-year students to 89.03% of 3rd-year students in their research [9]. In current research, factors linked to the risk of neck pain included lifting heavy objects, reading and watching television, being in an unsuitable position and engaging in work activities for a prolonged period of time. This contrasts with a study conducted at Jazan University in Saudi Arabia, where factors include a traumatic experience in past, depression thoughts and reports of psychological and mental symptoms [19]. Behera *et al.*, conducted a cross-sectional study conducted on all the undergraduate medical students' results where neck pain is not uncommon among undergraduate medical students. History of previous neck pain including that during

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schooling makes a student prone for the current episode of pain. Academic stress, smartphone and laptop use tend to aggravate the pain in those who have neck pain these results were accordance to current results [20]. The demanding academic curriculum, prolonged study hours, sedentary lifestyle, and stress are common factors contributing to musculoskeletal discomfort, including neck pain, in this population. A study conducted by Mahishale *et al.*, found that 60.5% of medical students reported neck pain, with a significant proportion experiencing moderate to severe disability associated with it these results were accordance to current results 31.2% students showed mild pain while 6.2% experienced very severe pain [21]. Silva *et al.*, study findings were disability due to pain is highly prevalent in 79.6% students of those with chronic pain reported difficulty in at least one daily activity these were compatible to current findings showed 26.7% have some extra pain during work [22]. Gomera *et al.*, conducted research on medical students Ethiopia results showed self-reported prevalence of NP among medical students was 49.2 in previous 12 months these findings where inline current research findings prevalence of neck pain was 58.1% in medical students [13]. Results of current study showed there is prevalence of neck pain and disability in medical students of Sialkot.

CONCLUSIONS

The current study showed a significantly high frequency of hemoglobinopathies in the capital city Islamabad and Rawalpindi, Beta Thalassemia trait and Beta Thalassemia major were found in high frequency among various hemoglobin disorders. Our study showed the prevalence of different hemoglobin disorders in the capital region. This data may be valuable in making policies for preventing and managing these conditions.

Authors Contribution

Conceptualization: AK
Methodology: AY
Formal analysis: AP
Writing-review and editing: A., HB, SG, AK, AA

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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