

Frequency of Neck Pain and Functional Disability Index among Undergraduate Physical Therapy Students of Bahawalpur, Pakistan

Muhammad Waqas Ghauri¹, Muhammad Hafeez¹, Shahid Raza¹, Hafiz Irshad Ahmed²
Department of Physical Therapy, Agile Institute of Rehabilitation Sciences,
Bahawal Victoria Hospital², Bahawalpur.

Introduction

The neck pain (NP), most prevalent musculoskeletal discomfort among the students is effecting physical and psychological wellbeing of an individual.¹ This can result in weakness of scapular retractors, stretch weakness of trapezius, neural structure impingement (referred pain pattern) and tightness of anterior longitudinal structures, due to guarded posture of Neck.² The old and new cases of neck pain worldwide are 16.7% to 75.1% in general population.³ The neck pain is not only caused by a single risk factor instead multiple risk factors could lead to the neck pain. These may be biomechanical factors like inappropriate body alignment, wide degree of movement and its repetition, personal factors, neuromuscular factor, age and weight to height ratio.³ Among the musculoskeletal disorders, 38% of the elderly population is affected by neck pain, 6% to 22 % of young population is affected with it in different geographical regions,⁴ while lifetime prevalence is 14.2 to 71%.⁵ In a cross-sectional study the frequency and lifetime occurrence in undergraduate participants was seen as 34.9%.⁶ In another study conducted in Peshawar, Pakistan, the frequency of neck pain was found to be 84% which is exceptionally high.⁷ In another study on 167

students it was found that 70.1% of the them were suffering from musculoskeletal pain.⁸ Students are more at risk of developing neck pain due to their prolong hours of sitting and with poor angle of neck and trunk.⁹ The reason behind the study was that there is lack of data on neck pain in students . Our study was therefore also planned with the objective to determine the frequency of neck pain among undergraduate physical therapy students in Bahawalupur.

Methodology and Results

This cross sectional study of 03 months duration was conducted at the Agile Institute of Rehabilitation Sciences, Bahawalpur. The Sample size of N=162 was calculated on 5% margin of error, 95% confidence interval, Sample population 275 and Response distribution 50%.¹⁰ The data was collected using convenient sampling technique. The undergraduate students from 1st year to final year both male and female, age 18-30 years both genders complaining Neck pain from at least 2 months were included. The students with history of Trauma and surgery within last one month, cervical radiculopathy, whiplash injury, osteomyelitis and degenerative disk disease were excluded. Written informed consent was taken from all the participants.

The Ethical approval was obtained from Institutional Ethical Review Committee of Agile Institute of Rehabilitation Sciences, Bahawalpur.

The outcomes were measured using Numeric Pain Rating (NPRS) which is 10-point numbering scale, ranging from 0 (no pain) to 10 (worst pain, debilitating condition which markedly reduces the capacity to do work). The NPRS was shown to be highly correlated with the pain conditions (pain >6 months) and has a reliability of 0.86.¹¹ Neck functional index was used to classify the severity of disability of the neck. Data was

Corresponding Author:

Muhammad Waqas Ghauri
Department of Physical Therapy
Agile Institute of Rehabilitation Sciences, Bahawalpur.
Email: ghauri12345@gmail.com

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Authors Contribution

MWG, MH & SR conceptualized the project. SR & HIA did the data collection. MWG & HIA also did the literature search. MWG & MH performed the statistical analysis. Drafting, revision & writing of manuscript were done by MWG, SR & HIA.

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entered in SPSS version 22 with coding for analysis and Chi square test was used for statistical comparison of p value regarding BMI. Most of the females 67 (56%) had normal BMI while 27 (16.6%) males were in this category. Most of the participation was from students of 1st-3rd year. More than half of the study participants 86 (53%) used laptop or computers for 1-2 hours, while 47 (29%) used them for 3-4 hours. Further 33 (27.77%) of the female study participants used laptops for 3-4 hrs, while 21 (17.64%) used them for 5-6 hrs per day. Regarding pain intensity measured using NPRS, 71 (82.55%) females and 15 (17.44%) of males reported mild pain intensity while moderate intensity pain was reported by 42 (63.63%) of females and 24 (36.36%) males. (Figure).

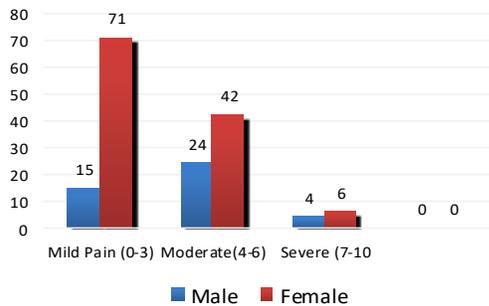


Figure: Intensity of neck pain among study participants. n=162

Mild disturbance in sleep (1-2 hrs sleepless) was reported in 23 (14.28%) female study participants. While headache due to neck pain was reported by 56 (67.22%) females. The observed finding showed that mild severity of neck indices exists among the participants.

Table: Association of computer laptop using hours with gender and age.

		Computer/ Laptop Usage			p-Value
		1-2 Hrs	3-4 Hrs	5-6 hrs	
Gender	Male	21	14	08	.47
	Female	65	33	21	.20
Age	Mean	18.0+3.0			

*Based on Cross tabulation of gender with respect to pain categories with working hours

Comments

On a sample of 162 students, 87 (53.70%) students were suffering from neck pain. The neck pain based on gender, where 60% of females were having neck pain compared to 40% males which is comparable with another study conducted in

physiotherapy students of Peshawar which reported male to female distribution of neck pain as 56% and 46 % respectively⁶ further in our study most of the participants were studying in final year. More than half of the participants use laptops/computers for 1-2 hours per day while 27% females were used it for 3-4 hours daily and 17% used them for 5-6 hours. This can be an alarming situation and can be a major risk factor for developing neck pain and functional disability. This prevalence can be high due to more usage of laptops, more learning hours requiring in the institute and work stress greater use of computer as well for different tasks assigned to the students. The use of computer can cause different musculoskeletal disorders of neck, shoulder, and upper back areas in the upper extremity.¹¹ The neck pain was observed as the second most involved musculoskeletal disorder among dentistry students.¹² In our study a greater proportion 45% and 02% of female students reported mild and moderate disability respectively as compared to a lower portion 35% and 1% of mild to moderate disability in male students. Our findings are similar to a study conducted on Korean college students.¹³ Our study has reported an increase Neck pain ratio in females compared to males which can be due to their poor posture and lack of prevention strategies. However, other risk factors can also be studied including SES, hereditary factors, angle of neck and upper cross syndrome, rounded shoulder, and text neck syndrome.

Neck pain is prevalent among physiotherapy students. Females are frequent sufferers as compared to male and is associated with long hours of laptop usage.

The knowledge and awareness among the students for life style modification and self-protection strategies can be important tool to overcome.

Conflict of interest: None declared.

References

1. Afzal F, Atif MM, Kumar A, Rasul A, Islam A, Nadeem I. Cervicogenic headache and neck pain among computer users. *Rawal Med J* 2020; 45(2): 370-2.
2. Mahmood T, Afzal W, Ahmad U, Arif MA, Ahmad A. Comparative effectiveness of routine physical therapy with and without instrument assisted soft tissue mobilization in patients with neck pain due to upper crossed syndrome. *J Pak Med Assoc* 2021; 71(10): 2304-8.
3. Genebra CVDS, Maciel NM, Bento TPF, Simeão SFAP, De Vitta A. Prevalence and factors associated with neck pain: a population-based study. *Braz J Phys Ther* 2017; 21(4): 274-80.

4. Fejer R, Kyvik KO, Hartvigsen J. The prevalence of neck pain in the world population: a systematic critical review of the literature. *Eur Spine J* 2006; 15(6): 834-48
 5. Mowatt L, Gordon C, Santosh AB, Jones T. Computer vision syndrome and ergonomic practices among undergraduate university students. *IntJ Clin Prac* 2018; 72(1): e13035.
 6. Ali MN, Ibrahim M. Prevalence of Neck Pain Among Physical Therapy Students In Peshawar. *Ann Allied Health Sci* 2017; 3(2): 21-4.
 7. Desai M, Jain S. Prevalence of Musculoskeletal Problems in Physiotherapy Students. *Int J Health Sci Res* 2020; 10(4): 59-64.
 8. Brink Y, Louw Q, Grimmer K, Jordaan E. The spinal posture of computing adolescents in a real-life setting. *BMC Musculoskelet Disord* 2014; 15(1): 1-9.
 9. Jensen MP, McFarland CA. Increasing the reliability and validity of pain intensity measurement in chronic pain patients. *Pain* 1993; 55: 195-203.
 10. Sample size calculation by Raosoft, Inc. (Accessed on 15th March 2022) available at URL:<http://www.raosoft.com/samplesize.html>
 11. Nakazawa T, Okubo Y, Suwazono Y, Kobayashi E, Komine S, Kato N, Nogawa K. Association between duration of daily VDT use and subjective symptoms. *Am J Indust Med* 2002; 42(5): 421-6.
 12. Oh HJ, Kwon WA, Kim DD, Lee JH, Um KM, Song YH. The prevalence of neck disability index among some college students. *J Korea Academ Indust Cooperat Soc* 2010; 11(12): 4812-8.
 13. Sarwar S, Khalid S, Mahmood T, Jabeen H, Imran S. Frequency of Neck and Upper Extremity Musculoskeletal Disorders in Dentists. *J Islamabad Med Dent Coll* 2020; 9(3): 207-11.
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