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ORIGINAL ARTICLE

PREVALENCE OF TEXT NECK SYNDROME IN YOUNG-ADULT POPULATION

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ABSTRACT

Introduction: Text neck syndrome refers to overuse syndrome or repetitive stress injury, in which you have your head hung forward or down looking at your mobile or any other electronic device for a longer period of time. This eventually leads to tightness of the shoulder muscles and soreness in the neck muscles or even chronic headaches. The purpose of this study was to find out the prevalence of text neck syndrome in young adult population using Neck Disability Index (NDI) questionnaire.

Methodology: A cross sectional study was conducted among 100 Physiotherapy students of the age group from 18 to 25 years from D.Y. Patil University, Navi Mumbai. Demographic data was collected and the students were asked to fill the Neck Disability Index questionnaire and the data was further analysed to check which gender and age group was affected the most. **Results:** Females were most affected with 80% and the age group which was most affected was 22 years (34%). **Conclusion:** This study concluded that prevalence of text neck syndrome is 32%. The major component affected according to neck disability index out of all the components is headache followed by sleeping, concentration and reading.

Keywords: Text neck syndrome, Neck Disability Index, stress injury, soreness, neck muscles

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INTRODUCTION

The term “Text neck” was coined by Dr. Dean L. Fishman, a US chiropractor. The term ‘Text Neck or another phrase turtle neck posture can be described as repeated stress injury and pain in the neck resulting from excessive texting or watching on hand held devices over a sustained period of time. Today the Smartphone technology has made such progress that the people are getting addicted to it and spending most of their time on handheld devices¹.

The end result is neck pain, upper back pain, shoulder pain, chronic headaches, and increased curvature of spine and hand discomforts. Prolonged flexion of the neck when bent over these devices results in forward head posture. A recent study done in Thailand shows that text neck syndrome has become a global epidemic affecting a large number of populations of almost all ages who use mobile phones. Text neck syndrome has become a topic of concern and has potentially affected large number of people of all ages who use smartphone all over the world².

Forward head posture is one of the most commonly recognised poor postures in sagittal plane, such posture causes shortening of muscular fibres and overstretching of muscles. If text neck syndrome is not treated or corrected in time it can lead to permanent damage and can result into overuse syndrome. It may also lead to some serious damage, such as flattening of the spinal curve, onset of early arthritis, spinal misalignment, spinal degeneration, disc compression, disc herniation, excessive posterior curve in the upper thoracic vertebrae to maintain balance, placing stresses on the cervical spine and neck muscles. It may also result in nerve damage, muscle damage, stiff neck, sharp pain, radiating

pain, general soreness, weakness and numbness³.

Studies show that there is increase in use of smartphones and people spend long hours on these devices which leads to various musculoskeletal discomforts. Presently less research has been done on “Text Neck Syndrome” so thus the purpose of this study was to find prevalence of text neck syndrome in young adult population^{4,5}.

Objectives of the study: To check the prevalence of text neck syndrome in young-adult population and also to check gender, those gets affected most by text neck syndrome in young-adult population.

METHODOLOGY

The study design was a cross sectional study. The participants of the study were 100 students from School of Physiotherapy, D.Y.Patil Deemed to be University, Mumbai. The study was conducted for three months. The questionnaire was distributed which consisted of 2 parts including, 1) Demographics (age, gender) 2) Neck disability index.

Neck Disability Index (NDI): The neck disability involves 10 items, each of the 10 items is scored from 0-5. The maximum score is therefore 50. Of the 10 items, four relate to subjective symptoms (pain intensity, headache, concentration, sleeping), four activities of daily living (lifting, work, driving, recreation) and two discretionary activities of daily living (personal care, reading). This index is the most widely used and most strongly validated instrument for assessing self-rated disability in patients with neck pain.

Inclusion criteria: Both male and female subjects aged between 18-25 years were included in this study.

Exclusion criteria: Subjects with any other medical cause or a known condition which could lead to pain in neck, subjects with congenital cervical problem and traumatic and pathological cervical problems and subjects with spinal cord injury prior to study were excluded from the study.

Procedure: The nature and purpose of study and also the neck disability index will be properly explained to each and every subject. Consent will be acquired after explaining. Neck disability index form will be distributed and asked to fill. Later the data will be properly analysed and interpreted.

RESULT

Gender
100 responses

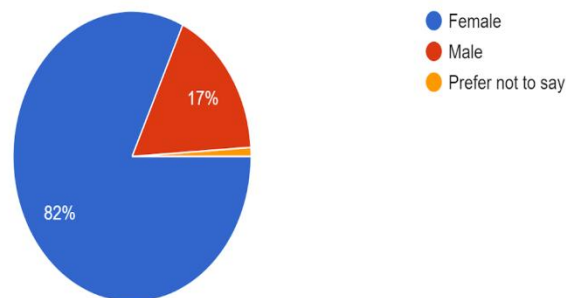


Fig 1: Gender of respondents

Age
100 responses

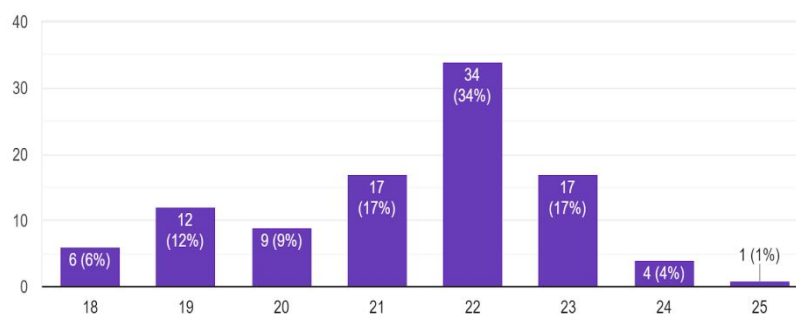


Fig 2: Age of respondents

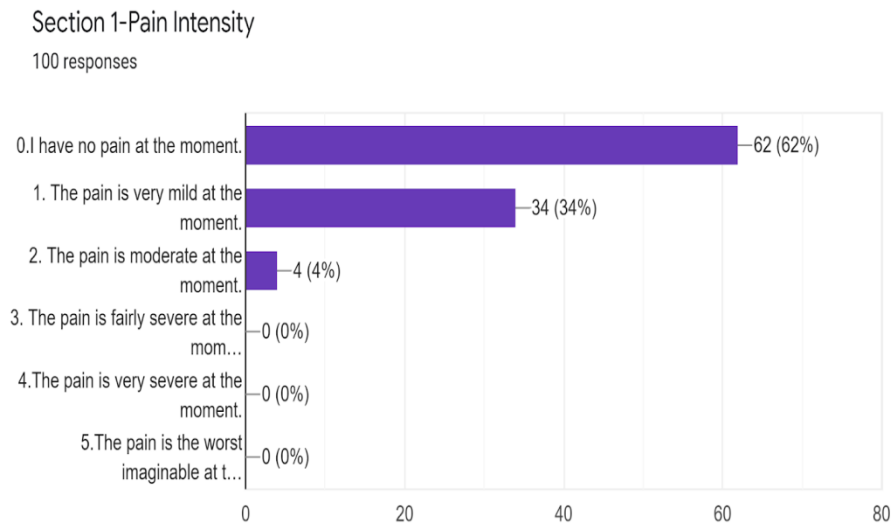


Figure 3: Pain Intensity

Inference: According to figure 3 we can infer that the percentage of pain intensity due to neck pain in smartphone users is 62%, with no pain at the moment followed by (34%) with very mild pain at the moment and (4%) with moderate pain at the moment.

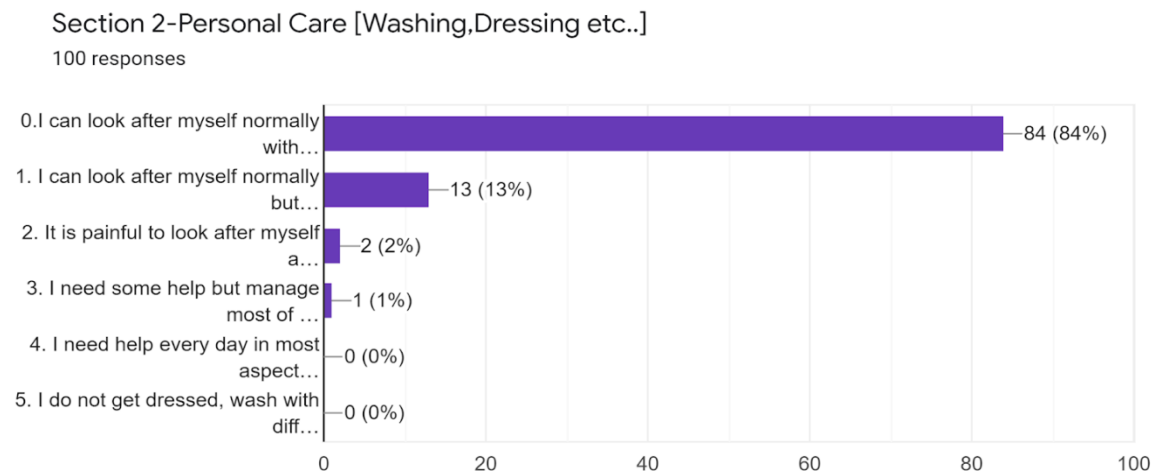


Figure 4: Personal Care

Inference: According to figure 4 we can infer that the percentage of personal care (i.e. washing, dressing etc.) affected due to neck pain in smartphone users is 84%, who can look after themselves without extra neck pain, (13%) who can look after themselves but cause extra neck pain and (2%) who find it painful to look after themselves.

Section 3-Lifting

100 responses

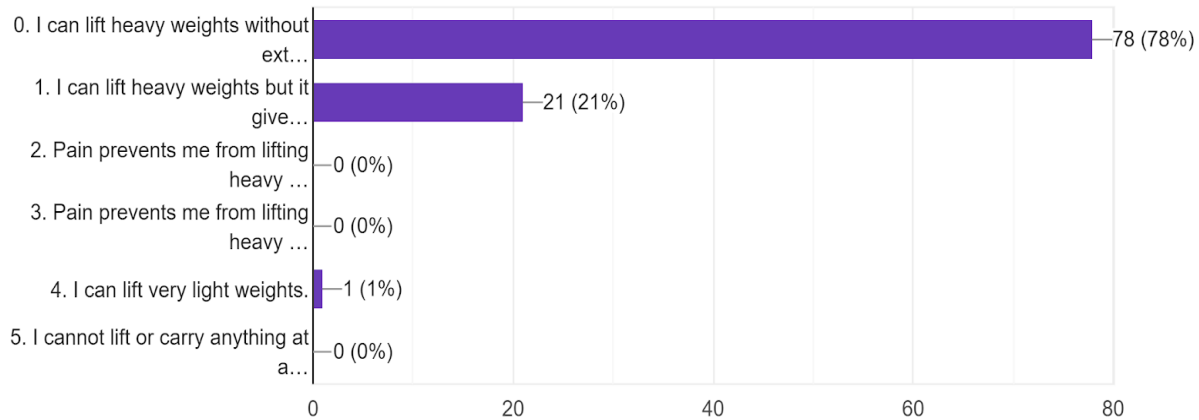


Figure 5: Lifting

Inference: According to figure 5 we can infer that the percentage of lifting affected due to neck pain in smartphone users is 78%, who can lift weight without extra neck pain, (21%) who can lift heavy weights but it causes extra neck pain and (1%) who can lift very light weight.

Section 4-Work

100 responses

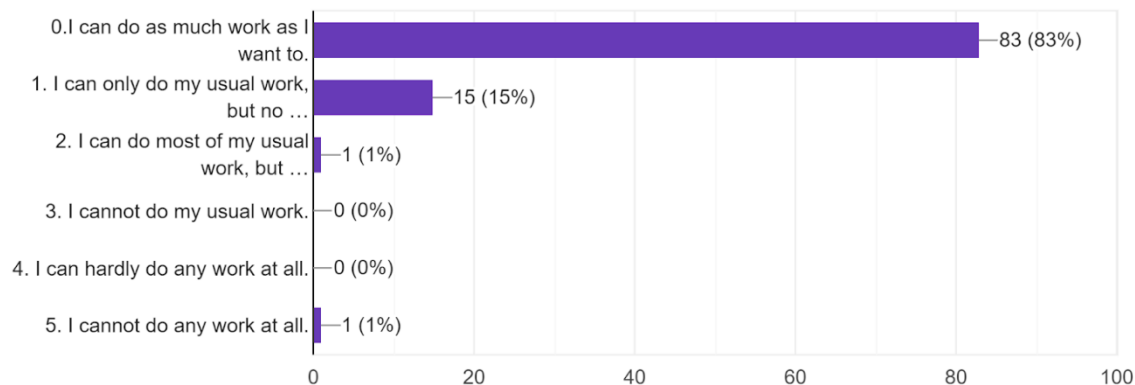


Figure 6: Work

Inference: According to figure 6 we can infer that the percentage of work affected due to neck pain in smartphone users is 83%, who can do as much work as they want to, (15%) who can do usual work but no more, (1%) who can do most of usual work but no more and (1%) who cannot do any work.

Section 5-Headaches

100 responses

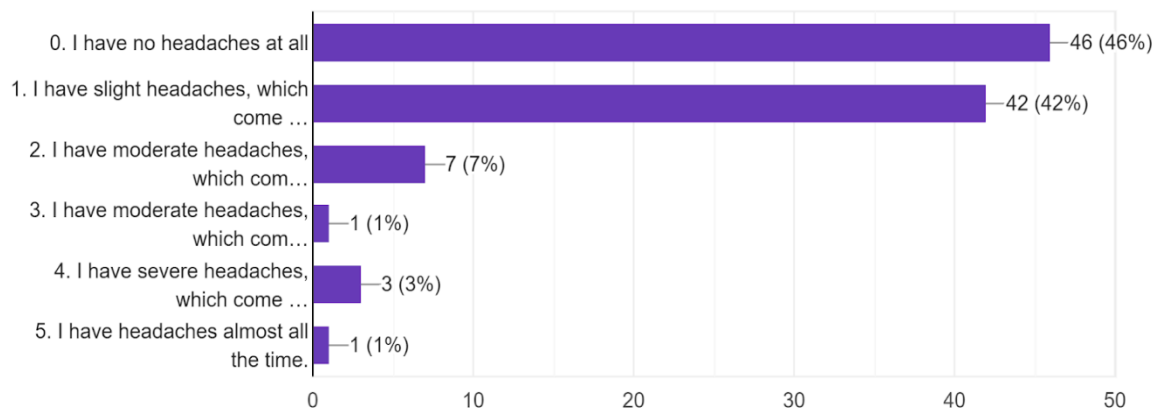


Figure 7: Headaches

Inference: According to figure 7 the percentage of headache caused due to neck pain in smartphone users is (46%), have no headache at all, (42%) have slight headaches that come infrequently, (7%) have moderate headache that come infrequently, (1%) have moderate headaches that come frequently, (3%) have severe headaches that come frequently and (1%) have headaches almost all the time.

Section 6-Concentration

100 responses

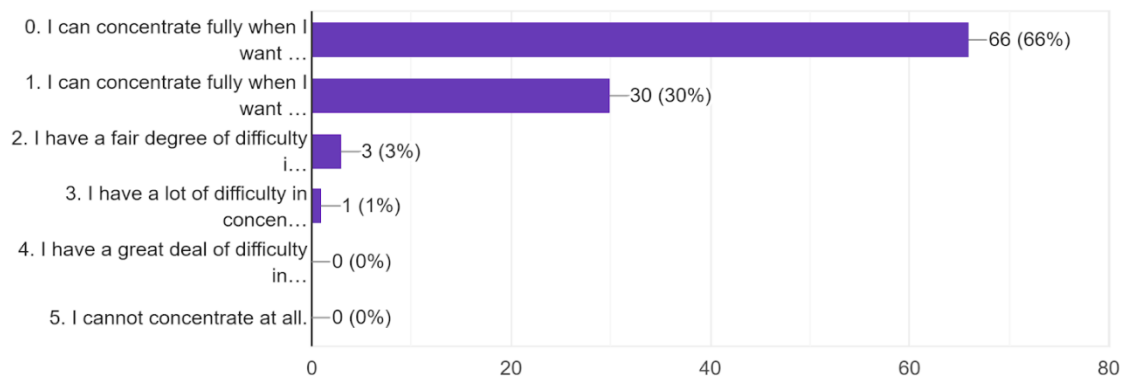


Figure 8: Concentration

Inference: According to figure 8 the percentage of concentration affected due to neck pain in smartphone users is 66%, can concentrate fully with no difficulty, (30%) can concentrate fully with slight difficulty, (3%) have a fair degree of difficulty in concentrating, (1%) have a lot of difficulty in concentrating.

Section 7- Sleeping

100 responses

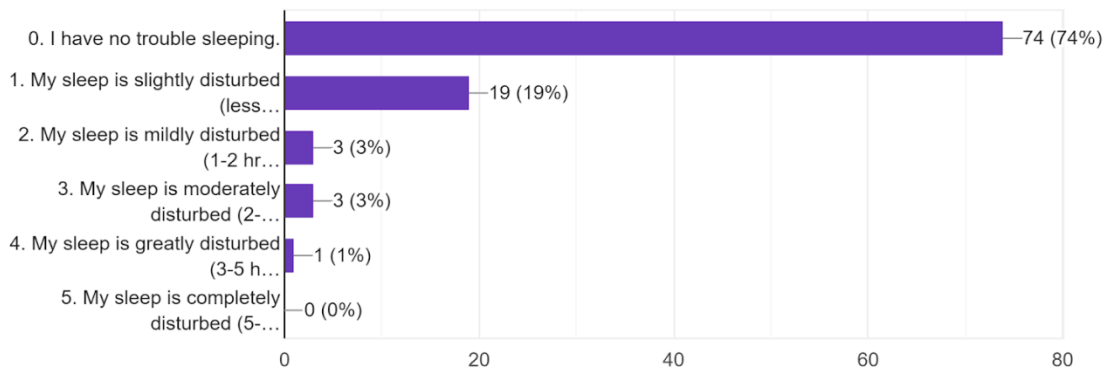


Figure 9: Sleeping

Inference: According to figure 9 we can infer that the percentage of sleep affected due to neck pain in smartphone users is :74%, who have no trouble sleeping, (19%) whose sleep is slightly disturbed, (3%) whose sleep is mildly disturbed, (3%) whose sleep is moderately disturbed and (1%) whose sleep is greatly.

Section 8-Driving

100 responses

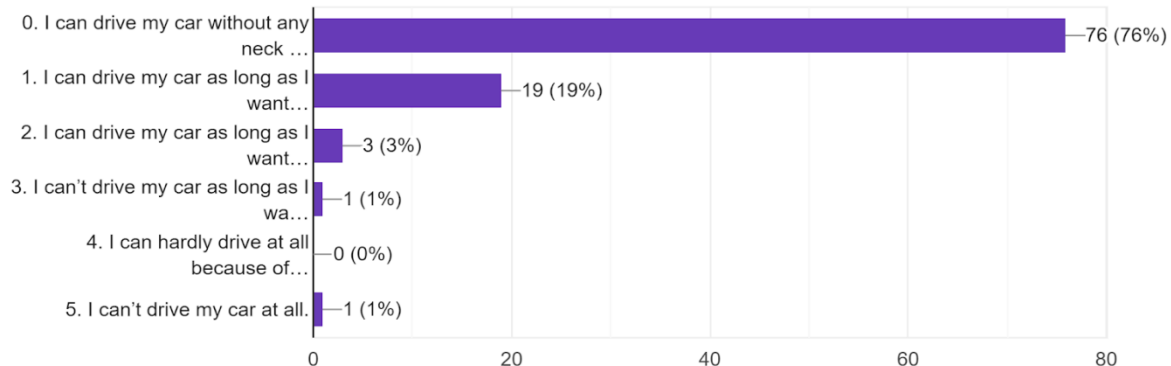


Figure 10: Driving

Inference: According to figure 10 we can infer that the percentage of driving is affected due to neck pain in smartphone users is 76%, who can drive without neck pain, (19%) who can drive as long as they want with slight neck pain, (3%) can drive as long as they want with moderate neck pain, (1%) cannot drive as long as they want because of moderate neck pain and (1%) who cannot drive at all.

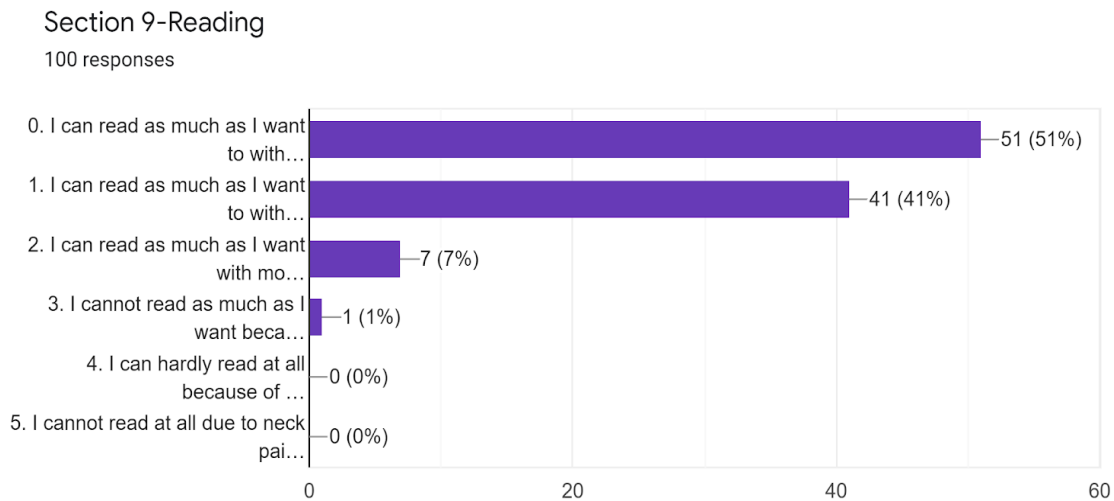


Figure 11: Reading

Inference: According to figure 11 we can infer that the percentage of reading affected due to neck pain in Smartphone users is 51%, who can read as much as they want with no neck pain, (41%) who can read as much as they want with slight neck pain, (7%) who can read as much as they want with moderate neck pain and (1%) who cannot read as much as they want due to moderate neck pain.

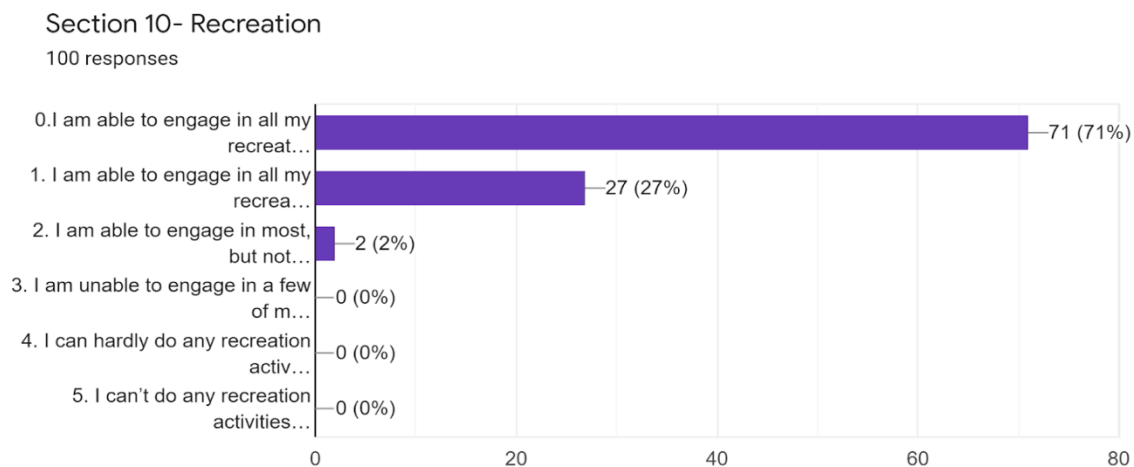


Figure 12: Recreation

Inference: According to figure 12 we can infer that the percentage of recreation affected due to neck pain in Smartphone users is (71%), who are able to engage in all recreational activities with no pain, (27%) who are able to engage in all recreational activities with slight pain and (2%) who are able to engage in most, but not all, recreational activities because of pain.

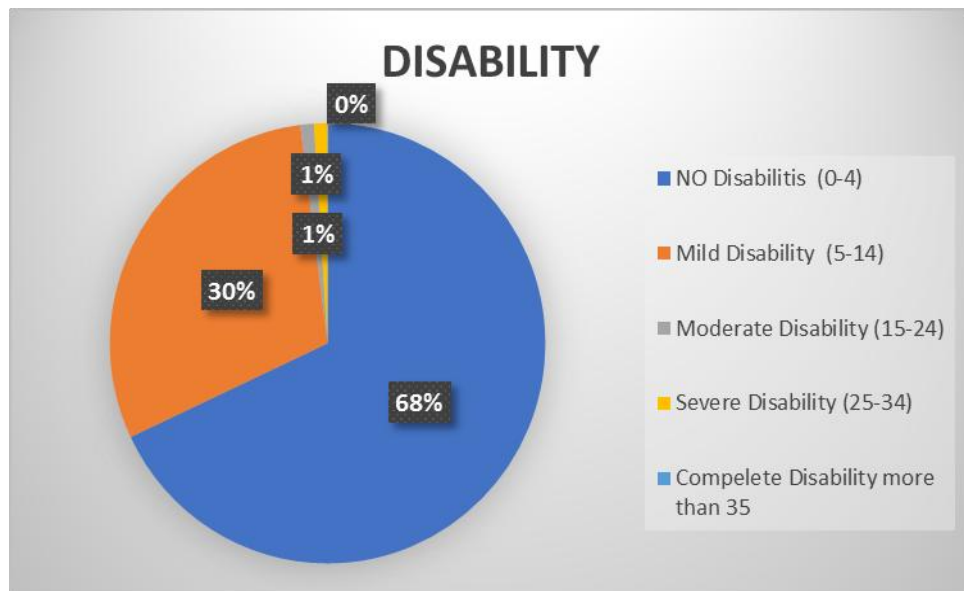


Figure 13: Disability

Inference: Figure 13 shows the interpretation of total scores of every individual.

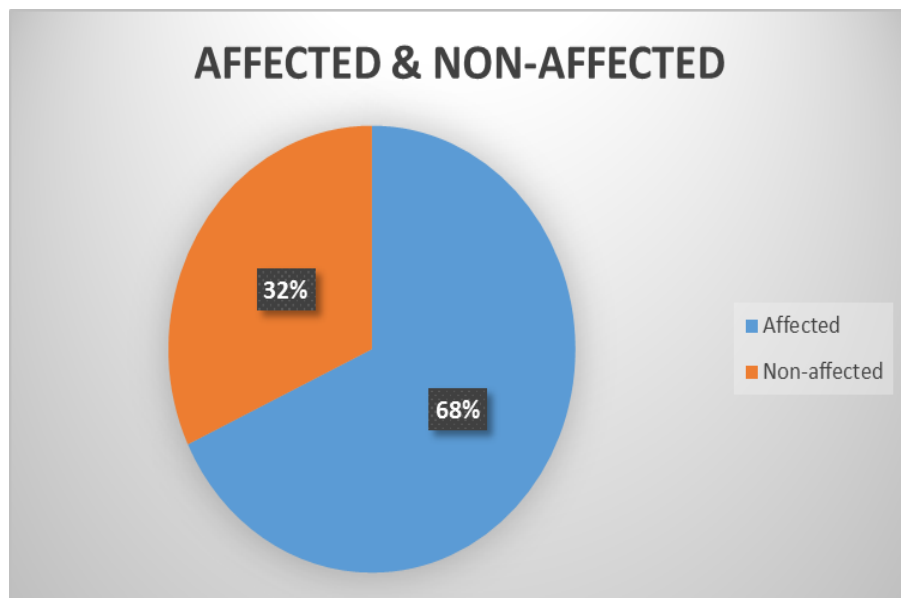


Figure 14: Affected & Non-Affected

Inference: According to figure 14 we can infer that 32% are affected from the neck pain in the age group 18-25.

DISCUSSION

The purpose of this study was to find out the prevalence of text neck syndrome in the young-adult population. This study included 100 students of physiotherapy studying in school of Physiotherapy, D. Y. Patil University from the age group 18-25 years as our sample population. In this study out of 100 samples 68% were affected and 32% were suspected to have text neck syndrome based on the neck disability index scale.

According to the neck disability index scale, the total score is 50 out of which the scores in the range of (0-4) are considered as no disability, which has 68% of the population. The scores in the range of (5-14) are considered as a mild disability which has 30% of the population. The scores in the range of (15-24) are considered as a moderate disability which has 1% of the population. The scores in the range of (25-34) are considered as a severe disability which has 1% of the population and (35<) is considered as a complete disability which has 0% of the population.

Demographic information of 100 respondents who participated in the survey can be described by gender and age. (Figure 1) shows the gender of respondents, from which, 82% are females and 17% are males and 1% prefer not to say. (Figure 2) shows the age of the respondents from which 34% which is the maximum belongs to 22year of age group.

From all the components above mentioned in the graphs of the neck disability index scale, the maximum affected component due to neck pain in smartphone users is a headache which is well explained in (figure 7). Al-khlaiwi et al⁽¹⁰⁾ and Khan M⁽¹¹⁾ reported headache in 21.6%

and 16.08% of subjects in the Saudi population using smartphones. Headache after using smartphone may result from the flexed neck posture causing strain, excessive loading and pain on neck musculature leading to radiating pain to the head. It also causes due to diversifying circumstances during smartphone use like radiofrequency fields and vibrations⁽¹²⁾.

After headache sleeping is the component which is affected more as explained in (figure 9). This may be due to exposure to bright light from electronic devices, disturbing the cardiac rhythms and then sleep quality⁽¹³⁾⁽¹⁴⁾. Followed by sleep the next affected component is concentration which is well explained in (figure 8). This may be due to disturbances in a sleeping pattern that the concentration is affected. After concentration reading is most affected as explained in (figure 11). This may be due to a lack of concentration that is affected due to disturbances in sleeping patterns. The least affected components are personal care, lifting, recreation, driving and work.

Ethical Clearance: Ethical clearance has obtained from School of Physiotherapy, D.Y. Patil University, Mumbai, India

Conflict of interest: There was no conflict of interest to conduct this study.

Fund for the study: It was a self financed study.

CONCLUSION

This study concluded that prevalence of text neck syndrome is 32%. The major component affected according to neck disability index out of all the components is headache followed by sleeping, concentration and reading.

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