

Prevalence of Neck Pain among Undergraduate Students of Lahore

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Abstract: The main intent of this study was to find out the prevalence of neck pain in undergraduates students. A cross sectional study was conducted which was not derived from experiments. A survey was conducted from the undergraduate students of main universities in Lahore city named as Punjab university of Lahore and University of Lahore. Descriptive statistics focused on bar charts histograms and pie charts were used. Results concluded that out of 402 respondents (56.7%) were suffering with neck pain while (43.3%) respondents were not having neck pain. No association was found between gender and neck pain (p-value 0.351) additionally, there was weaker relation between age and neck pain (p-value 0.785). Neck pain occurring in students was mainly sudden in onset & intensity was mild to moderate of the neck pain. Mostly students were taking medications & physiotherapy treatment for reducing the neck pain.

Key words: Prevalence, Neck pain, Undergraduate students

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1. Introduction

Neck pain is a common problem among population. It can occur at any phase of their lives. Cervicalgia is another name of neck pain¹. Tightness of cervical muscles and upper back, muscles or compression of the nerves can cause neck pain that radiate from vertebrae in cervical region. As Disruption of joint in the upper back generates pain and discomfort, similarly neck pain is also generated by disruption in joints². Neck pain can be caused by interference with any structure surrounding neck including , nerve, airway, vascular, musculature skeletal or can be transferred from other areas of the body³. Hogg-Johnston and colleagues conducted a research and found that poor psychological health shows some relation with neck pain. Depression is also a factor which is responsible for neck pain⁴. Neck pain occurs among adults, affecting 14-71% of people in their adulthood at some part in their lives. 1-year prevalence in adults ranges at 16-75%. A considerable 19-37% proportion of neck ache patients developed chronic neck pain. Neck ache causes marked personal discomfort because pain, disability, and poor quality of life, and may harm working quality⁵⁻⁷. Computer usage is one of the most common causes of neck pain among undergraduate students. Undergraduate students who are involved in excessive computer usages since many years reported more frequent upper extremity symptoms⁸⁻¹⁴. MSK symptoms of neck ache and backache are highly prevalent among undergraduate students, ranging at 48-78%. In a Swedish university students cohort study was conducted which reported 15% development of neck or back pain during 1-year follow-up^{12, 13, 15, 16}. Previous studies have investigated the effects of bio psychosocial risk factors on neck ache in undergraduate students irrespective of factors such as strength of muscle, endurance of muscle, and joint mobility^{12, 13}. Prevalence of neck pain in one year among academic staff was found to be 46.7%. Neck pain was found to be higher in female staff (62%) as compared to male staff (38%)⁹. In

neck ache populations many people reported with sensory deficit. Decreased threshold for pain and sensory hypoesthesia are found to be the most common characteristics in people with whiplash injuries, which shows the alteration in pain processing system^{17, 18}. Neck and low back pain reduces the quality of person working and general life leading that person towards disability thus increasing excessive social and economic burden on patients and whole society¹⁹⁻²². Study was conducted and sample of undergraduate students were taken among which 46% were suffering with pain in the neck region during the 1-year follow-up time, and 33% experienced constant neck pain due to excessive use of computer during this year of study. Precautions from developing sickness in adults must be taken and should focus on the strength of the undergraduate students. A program related to education about the health and prevention from neck pain must be designed for undergraduate students presenting how to properly use computer & how to avoid neck pain²³. The aim of this study was to check the prevalence of neck pain in undergraduate students of Pakistani population.

Aims and objectives of the study: Aims and objectives of the study were to find out the prevalence of neck pain in undergraduate students and, to evaluate the association of gender and age with neck pain. To find the problems those were students facing during their academic period.

Significance: This study goal was analyzing the neck pain in undergraduate students and the factors which were associated with pain. The participants selected for this study was working on computer for several hours. The results of this study was highlighting the neck problems among the undergraduate students of Lahore city.

2. LITERATURE REVIEW

In neck area strength of muscle plays central role in control of cervical stabilization, important muscle for support of neck is Deep neck flexor and

shoulder girdle muscle also stabilize the head and support head weight against gravity²⁴. Forward head posture, posture in which position of head is forward that usually as seen in patient who are suffering from cervical difficulties are often seen in of reducing cervical spine curve²⁵. In mechanical cervical pain the damage to the cervical spine curve is an important factor²⁶. Muscle contraction is persistently sustained & muscle weakness that cause the fatigue is cause of chronic cervical pain^{27, 28}. Investigators of University of Queensland established CCFT in which pressure biofeedback unit used to measure deep neck flexor power²⁹. Only neck is bent in this test is satisfactory assessing deep muscles anatomical activities of longuscapitus&longus coli instead activities of anterior scalene and SCM that are surface muscles³⁰. The study conducted to examine the correlations in between the cervical lordosis angles, Absolute Rotation Angle flexion and extension range forward head postural tension the strength & endurance of the muscle e.g. deep neck flexor Weight Bearing & cervical ache. The study was conducted by Raja Gopal shows increased duration of using the computer associated with the musculoskeletal pain³¹. Musculoskeletal pain among medical students was comparatively high; the study has shown that medical school management must take actions in the direction of stopping the musculoskeletal pain because of influences associated with medical school. Students must be conscious about the significance of weight reduction to decrease musculoskeletal ache³². chronic episodic disorder such as persistent, recurring, weakness and shifting pain is referred as neck pain⁷. Firm musculoskeletal signs were shared between young people in previous studies The study conducted in order to recognize factors that responsible for persistence & onset of neck pain, while, for persistence of neck pain risk factors & onset differ from those, found in earlier studies^{15, 33}. On the psychological and physical health neck pain have broad affects³⁴. In the prolonged use of

computer increased activity of sternocleidomastoid muscle and neck extensor was reported in this posture might be injurious for the students³⁵. Influences of small computer screen are unsatisfying. This study showed that low computer screen height increases the neck extensor and neck flexion activities & compressive stress on joint capsules, ligaments of neck and in the other structures involved in cervical spine, therefore increased musculoskeletal strain seen in upper body³⁶⁻³⁹. The study conducted by Foster old showed that oculomotor status enhanced by using or working on the screens of computer that are small are important & decreasing musculoskeletal symptoms in upper body. Students involved in this study were guided that top of the computer screen should be positioned at the level horizontal with eyes when they are sitting and watching the computer screen straight forward posture. This study Additionally required to estimate the relationship between high & low computer screen & neck pain in students that are studied⁴⁰. The study conducted by Ndetan shown that chiropractic students mostly apparent to risk factors of causing the injury to neck during their academic session. Though, results might not basically return to the other groups of students. The study has shown that 1st to demonstrate the year of study considerably connected with neck ache. Moreover study is required to stress on recognizing period of study influences so that improved to appreciate how year of study co-relates with persistent neck ache risk of persistent neck symptoms can be reduced by decreasing the higher percent time of computer used for entertainment. Activities such as, playing games, listening to music, chatting, and watching movies are the entertaining activities seen on computer that increases the risk of neck pain⁴¹. The study conducted by Grimby-Ekman shown that apparent risk factor for developing upper back or cervical pain was stress in Swedish undergraduate students¹⁶.

3. Methodology:

A cross sectional study was conducted .sample size was of 402 & collected data from the universities of Lahore. Descriptive statistics was used. Self-administered questionnaire was selected with to find the prevalence of neck pain in undergraduate students.

Materials and methods

Study Design

It was a cross-sectional study

Study population

Undergraduate students from The University of Lahore and Punjab University Lahore

Duration of the study

Study was completed in 4 months

Sample size

Sample size was of 402

Sample size was calculated by following formula

$$Z^2 * (p) * (1-p)$$

$$SS = \frac{\quad}{c^2}$$

Sample Technique

Convenient sample technique

Sample Selection Criteria

Undergraduate students from university of Lahore and Punjab University, Lahore.

Inclusion Criteria

- Age 18-24
- Undergraduate students
- Male and female

Exclusion Criteria

- Disc prolapse
- Surgery
- Trauma
- Ankylosing spondylitis

Data collection

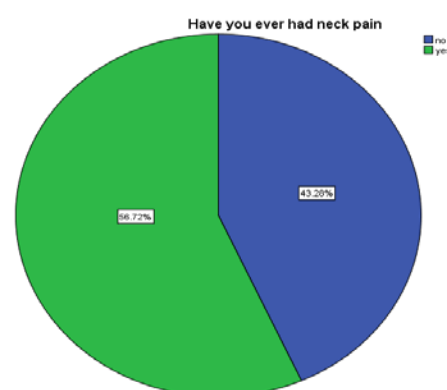
Data collection was done by using self-administered questionnaire. Data was collected by using informed consent form by telling the students about the objectives and aims of the study regarding this research. Questioners were distributed among students of the universities of Lahore city.

Statistical analysis

SPSS 21 version, software used for the data analysis. Discrete variables were measured by using mean and standard deviation and categorical variables were measured using frequencies. SPSS stands for statistical package for social science used for the entry of variables and for formulating graphs including histograms bar charts and pie charts.

4. Results

Descriptive statistics for the prevalence of neck pain

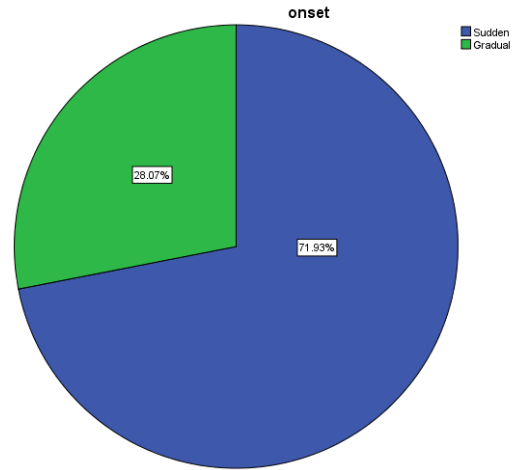


Total participants were 402 in this study out of which 228(56.7%) students were suffering from neck pain and 174(43.3 %) students were having no pain in the neck region .So, according to the results prevalence was come out 56.7% in undergraduate students.

A. Descriptive statistics for gender

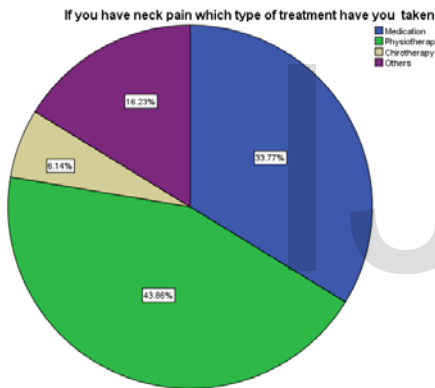
Gender	Frequency	Percent%
Female	214	53.2%
Male	188	46.8%
Total	402	100.0%

Frequency distribution was made for the 402 respondents, both gender were included in this survey total number of females were 214(53.2%) and total no of males were 188(46.8%)



Total amount of participants for filling this question was 228; these were those participants that were suffering with neck pain. Out of 228 students 164(71.93%) experienced neck pain that was sudden in onset on the other hand 64(28.07%) students were suffering with neck pain that was gradual in onset.

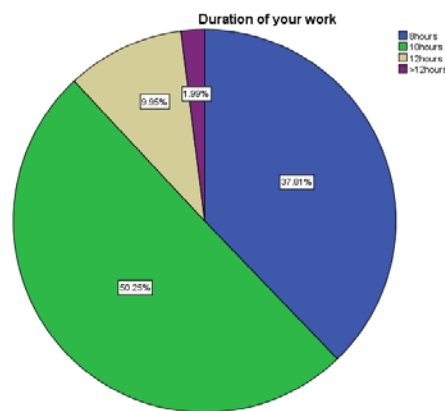
Descriptive statistics for the treatment of neck pain



Total amount of respondents were 402 in this study Out of all respondents 77 (33.8%) weretaking medication for the treatment of neck pain, 100(43.9%) students were under physiotherapy treatment,14(6.1%) were underChirotherapy(icing) treatment and while 37(16.1) were taking other treatments .

Descriptive statistics for the onset of neck pain

Descriptive statistics for the duration of work



Total amount of respondents were 402 in this study Out of all respondents 152(37.81%) students spending their time in study were 8 hours ,202(50.25%) were taking time for study 10 hours, 40(9.9%) students marked 12 hours .while only8(1.9%) said that they were studding for greater than 12 hours .

B .Descriptive statistics for visual disturbance & headache due to neck pain

	Frequency	Percent%
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Strongly agree	30	13.2%
Agree	97	42.5%
Neutral	51	22.4%
Disagree	25	11.0%
Strongly disagree	25	11.0%
Total	228	100.0%

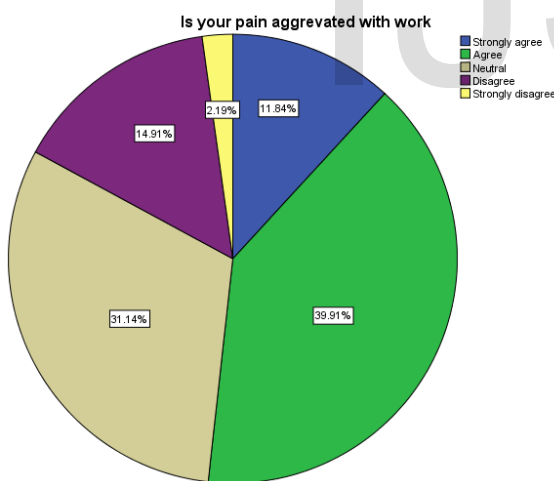
Total number of participants included in this survey was 402 ,228 participants were suffering with neck pain Out of 228 respondents included in the survey 97(42.5%) respondents agreed that their neck pain was causing visual disturbance associated with headach,30(13.2%) were strongly agreed ,51(22.4%) were neutral while 25(11.0%) were strongly disagreed.

	Frequency	Percent%
Strongly agree	37	16.2%
Agree	127	55.7%
Neutral	23	10.1%
Disagree	25	11.0%
Strongly disagree	16	7.0%
Total	228	100.0%

Total number of participants included in this survey was 402 ,228 participants were suffering with neck pain Out of 228 respondents included in the survey 127(55.7%) respondents agreed that their neck pain was disturbing their sleep,37(16.2%) were strongly agreed ,23(10.1%) were neutral while 25(11.0%) were disagreed.

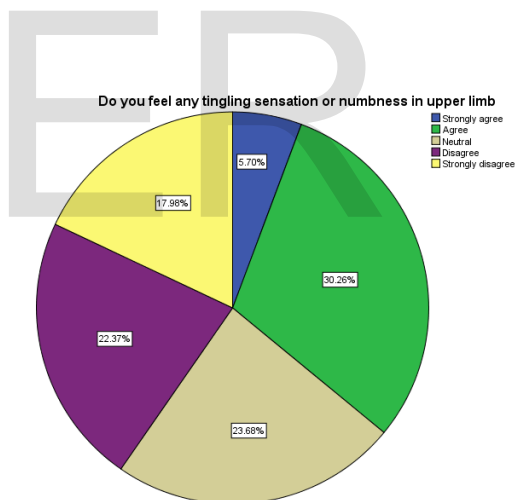
Descriptive statistics for pins and numbness because of neck pain

Descriptive statistics for the neck pain aggravated with work



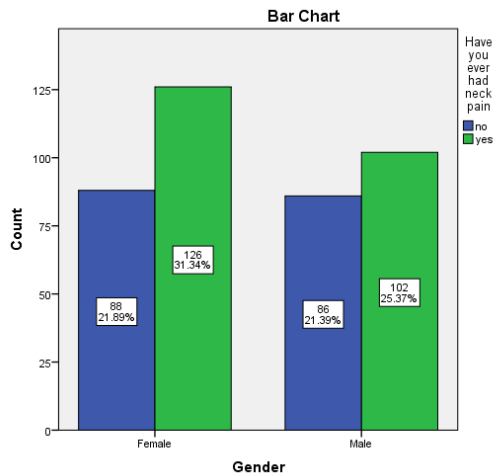
Total number of participants included in this survey was 402 ,228 participants were suffering with neck pain Out of 228 respondents included in the survey 91(39.91%) respondents agreed that their neck pain was radiating during work,27(11.84%) were strongly agreed ,71(31.14%) were neutral while 5(2.19%) were strongly disagreed.

C .Descriptive statistics for the neck pain during sleep



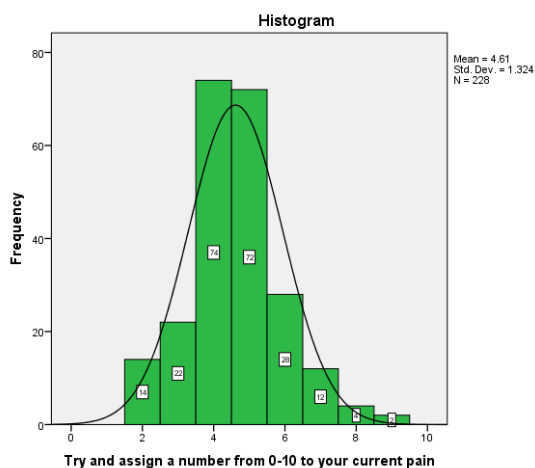
Total number of participants included in this survey was 402 ,228 participants were suffering with neck pain Out of 228 respondents included in the survey 69(30.26%) respondents agreed that they felt numbness and pins in upper limb because of neck pain,13(5.7%) were strongly agreed ,54(23.68%) were neutral while 15(22.37%) were disagreed.

Descriptive statistics for the neck pain prevalent in females and males



In this study 402 participants were included out of all 214(53.2%) were females and 188(46.8%) were males. Neck pain prevalence was come out 56.7% in both genders including females and males. Above bar chart shown the prevalence separately among females and males, so according to results 126(31.34%) females were suffering with neck pain and 88(21.89%) females didn't experienced neck pain while 102(25.37%) males were experienced neck pain, and 86(21.39%) males were had no neck pain. So that the neck pain was more prevalent in females than in males in this study.

Descriptive statistics for VAS



Above histogram shown the frequency distribution of 228 participants out of 402 participants in relation to the VAS scale that is pain intensity scale ranges from 0 to 10, (0 score for no pain & for the worst pain is 10 score. The mean pain in VAS was 4.61± 1.32 on which 1 for mild pain and 10 for severe pain.

5. Conclusion

The study concluded that neck pain was more prevalent in females than in the males (31.34%) in females and (25.37%) in males. Over all prevalence of neck pain was (56.7%). Neck pain occurring in young age is mainly sudden in onset & intensity was mild to moderate of the neck pain, Over All students rates their pain on VAS .Mostly students was taking medications & physiotherapy treatment for the reduction of their pain. Neck pain strongly disturbing the sleep cycle of students & interfere their daily activities. Visual disturbance & headache are someother association of neck pain. Neck pain was mainly reduced by rest.

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