

Prevalence of Mechanical Neck Pain among University Students: An Observational Study

MAHAM GULL¹, WAJID KHALIL², MUNEEB JAFFAR¹, JAHAN ARA³, ALISHBA MUSTANSAR⁴, TALHA LAIQUE^{5*}

¹Department of Physio-Therapy, Jafar Physiotherapy Clinic, Faisalabad-Pakistan

²Department of Physio-Therapy, Imran Rehabilitation Centre, Karachi-Pakistan

³Department of Physio-Therapy, Shaheed Benazir Butto Dewan University, Karachi-Pakistan

⁴Department of Physio-Therapy, University of Lahore, Lahore-Pakistan

⁵Department of Pharmacology, Allama Iqbal Medical College, Lahore-Pakistan

*Correspondence to: Dr. Talha Laique, Email: talhalaique51@gmail.com Tel: +92-331-0346682

ABSTRACT

Mechanical neck pain influences forty five - fifty four % of the all general community eventually during their lives and can come about extreme inability. It is an immense medical issue among undergraduate students because of poor postural habits. Sitting for delayed periods with forward head act, such as reading books and utilizing PCs, work stations and the phone will cause pressure in muscles and compressive power in the cervical spine results in mechanical neck ache.

Objectives: To determine the prevalence of mechanical neck pain among university students.

Study Design: An observational study.

Methodology: In present study, a sample size of 143 was used by using a convenient sampling technique. Subjects were enrolled according to inclusion and exclusion criteria. Data was collected by circulating Oswestry Neck Disability Index (ODI), Northwick Park Neck Pain Questionnaire and Visual Analogue Scale. The research was conducted in public sector universities of Faisalabad.

Statistical analysis: Data was analyzed by SPSS, v-24.

Results: Study results showed that 36.4% had mild, 37.1% had moderate and 26.6% had severe mechanical neck pain. **Conclusion:** We concluded that university students were at greater risk of mechanical neck pain.

Key Words: Neck pain, Students and Oswestry neck Disability index (ODI)

INTRODUCTION

Neck area is one of the most moveable and the most usually used part. The neck has a lot of usefulness but at the same time is liable to a considerable measure of pressure. The neck comprises of 7 cervical vertebrae from C1 to C7. The cervical part of the spine has a delicate forward bend called the cervical lordosis. Neck pain is a typical musculoskeletal side effect. Neck issues are not dangerous, but rather they do cause discomfort and firmness.¹ Much of the time, neck pain is an outcome of poor position or flawed ergonomics at a PC or a work area. The muscles are exhausted in these positions and start to pain as they weaken. Neck pain may result damage, so it is necessary to exclude cracks of the bones of the neck or disturbance of the delicate tissues that hold the bones in an ordinary arrangement. In a few people, basic age-related changes in the joints of the neck prone the muscles to hurt.² The vast majority of the neck ache events are generating by mechanical disarranges. Mechanical neck ache can be characterized as pain resulting from overwork of typical anatomic structure or ache due to injury or distortion of an anatomical structure which can be additionally described by aggravation and reduction of ache in direct connection with specific physical action.³

Mechanical neck pain influences 45– 54% of the wide community sooner or later in their lives and can result in extreme disorder.⁴ The correct pathology of mechanical neck pain isn't obviously known and proposed to be associated with different anatomic structures including, vertebral column joints, neural tissues, and tendons.⁵ Mechanical neck pain is a critical medical issue among understudies because of poor posture style. Sitting for delayed periods with forward head posture, books perusing

and utilizing the personal computer, PC and mobile phone in forward neck flexion with forward adjusted shoulders causes strain in muscles and increments compressive power in cervical spine results in mechanical neck pain. In numerous cases, neck pain is an outcome of bad posture or defective ergonomics at a PC or a work area. The muscles are exhausted in these positions and start to hurt as they are overtired.

Objectives: To determine the prevalence of mechanical neck pain among university students.

Methodology: In present study, a sample size of 143 was used by using a convenient sampling technique. Subjects were enrolled according to inclusion and exclusion criteria. Data was collected by circulating Oswestry Neck Disability Index (ODI), Northwick Park Neck Pain Questionnaire and Visual Analogue Scale. The research was conducted in public sector universities of Faisalabad. The standard of contribution was that, it was vital for participants to be University students, age 20-30 and studying > 3-4 hrs. People were excluded who had previously history of Cervical spondylosis, disc prolapses, neurological disease, bone injuries, Infections, osteo arthritis, neoplasm and any previous cervical injury or trauma.

Statistical Analysis: Statistical analysis was performed for each question by (SPSS) Statistical procedure for social sciences version 24.0. Data were analyzed using frequency distribution tables and graphs.

RESULTS

The questionnaire and VAS were handled to 143 students. VAS frequency distribution was shown in table-1. It showed 52 had mild, 53 had moderate and 38 had severe mechanical neck pain.

| Variables | Categories | Frequency | Percentages (%) |
|----------------------|---------------|-----------|-----------------|
| Mechanical Neck Pain | Mild Pain | 52 | 36.4 |
| | Moderate Pain | 53 | 37.1 |
| | Severe Pain | 38 | 26.6 |
| | Total | 143 | 100.0 |
| | Mean ± SD | 1.90±0.79 | |

Reading frequency distribution shown in table-2 showed that 17 reported read without ache, 37 reported read with little pain 50 expressed read with medium neck ache, 20 pointed cannot read as much due to neck ache, 10 reported can hardly read and 9 pointed cannot read.

| Variables | Categories | Frequency | Percentages (%) |
|----------------------|--|------------|-----------------|
| Mechanical Neck Pain | I can read as much as I want to with no pain in my neck | 17 | 11.9 |
| | I can read as much as I want to with slight pain in my neck | 37 | 25.9 |
| | I can read as much as I want with moderate pain in my neck | 50 | 35.0 |
| | I can't read as much as I want because of moderate pain in my neck | 20 | 14.0 |
| | I can hardly read at all because of severe pain in my neck | 10 | 7.0 |
| | I cannot read at all | 9 | 6.3 |
| | Total | 143 | 100.0 |
| | Mean ± SD | 1.97±1.316 | |

DISCUSSION

The objective of this research is to determine the prevalence of mechanical neck pain among the university students. Much of the time, neck pain is an outcome of poor position or flawed ergonomics at a PC or a work area. The muscles are exhausted in these positions and start to pain as they weaken. There is a connection between neck ache and high long periods of enrolling for school understudies, sitting for significant lots in settled position e.g. utilizing compact computers and mobiles may come to fruition as a component of neck torment ache. According to one research, that aggregate of 51.8% of understudies had neck ache from mellow to extreme. Real reason for neck ache was drawn out static position and long examination hours particularly in the individuals who contemplate with curve neck. This torment along these lines builds their dimension of fatigability and decline their effectiveness and influence their capacities amid examination.⁶

Neck pain can also affect the students who are actively participating in the community. A study was conducted on this matter. Subsequently, the assessed predominance of cervical pain sufferers among Spanish matured was 19.5%. Both neckache and lumber pain were higher among females (26.4% and 24.5%) than males (12.3% and 15.1%).⁷

The majority of students were affected by neck pain belongs to schools, colleges and universities Neck pain was common in students due to prolonged periods of the same position and neck bending for reading. One survey shows the general reaction rate for the dental cleanliness understudies was 46% dependent on the around 145 qualified understudies. The investigation results demonstrate the risk factors and both self-detailed and doctor analyzed neck and shoulder side effects increment in recurrence from understudies to experienced hygienists, and understudies have higher prevalence on the off chance that they are likewise dental assistants.⁸

Neck pain affects the general population and results in the limitations of activities. Neck pain is common among

the general population. One study stated that every year, 0.6% of the population creates incapacitating neck ache. The yearly rate of goals of neck ache is 36.6%.⁹

Students should keep some precautions in their minds to avoid pain and pressure in neck. Keep up great stance. Keep neck in a nonpartisan position, which implies head adjusts straightforwardly over spine and isn't inclining forward or positioned to the other side. Hold your shoulders down and in a casual position. Set up workstation so your PC screen is at eye level and your feet are bolstered on the floor. keep feelings of anxiety low. Stress can expand view of torment, and it will in general advance poor situating and pressure in muscles, for example, the upper trapezius muscles, which connect to the base of the head and the shoulders. When these are tight they pull the head forward.

look for proficient consideration if your neck torment keeps going over about fourteen days. In the wake of getting a few radiological images of your neck, your Physician will probably allude you to work with a physiotherapist, who will show you how to do activities to reinforce your neck.¹⁰

Limitations: Our study had limitations like financial constraints, lack of resources and small sample size.

CONCLUSION

This study concluded that university students were at risk of mechanical neck pain. Major causes of mechanical pain are reading, using computers and mobiles.

Acknowledgments: Government College University Faisalabad and University of Agriculture Faisalabad and their students for their collaboration and participation in this investigation.

Authors' Contribution:

MG & WK: Conception and design of work
 MJ & JA: Collecting and analyzing the data
 AM & TL: Drafting and revising the manuscript for intellectual content.

Conflict of Interest: None to declare

Financial Disclosure: None

REFERENCES

1. Gharib N, Hamid NSJJAS. Prevalence of Mechanical Neck Pain in Taif University Female Students: A Survey Study. 2013;9(6).
2. Hasan MM, Yaqoob U, Ali SS, Siddiqui AA. Frequency of musculoskeletal pain and associated factors among undergraduate students. *Case Reports in Clinical Medicine*. 2018 Feb 1;7(2):131-45.
3. Ayanniyi O, Mbada CE, Iroko OP. Neck Pain Occurrence and Characteristics in Nigerian University Undergraduates. *TAF Preventive Medicine Bulletin*. 2010 May 1;9(3).
4. Fairbank JC, Pynsent PBJ. The Oswestry disability index. 2000;25(22):2940-53.
5. Price DD, McGrath PA, Rafii A, Buckingham BJP. The validation of visual analogue scales as ratio scale measures for chronic and experimental pain. 1983;17(1):45-56.
6. Tanveer F, Shahid SJRMJ. Prevalence of neck pain among Doctors of Physical Therapy students of University of Lahore due to bad posture. 2017;42(2).
7. Fernández-de-las-Peñas C, Hernández-Barrera V, Alonso-Blanco C, Palacios-Ceña D, Carrasco-Garrido P, Jiménez-Sánchez S, et al. Prevalence of neck and low back pain in community-dwelling adults in Spain: a population-based national study. 2011;36(3):E213-E9.
8. Morse T, Bruneau H, Michalak-Turcotte C, Sanders M, Warren N, Dussetschleger J, et al. Musculoskeletal disorders of the neck and shoulder in dental hygienists and dental hygiene students. 2007;81(1):10-.
9. Côté P, Cassidy JD, Carroll LJ, Kristman VJP. The annual incidence and course of neck pain in the general population: a population-based cohort study. 2004;112(3):267-73.
10. Yunn HT, Nadamurni NU, Wen PS. Prevalence and Risk Factors of Neck Pain among Medical and Health Sciences Undergraduate Students in Universiti Tunku Abdul Rahman (Utar): A Cross-Sectional Study (Doctoral dissertation, UTAR).