

Prevalence of Neck Pain and Neck Disability in Secondary School Teachers While Taking Online Classes

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Abstract:- Pain in the neck is a sign of structural damage to the cervical spine Neck impairment is caused by neck discomfort. Disability is defined as any limitation or inability to execute any action brought on by an impairment. Secondary school teachers have to take online classes in pandemic due which they land up in to neck pain and disability. This study will help in determining pain and disability of neck in secondary school teaching staff during online classes. Objective - To find out the prevalence of neck pain on NPRS in secondary school teaching staff during online classes in pandemic. To find out prevalence of neck disability on Neck disability index in secondary school teaching staff during online classes in pandemic. A sample of 94 was taken in cross-sectional study. Result - nprs shows that 23.4% have mild pain,31% have moderate pain,39.3% have severe pain and 6% is of worst pain. neck disability index score shows 23.4% is of mild disability of neck, 29% is of moderate disability is present, 41% is of severe disability and 6% is of complete disability in teacher who were taking classes online.

Conclusion - This study concludes that teachers at secondary school have neck pain and neck disability while taking online classes.

Keywords:- Neck Pain, Neck Disability, Secondary School Teacher, Online Classes.

I. INTRODUCTION

Neck pain is a chronic episodic condition characterized by persistent fluctuating pain^[1]. Neck pain indicates potential damage to structure present in cervical spine^[2].

Neck pain leads to have disability of neck^[2]. Disability is any restriction or lack of ability to perform any activity resulting from an impairment^[3].

Neck is reported as the most common occupation related health problem and cause of morbidity, disability from work among schoolteachers worldwide. School teachers represent an occupational group, who are exposed and appears to have prevalent neck pain due to their daily work tasks and nature of working^[4].

Education with digital medium leads to have majorly impacted on the neck, this has leads to continuous sitting and increased on screen time in front of digital devices like phones, laptops or in front of computers. The timetable is being followed by the teachers for secondary school online classes are of 30min to 45min of 2 classes per day or 3 classes per day. Hence this is leading to on screen timing of 2-3 hours per day.

The same schedule they have maintain for at least 5 – 6 days in a week. While taking classes they are maintaining the same posture of the body and results into the neck pain and disability.

Prolonged use of computers leads to adoption of static posture for long duration that causes neck pain which gets radiated to shoulders and has been associated with development of neck pain and upper back discomfort, including forward neck posture (FNP)^[5].

Work related neck pain (WRNP) is define as the pain experience from the base of the occiput to upper part of the back and extending laterally to out and superior border of the back and extending laterally to out and superior border of the scapula^[6]. Around 30% males and 50% females of variable age group are affected by neck disorders during their lifetime Most of the neck pain and neck disability episode are caused by mechanical disorder and postural faults which was maintained for longer duration. work related neck problems are now a day commonly seen with intense computer users^[7]. The work tasks of schoolteachers often involve significant use of a head down posture, such as frequent reading and marking of assignment or making presentations.

Stress on the cervical muscle may leads to insufficiency in its coordination, activation, overload, and poor support on cervical structures that can further leads to postural disorders, neck pain and disability^[8]. Since not much light has been shed on the secondary school teachers related to neck pain and disability while online classes, this article will focus on the prevalence of neck pain and neck disability in secondary school teachers while taking online classes.

II. NEED OF STUDY

The secondary school teachers have to sit continuously in same posture in front of computer or laptop or Phones this gives impact of posture; this study will provide overview of risk of major problem in teaching staff while online classes.

This study will help in determining pain and disability of neck in secondary school teaching staff during online classes.

This prevalence study will act as a base for further interventional studies for treatment of neck pain and disability in secondary school teaching staff.

It is important to know the dimensions and characteristics of neck pain and neck disability in secondary school teaching staff during online classes to understand it and how it happens, to increase the awareness and to design intervention and to improve education program.

➤ *Aim*

To study the prevalence of neck pain and neck disability in secondary school teaching staff during online lecture

➤ *Objective*

To find out the prevalence of neck pain on NPRS in secondary school teaching staff during online classes in pandemic. To find out prevalence of neck disability on Neck disability index in secondary school teaching staff during online classes in pandemic.

III. METHODOLOGY

- Study area – Pune
- Study type – observational study
- Study design – cross section study
- Sampling subject – secondary school teaching staff
- Study duration – 6 months
- Sample size - 94
- Sample technique – Purposive sampling

IV. OUTCOME MEASURES

- Neck disability index - Reliability – 0.80
Validity – 0.69 – 0.70
- Numeric pain rating scale - Reliability – 0.96
Validity – 0.95

V. INCLUSION AND EXCLUSION CRITERION

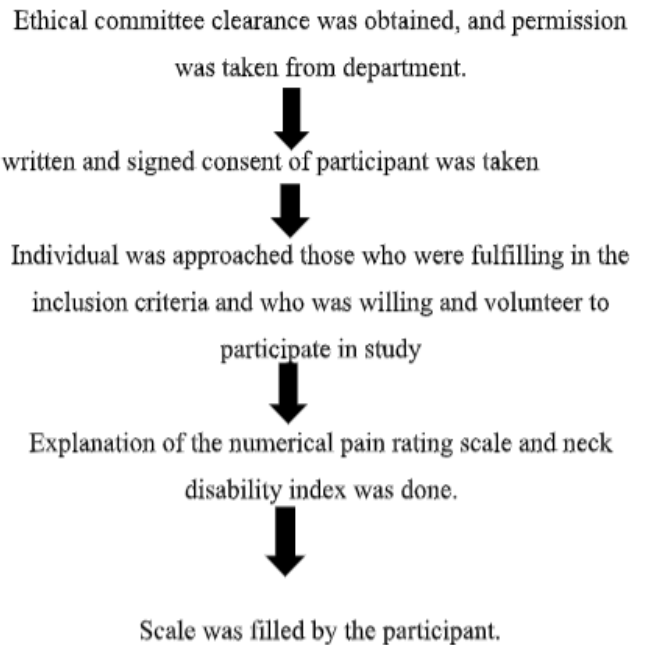
A. INCLUSION CRITERION

1. 25 – 40 years of ages
2. Both gender
3. secondary school Teachers
4. Taking classes online during
5. 2- 3 hours of teaching online

B. EXCLUSION CRITERIA

1. Recent cervical trauma
2. Spinal abnormalities
3. Vertigo
4. Musculoskeletal condition which is being diagnosed

VI. PROCEDURE



VII. DATA INTERPRETATION AND INTERPRETATION

TABLE 1 -Number of females having neck pain on NPRS

Scale	interpretation	Female participants
Numerical pain rating scale	Mild pain (1-3)	11
	Moderate pain (4-6)	13
	Severe pain (7-9)	24
	Worst pain 10	4

FIGURE 1 – NPRS in female

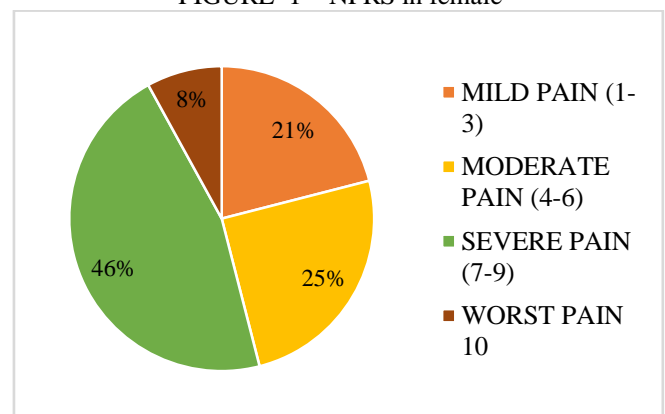


TABLE 2: Number of male having neck pain on NPRS

Scale	Interpretation	Male Participants
Numerical pain rating scale	Mild pain (1-3)	11
	Moderate pain (4-6)	16
	Severe pain (7-9)	13
	Worst pain 10	2

FIGURE 2: NPRS in male

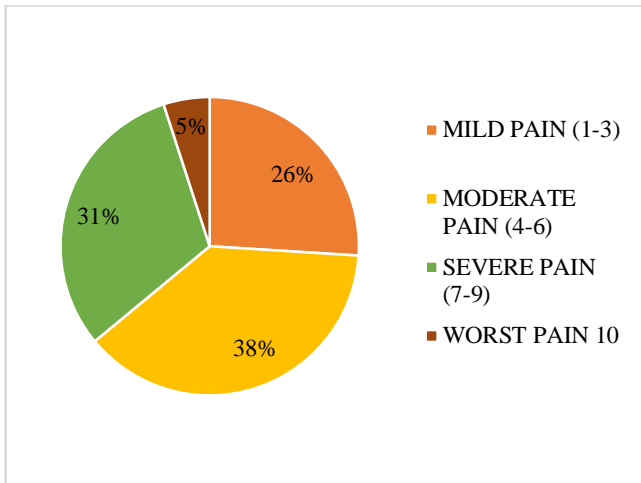


TABLE 4: Neck disability index in males

Scale	Interpretation	Male Participants
Neck disability index	Mild disability (5-14)	12
	moderate disability (15-24)	11
	Severe disability (25-34)	17
	Complete disability (35-50)	2

FIGURE 4: Neck disability index in male

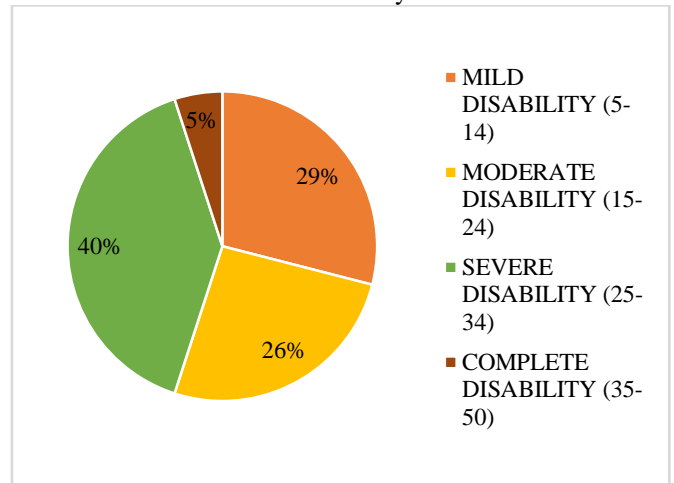
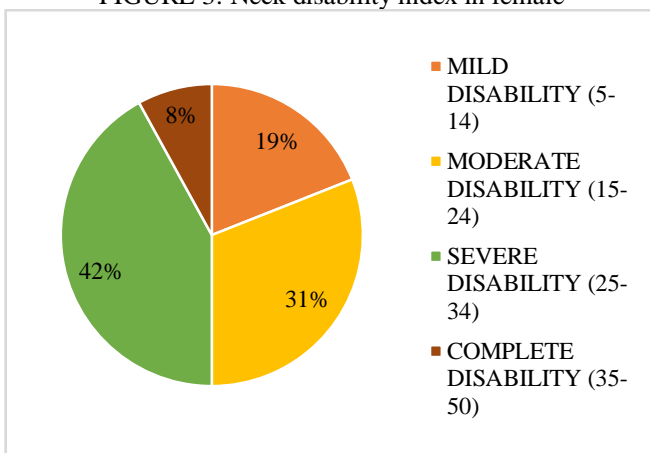


TABLE 3: Neck disability index in females

Scale	interpretation	female participants
Neck disability index	Mild disability (5-14)	10
	moderate disability (15-24)	16
	Severe disability (25-34)	22
	Complete disability (35-50)	4

FIGURE 3: Neck disability index in female



VIII. RESULT

A total of 94 participants are taken in study, 42 males and 52 females.

Table 1 shows the number of female of neck pain on NPRS scale, according to scale 11 females have mild pain, 13 have moderate pain and 24 have severe pain and 4 S have worst pain.

Figure 1 shows female have neck pain while taking online classes on NPRS, 21% have mild pain, 25% are having moderate pain, 46% are having severe pain and 8% are having worst pain in neck.

Table 2 shows the response received in NPRS scale in male, according to scale 11 have mild pain, 16 have moderate pain and 13 have severe pain and 2 males have worst pain.

Figure 2 shows male having neck pain on NPRS, 26 % mild pain, 38% moderate pain, 31% severe pain,5% worst pain in neck while taking classes.

Table 3 shows the response received in the Neck disability scale in female, according to scale 10 females have mild disability, 16 females have moderate disability and 22 females have severe disability, 4 complete disability.

Figure 3 shows female having neck disability while taking online classes on neck disability index, 19% mild disability, 31% moderate disability, 42% severe disability and 8% complete disability.

Table 4 shows the response received in Neck disability scale in male, according to scale 12 have mild disability, 11 have moderate disability and 17 have severe disability, 2 have complete disability.

Figure 4 shows male on bases of neck disability index, mild disability 29%, moderate disability is 26%, severe disability is 40% and complete disability is 5%

IX. DISCUSSION

Teaching is the profession in which they have to face certain problem related to their posture, mechanical stress and have frequently complain of physical health problems like body ache, headache, neck pain, etc. ^[1]

Neck pain due to work has become an up growing problem among teacher which are leading to have the neck disability, postural faults neck pain can interfere with daily activity and reduce quality of work in daily routine ^[2]

This study is a simple cross-sectional survey done amongst teachers to find out how the neck pain and neck disability while taking online classes

Total Numbers of participants are 94 among which there are 42 males 45% and 52 female 55%

The NPRS were taken in all the participants there is mild pain i.e., 21% in female, moderate pain i.e., 25% and severe pain is 46% in females and 8% is of worst pain

The NPRS in male participants are 26% in mild pain, 38% was of moderate pain and 31% were of severe pain and 5% of worst pain.

The nprs shows that 26% is having mild pain, 31% is having moderate pain, 48% is having severe pain and 6% is of worst pain.

The neck disability index score was analyzed among 94 participants in which 18.2% is of mild disability of neck, 29% is of moderate disability is present, 41% is of severe disability and 6% is of complete disability in teacher who were taking classes online.

Everyone had a fix routine which got hampered during pandemic and everyone was relaxed so, when the had to resume their work, they started experiencing pain due to lack of activity prolong improper posture.

A study was done by Richa Mahajan and Yashi Bhardwaj “Prevalence of neck pain in computer users” stated that in neck pain ins 43.9%, and upper back is 36.3% and leg is 16.5% in the computer users ^[4]

Neck pain is resulting for the improper posture causing micro trauma and stress over upper back also. Most of the time we don't think about the way we are sitting or take corrective action until we are in pain. ^[4]

Another study was done by Deepak Nambiar “Impact of online learning during covid-19 in teachers and students” shows 99.2% of student have pain and neck disability in 34.2% of students and no disability in 65.8 % of students ^[6]

A study was done by yaregal animut and Balamurugan janakiraman as “burden of shoulder pain and neck pain among school teachers in Ethiopia” shows that there is presence of neck and shoulder pain in teacher is present ^[7]

There is a need of ergonomically correction of while taking online classes, appropriate rest intervals, break may prevent pain. Also, the neck muscle exercise is useful in treating or preventing neck pain.

Postural correction will help in prevention of neck disability

X. CONCLUSION

This study concludes that teachers at secondary school have neck pain and neck disability while taking online classes.

XI. LIMITATION

1. Small sample size was included in study
2. Data was collected from a limited place that generalizability of result
3. This study cannot differentiate between the musculoskeletal pain due to increase in household work

XII. FUTURE SCOPE

1. This study can be conducted on a large population
2. Study duration can be longer to check the prolonged effect of online teaching
3. Correlation between neck pain and headache can be done
4. Future study can be done on postural affection while online teaching

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