

ORIGINAL ARTICLE

PREVALENCE OF NECK PAIN IN COMPUTER USERS AMONG THE UNDERGRADUATE STUDENTS AT KHYBER MEDICAL UNIVERSITY, PESHAWAR

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ABSTRACT

Objective: To find out the prevalence of neck pain in computer users among the undergraduate students at Khyber Medical University (KMU), Peshawar.

Material & Methods: A cross-sectional study was carried out at Khyber Medical University, Peshawar. The sample size calculated for the research study was 301. Convenience sampling technique was used in this study and disproportionate sampling was used for the selection of study participants from different departments of Khyber Medical University.

Results: The study reported that 43.52 % have suffered from neck pain and female (53.6%) are more vulnerable than male (38.7%). The most affected age ranges from 15 to 20 years of age 47.7%. According to time duration of system usage per day those users who used computer system for 5 to 6 hours (52.2%) were more prone to neck pain followed by those users who used computer system more than 6 hours 47.8% and then those users who used computer system for 3 to 4 hours 41.4%. The study revealed that prevalence of neck pain is most frequent in those who had used laptop 45.4% as compared to desktop users 36.5%.

Conclusion: The prevalence of neck pain was reported more in student using computer, almost every second student using computer had reported with neck pain.

Key Words: Computer users, Neck pain, Prevalence, Students, |

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INTRODUCTION

Daily activity related neck disorders are common problems in those who are intensive computer users (ICU).¹ The usage of a computer for four to five hours each day is a well-known risk factor for neck pain in youngsters.² Computer use is very frequent amongst undergraduate students.³ Common aches and pains in the neck, shoulders, and arms, as well as continuous pain or discomfort in the soft tissues around the neck and shoulders, are all symptoms of neck pain.⁴ A computer user with neck pain has reduced activity of the cervical extensor muscle whereas improved activity of the upper

trapezius muscles as related to those who are computer users having no neck pain.⁵

Neck pain is caused by the inflammation or irritation of the structures like bone, nerves, muscles, discs, facet joints and ligaments.^{6,7} A single pathophysiological mechanism is not essential for computer users to experience neck pain, but there are lots of reasonable pathophysiological mechanisms are mentioned in the literature which causing neck pain.⁸ Musculoskeletal disorders (MSD,s) of the neck among computer users are probably prone by continual static working positions.^{9,10} According to a study conducted in private Northeastern

university (NEU) 41% of the students have neck pain related to computer use.¹¹ In Netherlands, about 15% of the computer users have neck pain because of using computer.¹² A study conducted in Saudi Arabia reported 90% prevalence of neck pain in computer users.¹³ In India prevalence of neck pain amongst female is 60% whereas in male it is reported 40% and average is 28%.¹⁴ In Pakistan prevalence of neck pain among computer workers is reported as 72%.¹⁵ The study's goal is to find out the prevalence of neck pain in computer users among undergraduate students at Peshawar's Khyber Medical University (KMU).

MATERIAL AND METHODS

A cross-sectional study was carried at Khyber Medical University (KMU), Peshawar. The duration of the research study was five months (from August 2018 to December 2018). Participants in the study gave their verbal consent and the agreeing university students filled the standardized and validated questionnaire. The sample size calculated for the current study was 301. Convenience sampling technique was used in this study and disproportionate sampling was used for the selection of study participants from the Institute of Paramedical Sciences (IPMS), Institute of Physical Medicine and Rehabilitation (IPMR)

and Institute of Nursing Science (INS) at Khyber Medical University (KMU), Peshawar. All under-graduate students enrolled in Khyber Medical University who were using computers more than 3 hours a day and weekly more than 18 hours were included in the research study.¹⁵ Among the total sample size, 203 participants were selected from IPMS, 49 each from IPMR and INS because there were more students enrolled at IPMS as compared to IPMR and INS. Data was analyzed by using software SPSS 25.

RESULTS

In this study 204 males and 97 females participated. Among 301 participants 131 (43.52%) had neck pain while 170 (56.48%) participants had no history of neck pain. According to gender wise distribution females (53.6%) were more susceptible to neck pain as compare to males (38.7%). Mean age of participants was 20±2.0 years. According to age category participants of ages ranged from 15 to 20 years (47.7%) were more prone to neck pain. About socioeconomic status the middle-class status (46.2%) participants were more susceptible to neck pain. Furthermore, about time duration of system usage per day those users who used computer system for 5 to 6 hours (52.2%) were more prone to neck pain. (Table 1)

Table 1: Summary of the results

Variable	Yes	No	Total	
Gender	Male	79	125	204
	Female	52	45	97
Age category	15 - 20 years	73	80	153
	21 - 25 Years	54	83	137
	> than 25 years	4	7	11
Socioeconomic status	Lower Class	8	11	19
	Middle Class	80	93	173
	Upper Class	43	66	109
History of neck pain on the basis of system usage per day	3 to 4 hours	97	137	234
	5 to 6 hours	23	21	44
	Greater than 6 hours	11	12	23
Type of system use.	Laptop	108	130	238
	Desktop	23	40	63

DISCUSSION

Participants of ages ranged from 15 to 20 years (47.7%) were more prone to neck pain followed by participants of ages ranged from 21 to 25 years (39.4%) followed by participants of ages greater than 25 years (36.4%). Neck pain experienced more by females (53.6%) as compare to males (38.7%) among computer users. A Cross-sectional study conducted by Ayanniyi et al, (2010) which shows that Neck pain is frequent among Nigerian university undergraduate students, and girls are affected more than boys, which support our findings.¹⁶ According to the study of Al Rashidi SH et al(2017) conducted among Saudi Arabia University Students: A total of 634 students were included as study subjects with a male predominance (77.28%) which is contrast to our finding.¹⁷

Among 301 participants, 131(43.5%) had neck pain while 170 (56.5%) participants had no history of neck pain. According to the study performed by Kanchanomai et al, (2010), During a one-year follow-up period, 46 percent of a large sample of undergraduate students experienced neck pain. This study supports our findings. According to the study of Faiza Sabeen et al (2013) Prevalance of neck pain in computer users. Out of 50 persons 72% of computer users had neck pain which is contrast to our findings.¹⁵

Conferring to type of system use, laptop users (45.4%) were more exposed to neck pain as compare to that of desktop users (36.5%). According to the study of Goon D. et al (2017), the students reported 52.3% neck pain when using computer which support our findings. The study of Blair B(2015) shows that Symptoms were present in 67.9% of people who used the device . The neck (84.6%) and upper back/shoulder areas were reported to have the most symptoms (65.4%). This study is in contrast to our findings.¹⁸

According to time duration of system usage per day those users who used computer system for 5 to 6 hours (52.3%) were more exposed to neck pain followed by those users who used computer system more than 6 hours (47.8%) and then those users who used computer system for 3 to 4 hours (41.5%). Study conducted by Gharib N. M. M. and Hamid N. S. (2013) which shows 54 percent of undergraduate university students have experienced neck pain during the previous one year that persists more than 24 hours this study supports our findings.¹⁶

CONCLUSION

The prevalence of neck pain was reported more in student using computer, almost every second student using computer had reported with neck pain. The characteristics of the students who had reported higher prevalence of neck pain were as; female, age category from 15 to 20 years old, middle class, laptop users and using computer for 5 to 6 hours per day. The limitations of the current research study were the non-probability sampling technique used and the descriptive cross-sectional study design which only determine frequency and distribution of the outcome. Furthermore, because our questionnaire is self-reported, there is a chance of recollection bias. Furthermore, because the population of this study is limited to undergraduate students at Khyber Medical University, the findings cannot be extended to the wider community.

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