



RESEARCH ARTICLE

THE PREVALENCE OF NECK PAIN DUE TO BAD SITTING POSTURE IN PHYSIOTHERAPY STUDENTS

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ABSTRACT

Background: Neck pain is predictable among people of all ages, everyone faces trouble with neck pain because of the poor posture and prolonged use of electronic devices. College Students also experience neck pain as they spend most of the time in college. They work with faculty posture on computers, slouch on desk & carry backpacks on one shoulder etc; therefore, the study aims to find the prevalence of neck pain due to bad sitting posture in college students. **Method:** A cross-sectional study was used. Total number of participants were 100 (58 females & 42 males), aged between 19-24 years and a questionnaire consisting of two parts i.e. Part 1: Numeric pain rating scale and Part 2: standard administered Questionnaire was filled by them. **Result:** The prevalence of neck pain is more in females than in males. Out of 100 students 58 experiences mild pain, 37 moderate pain and 5 severe pain. **Conclusion:** Major etiology of neck pain was prolonged static sitting posture with the forward head Bend.

INTRODUCTION

Nowadays, neck pain is predictable among people of all ages, whether it is a golden-ager, juvenile, or a schoolchild. In any stage of life, a person may experience neck pain because of the poor posture and prolonged use of electronic devices.^[1](Korthals-debos IB, Hoving JL). Students spend about 80% of their daily life in college and performing various activities in their college, like slouching over computers and laptops for long periods for their college projects, backpacks over one shoulder (laptop bag), and squeezing into chairs or desk, etc. All are posture ruining activities that every student performs daily.^[2](Conley MS, Meyers RA, Bloomberg J et al). "Neck pain is a feeling of soreness in the neck area. It can occur as an origin of disorder of any structure in the neck^[3](Melissa Conrad Stoppler, MD). Sign and symptoms of individuals with neck pain, these may include:

-) Stiff neck muscle, shoulders, arms, or lower back with pain.
-) Restricted movements of the neck
-) Feeling of soreness and fatigueness at upper back & shoulder.
-) Difficulty in focusing and concentrating
-) Presence of trigger points over traps⁽⁴⁾ St. James's hospital Dublin

Neck region most portable and most exploit part of the body, some of the important structures of neck that^[5] (The editor of encyclo) comprises C1-atlas and C2- axis.

-) **Joint:** Atlantoaxial joint, Atlanta-occipital joint and 14 facet joints
-) **The muscle of posterior of neck region:** Suboccipital muscle, Upper fiber of trapezius, Levator scapulae, Sternocleidomastoid muscle (SCM), Splenius cervicis, Splenius capitis, Semispinalis cervicis, and Semispinalis capitis (**Soft tissues:** skin, capsules, ligaments, muscles, deep fascia, superficial fascia)
-) **Movements at cervical region:** forward flexion, cervical extension, lateral flexion, rotation.
-) **Resting position:** slight extension
-) **Closed pack position:** full extension
-) **Capsular pattern:** side flexion and rotation equally limited

Biomechanically, the spines of cervical, thoracic and lumbar are interconnected^[6](Oxland TR). The thoracic spine sets out the supporting base for the cervical spine^[7] (Lau KT, Cheung KY, Chan KB, et al). When there is no traumatic injury, poor posture is the main root of neck pain.^[8] (Dreyer SJ, Borden SD). Bad posture results with the functional deviation from the normal aligned posture without any structural changes in the

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spine or lower extremities.^[9] (Bullock-Saxton. 1993). "In reflection, muscle weakness and muscular imbalance of the musculoskeletal system leads to the postural deformities that coincide with muscle findings"^[10] (Hammer, 2007). Being in a Static position for a long time can cause agonist muscle stiffness and weakened antagonist's muscle.^[11] Suliburska Głod-Nawrocka M, *et al.* (2012)^[12] Seefeldt V, Malina RM, Clark MA (2002). Continuous load on the neck leads to disc collapse or degenerative changes in the future, usually, it affects C5-C6 vertebrae and C6-C7 vertebrae^[13] (deshmukh S, bedekar N).The thoracic kyphosis rises due to forward head posture.

MATERIAL AND METHODOLOGY

A Cross-sectional study was done on 100 students of Bachelor of Physiotherapy, Jyotirao Phule Subharti college of physiotherapy, Swami Vivekananda Subharti University, Meeruttotfind the prevalence of neck pain due to bad sitting posture.

Inclusion criteria

-) Age group of 18-24 years.
-) Both males & females with the history of neck pain.
-) No history of recent trauma or injury.

Exclusion criteria

-) Disc prolapsed
-) Recent surgery
-) Recent injury or recent fracture
-) Congenital abnormality
-) Age more than 24years
-) If not willing to participate

Data collection: Data collection was done by telling the students about the objective and aim of the study and explained properly about the research to the subjects. The questionnaire was distributed among the students.

Dependent Variables

Numeric Pain Rating Scale (NPRS): The patient is asked to create three pain ratings comparable to the mild-moderate and severe. The patient is instructed to locate the level of pain on scale.

-) 0(no pain) to 10 (worst pain) were:-
-) 0 (no pain),
-) 1-3 (mild pain),
-) 4-6 (moderate pain),
-) 7-10 (severe pain)

Standard-Administered Questionnaire (SAQ)

-) Socio-demographic details: name, age, gender, marital status, height, weight, mode of transport, etc.
-) Pain-related questions: self-administered questionnaire (SAQ) is designed based on daily life and pain facing by the students in their ADLs and academic activities both inside or outside of the classroom were measured.
-) Characteristics of the chair used in college
-) Type of sitting posture's: Eight sitting postures have been categorized

-) Factor related to electronics
-) Psychological factor
-) Student lifestyle

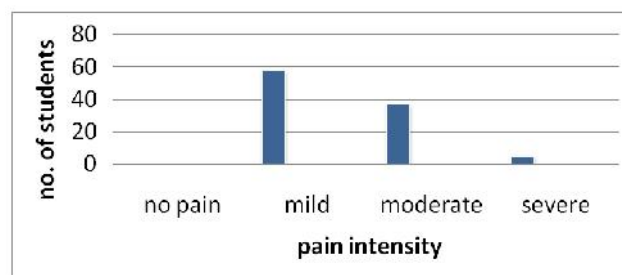
Data completion and Analysis: The collected data were entered during a coded form in MS Excel making table bar graphs. Keeping in sight the aims and objectives of the study, the information was then descriptively analyzed and interpreted in frequency & percentages.

RESULTS

The Sample of 100 college-going students from Jyotirao Phule Subharti College of Physiotherapy, Swami Vivekananda Subharti University, Meerut (U.P). Total 100 subjects in which 58 female students, and 42 male students were surveyed for the prevalence of neck pain due to bad sitting posture.

Table 1. Numeric pain rating scale (NPRS) scores

Pain Intensity	Total No. Of students 100
No pain	0
Mild	58
Moderate	37
Sever	5



Graph 1. Pain intensity of the students according to NPRS

Sitting posture:- The sitting time in classroom activities (5-6 hours/day) by 44% of students. A chair with armrests was used most often (100%). Maximum students use mobile phone for long durations, some of them use laptop. Computer is used by very less students. Frequency of exercise (maximum students prefer to do exercise occasionally) less physically active.

DISCUSSION

In a study done on neck pain prevalence and associated exposures in college going students of JyotiraoPhule College of Physiotherapy, SVSU in Meerut. We found that 100% of the population were suffering from Neck Pain with prolonged mobile usage and long static posture with forward head of bad sitting postures .During this study, a cross-sectional survey was done to collect self-report data.. The prevalence of neck pain is more susceptible in females than inmales students. This difference in results/percentages could even be because of socio-economic conditions, lack of physical activity. Another reason could be because of working hour's differences in both gender i.e. females work longer at house hold and in academics too. Another study reported that when female and male, observed together during a gaggle, it had

Table 2. Characteristics of chair and types of sitting posture in class

Variable	Construct	Frequency		Total percentage
		F	M	
Type of chair used	Arm rest	58	48	100%
Duration of sitting hours in class room	0-2 hrs	0	4	4%
	3-4 hrs	11	8	19%
	4-5 hrs	20	13	33%
	5-6 hrs	27	17	44%
a) rounded spine ; (concave spine posteriorly and the feet supported on the floor).	No	0	1	1%
	Yes	23	19	42%
b) increased lordotic curve; (increased convexity of spine posteriorly at lumbar region and the feet supported on the floor)	No	46	34	80%
	Yes	12	8	20%
c) straight/flat back and feet supported on the floor	No	27	19	46%
	Yes	31	23	54%
d) Back is supported on the chair, with backsliding of lumbar curvature and the feet supported on the floor.	No	32	19	51%
	Yes	0	1	1%
e) rounded spine ; (increased kyphotic curve) and the feet supported on the chair of another student	No	43	32	75%
	Yes	15	10	25%
f) rounded spine ; (increased kyphotic curve) with crossed legs.	No	34	28	62%
	Yes	24	14	38%
g) Straight/ flat back with crossed legs	No	31	22	63%
	Yes	27	20	47%
h) Sitting with back support and backsliding of the lumbar curve with feet supported on the chair of another student	No	0	1	1%
	Yes	19	16	35%

been found that everyone the symptomatic females were having similar posture. It had been believed that this result was due to Cervico-Thoracic Posture or it had been associated with habitual flexion of head in females.

CONCLUSION

Study concluded that out of 100 respondents. Neck pain was more prevalent in females(58%) than in males42% students. Major aetiology of neck pain was prolonged static sitting posture with the forward head bend, after attending classes regularly.

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