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Screening of Forward Head Posture And Its Impact On The Activity of Daily Living Among Collegiate Adults of Career Point University

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Abstract: Finding out the prevalence of forward head posture and its effects on daily living activities among Career Point University Kota students is the study's goal and objective. Cross-Sectional Study 98 participants who met the inclusion and exclusion criteria of a CV angle of less than 53° were enrolled in the study at Career Point University in Kota, Rajasthan. The woman was made to sit upright with her legs bent 90 degrees. Two points are marked: one on the subject's tragus and one on the skin overlaying the C7 vertebra. Following the acquisition of the shot, we used image tool software to quantify FHP using the CV angle. After analysing the data of 98 individuals, we discovered that 66 of the students had forward head posture while the remaining 32 had normal posture. The data from 98 patients were analysed using the mean percentage to determine the prevalence, and it was discovered that 66 of the 98 subjects had FHP whereas 32 had normal posture. In the pupils, FHP prevalence was reported to be 67%. An NDI questionnaire was administered to these 66 pupils in order to assess the effect on daily life activities. The majority of the pupils reported little to no discomfort and numbness both during the day and at night. Students who reported moderate or severe neck pain revealed that 6.06% of them experienced pain while performing personal care, whereas other activities like lifting heavy objects, working, participating in social activities, and driving were only marginally impacted by a forward-leaning head posture. While reading and watching TV, students who reported discomfort 48.49% displayed

mild pain and 21.23% displayed moderate pain.

According to all study findings, career point university students have a 67% prevalence of forward head posture, which to some extent interferes with daily activities

Keyword : FHP, NDI, CAV, VAS, Cranio Vertebral Angle, Moderate Pain

I INTRODUCTION

The public frequently complains of neck pain, which has a significant impact on people and their families, communities, the healthcare system, and enterprises. (2,3,4) The repetitive use of devices like computers, TVs, phones, and even bag packs causes the body to adopt poor posture (10), which causes numerous body parts to malfunction by shortening and lengthening as a result of muscular imbalance. (11)

Due to the biomechanical link between the head, cervical, and dentofacial structures, head and cervical posture has become increasingly problematic in recent years. (1) Forward head posture is caused by the cervical spine's anterior placement, which adds 10 lbs (4.5 kg) of weight to the cervical spine for every inch the head is moved forward. This results in the dysfunction of the musculoskeletal, neurological, and circulatory systems. (7,9)

Numerous research have been conducted to examine the relationship between forward head position and neck pain, and the results suggest that the forward head posture produces severe neck pain because it shortens muscle fibres and reduces the muscles' ability to produce tension. (8) Along with excruciating neck pain and muscular imbalance, the forward head posture can cause fatigue, limited range of motion, temporomandibular joint dysfunction, teeth grinding, pinched nerves, myofascial pain syndrome, headaches, migraines, numbness, tingling, and muscle spasms, all of which can make it difficult to perform daily tasks. (8,5)

II Literature Review

In order to provide students with the appropriate awareness of posture and ergonomic advice to treat neck pain, the current study was conducted to examine the prevalence of forward head posture and its impact on daily living activities in students. The lack of awareness of posture while working is a major factor in causing improper posture of the head and neck.

When the head is positioned anterior to the vertical line, this is known as forward head

posture. CVA (craniovertebral angle) should be less than 53 when the head is positioned forward.

Forward head posture (FHP), which is the forward positioning of the head in reference to the shoulder, may be facilitated by neck flexion (12). This is the most prevalent cervical postural error in the sagittal plan, and it can be seen in almost every population with varying degrees of severity. (12) Deficits in cervical range of motion, particularly neck flexion and rotation, have been linked to higher FHP. (12,13)

III METHODOLOGY

A Total 98 subjects were included in the present study according to the inclusion and exclusion criteria. All the subjects were taken from Career Point University Kota, Rajasthan

A cross sectional study.

Inclusion Criteria

1.Forward head posture (CVA <53) and rounded shoulder

2.Age between: - 18-25

3.Heterogenous population.

Exclusion Criteria

1.Fracture

2.Malignancy

3.Infection

4.Progressive Neuromuscular Deficit

5.Myelopathy

Instrumentations / Outcome Measures

1.Digital Video camera

2.Ruler (one meter)

3. Plastic pointer

4.Chair (with-out Arm Rest)

5.Rigid standard plastic transparent right angle

6.Plumb line

7.Marker

8.FHP Image tool software for CVA angle measurement.

9.Visual Analogue Scale (VAS)

10.Neck disability index

With the aid of the FHP application, the subjects were chosen and screened for forward head position by measuring the craniovertebral angle. It was determined that the participants with craniovertebral angles less than 53° had forward head position. They were given an explanation of the process for assessing forward head posture.

• To assess head and neck posture while standing, a digital imaging technique (FHP Image tool software) was employed.

• A camera was mounted on a tripod stand at a distance of 150 cm, with the height adjusted to the subject's shoulder level.

• The subject was instructed to sit in front of the camera and face the lens in a straight line. The picture was taken and saved as a jpg in the FHP programme. The angle was calculated along the line drawn from the tragus of the ear to the spinous process.

In order to determine the prevalence, the data from 98 subjects were examined using the mean percentage. It was discovered that, of the 98 subjects, 66 had forward head position while 32 had normal head posture. The prevalence of forward head posture in pupils was found to be 67%.

Table 6.1- Cranio Vertebral Angle Data of 66 Subjects

Sr. No.	FHP Reading	Sr. No.	FHP Reading	Sr. No.	FHP Reading
1	44.45	**23**	36.75	**45**	37.25
2	34.22	**24**	37.10	**46**	35.79
3	40.95	**25**	46.57	**47**	34.31
4	41.96	**26**	47.67	**48**	41.42
5	34.41	**27**	37.42	**49**	38.66
6	41.66	**28**	37.50	**50**	41.69
7	34.66	**29**	37.90	**51**	41.77
8	37.95	**30**	37.92	**52**	34.54
9	34.81	**31**	40.23	**53**	43.38
10	45.68	**32**	38.14	**54**	34.82
11	40.79	**33**	38.19	**55**	44.13
12	35.27	**34**	38.25	**56**	40.55
13	35.54	**35**	46.64	**57**	37.38
14	35.54	**36**	38.75	**58**	45.00
15	34.78	**37**	45.95	**59**	35.86
16	47.77	**38**	39.02	**60**	34.99
17	36.19	**39**	39.27	**61**	36.49
18	44.47	**40**	45.20	**62**	36.33
19	36.37	**41**	39.87	**63**	46.62
20	43.47	**42**	38.76	**64**	34.19
21	36.54	**43**	40.24	**65**	39.75
22	36.68	**44**	40.39	**66**	34.26

The information gathered via a questionnaire from the respondents with forward head posture is described. Distribution of data from the Neck Disability Index Questionnaire, where a score of 0 indicates no pain and a score of 5 indicates very severe pain.

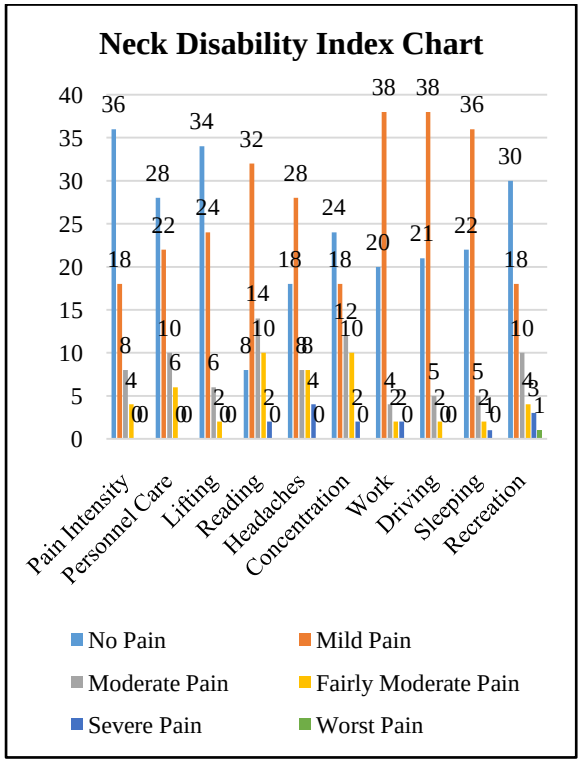
Table: 6.2

Neck Disability Index

Sr. No.	Parameters	Score					
		0	**1**	**2**	**3**	**4**	**5**
		No Pain	**Mild Pain**	**Moderate Pain**	**Fairly Moderate Pain**	**Severe Pain**	**Worst Pain**
1	Pain Intensity	36	18	8	4	0	0
2	Personnel Care	28	22	10	6	0	0
3	Lifting	34	24	6	2	0	0
4	Reading	8	32	14	10	2	0
5	Headaches	18	28	8	8	4	0
6	Concentration	24	18	12	10	2	0

7	Work	20	38	4	2	2	0
8	Driving	21	38	5	2	0	0
9	Sleeping	22	36	5	2	1	0
10	Recreation	30	18	10	4	3	1

IV Result



In our study, we discovered little or minor difficulties with daily living tasks among Career Point University students who had a forward head posture. The effects of a forward head posture on everyday life tasks were insignificant. The majority of the group chosen for the study were physiotherapy students, who may be aware of the risks associated with forward head posture and may be adopting some preventative measures, hence the impact on the outcomes was not significant. Numerous populations can be used for the investigation. It is possible to prevent forward head position with exercises. Before there are any structural alterations, ergonomics can be advised.

According to this study, students have a 67% prevalence of forward head position, which may be related to their habit of studying while hunched over with their necks bent.

Another cross-sectional study conducted by Mamania and Anap to determine the prevalence of forward head posture among physiotherapy students found that there is a 70% prevalence of the posture. They also discovered that students spent the majority of their time on books, laptops, and mobile devices, which may have contributed to their findings. [15]

The forward head posture has effects on respiration, palpitations, sleep difficulties, and numbness in the limbs in addition to pain. [17,18] Consequently, we may claim that it has an impact on the neurological, musculoskeletal, and respiratory systems.

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V CONCLUSION

The study's findings suggest that out of 98 pupils, there is a large prevalence of forward head posture, and that this defective posture has certain negative effects on daily activities. Since perfect posture can be achieved via conscious effort, a programme that incorporates exercises and a postural exam could help individuals become more aware of their posture and possibly alter their default positions.

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