Prevalence and Risk Factors for the Development of Upper-Crossed Syndrome (UCS) among DPT Students of University of Lahore

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Abstract: Upper Crossed Syndrome (UCS) is portrayed as a muscle imbalance arranged at the head and shoulder regions. This imposing unevenness is by and large found in individuals who work at desktops or who sit for a predominant part of the time and unfaltering show dreadful carriage. To determine the Prevalence and risk factors for the development of Upper-Crossed Syndrome (UCS) among DPT students of University of Lahore. Study was finished in 6 months after the regard of summary utilizing a review survey .A cross sectional overview comprising of 244 Physical Therapy undergraduates from University Institute Physical Therapy was led. Information on reported toward oneself neck, shoulder, and upper back agony and elements, for example, mechanical presentation, visual stress, and physical activity in relaxation time were gathered which eventually prompts Upper Cross Syndrome. The mean age of the respondents was 19.17±0.98 years where as the minimum age was 17 years and maximum was 22 years. The mean weight of the respondents was 56.30±12.00 years where as the minimum weight was 20 KG and maximum was 100 KG. There were 57 (23.4%) respondents with Thoracic pain in AROM during Flexion and 187 (76.6%) were not having pain in PROM. There were 60 (24.6%) respondents with Thoracic pain in AROM during Flexion whereas 184 (65.4%) respondents had no thoracic pain in AROM during flexion. In my study, 30 to 40 respondents having neck pain, flexed posture, rounded shoulders with considerable thoracic pain, hence are more prone to Upper Crosse Syndrome. However in previous literature there is no clear cut criteria for diagnosis of UCS.

Keywords: Upper Crossed Syndrome, Neck Pain, Muscle imbalance, Poor Posture

1. Introduction

1.1 Overview

Musculoskeletal damages have been represented as a main problem among young people (1). In an examination of Finnish associate of auxiliary school understudies 17% depicted attempting reactions in the neck and shoulder (2). Musculoskeletal proofs are furthermore an open issue in the used individuals (3), also, in European countries some place around 30% and 40% of every musculoskeletal sign ought to be business related (4). The disclosures of high desolation power levels in an early age have provoked proposals that the reason for work joined musculoskeletal hurt might be molded in the midst of youth (5-7). Thusly it will be fundamental to perceive possible peril components among youngsters and energetic workers to dodge the change of musculoskeletal throb in future life. It is ordinary that there are various components that bring about musculoskeletal complaints(8, 9) deriving that couple of unmistakable risk segments help its progression. Word related segments, for instance, postponed static muscle load and dismal work (10-12) might be a hotspot for hurt headway. Masculinity and physical activity are also figures that might be associated with musculoskeletal distress. Postural, visual or mental issues can similarly bring about musculoskeletal issue, particularly affecting the cervical and thoracic locale(13). As demonstrated by Janda's farsighted

clarification of muscle ponderousness, significant cervical flexors and lower scapular stabilizers get the opportunity to be subdued in a foreseen illustration (upper crossed disorder). Upper-Crossed Syndrome (UCS) is also implied as proximal or shoulder support crossed confusion. In UCS, coziness of the upper trapezius and levator scapula on the dorsal side crosses with coziness of the pectoralis genuine and minor. Weakness of the significant cervical flexors ventrally crosses with inadequacy of the middle and lower trapezius (14) this case of unevenness makes joint brokenness, particularly at the atlantooccipital joint, C4-5 area, cervicothoracic joint, glenohumeral joint, and T4-T5 bit. Janda noticed that these focal regions of uneasiness inside the spine contrast with transitional zones in which neighboring vertebrae change in morphology (14-16). The purpose of this study was to center the insightful variables for the change of upper-crossed issue among students. In upper cross issue some specific postural movements are seen, including forward head carriage, extended cervical lordosis and thoracic kyphosis, raised and developed shoulders, and unrest or seizing and winging of the scapulae. These postural movements reduce glenohumeral quality as the glenoid fossa gets the opportunity to be more vertical on account of serratus front weakness provoking grabbing, turn, and winging of the scapulae (16). There is no study coordinated on upper cross issue in school understudies. Simply study is driven on the understudies of dental cleanliness. In this study there was no connection found amidst UCS and understudies of dental cleanliness. The study will improve study carriage decisions for understudies. Give demonstrate that the PDA customers and understudies with dreadful carriage might be at a more genuine risk for further change of musculoskeletal disorder. With carriage conformity and muscle loosening up get ready for understudies it will guide the understudies to decrease the UCS. To center the pervasiveness and threat variables for the headway of Upper-Crossed Syndrome (UCS) among DPT understudies and to exhibit that the compact PC customers and poor carriage are on major risk for further change of musculoskeletal disorder. The purpose of the present study is to evaluate peril of UCS in undergrad Students.

1.2 Objectives

To determine the Prevalence and risk factors for the development of Upper-Crossed Syndrome (UCS) among DPT students of University of Lahore

1.3 Rationale

The rationale of the study is to aware the DPT students of University of Lahore about good posture thus protecting them from any related pathology.

1.4 Operational Definitions

1.4.1 Upper Crossed Syndrome:

Upper-Crossed Syndrome (UCS) is additionally alluded to as proximal or shoulder support crossed disorder. In UCS, snugness of the upper trapezius and levator scapula on the dorsal side crosses with snugness of the pectoralis major and minor.

1.4.2 Neck Pain

Neck pain or a stiff neck is a typical issue and for the most part nothing to stress over. The pain and stiffness normally shows signs of improvement following a couple days

1.4.3 Muscle Imbalance

Muscle imbalance characteristics happen when one muscle is more grounded than its contradicting muscle. For instance, on the off chance that you sit throughout the day at a PC or workaholic behavior your mirror muscles (like the mid-section and abs), your shoulders are likely pulled forward making a quality awkwardness between the front of your body and the back.

1.4.4 Poor Posture

Posture that outcomes from certain muscles taking care of or shortening while others protract and get to be frail which regularly happens as a consequence of one's day by day exercises.

1.5 Materials and Methods

1.5.1 Study Design

The present study is a cross sectional study

1.5.2 Setting

The study was conducted in University of Lahore

1.5.3 Study Population

Male and Female students of University of Lahore

1.5.4 Duration of Study

The study took 4 months from November 2013 to February 2014 after approval from advance research committee

1.5.5 Sample size

The sample size was calculated by the following formula keeping the power of study equal to 90% and level of significance equal to 5%. The sample size should be 244.

$$=\frac{z_{1-\alpha/s}^2 P(1-P)}{d^2}$$

1.5.6 Eligibility

Inclusion Criteria

• Freely accept to take part in the study.

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• Age ranging from 17 to 25 years.

Exclusion Criteria

- History of upper body trauma.
- History of postural structural deformity.
- Occasional computer users.

1.5.7 Data collection

The study was conducted in University of Lahore which has about 681 students enrolled in DPT at the start of study. 19 students refused to participate in the study and 13 were not available during study duration. Remaining 244 students were surveyed for the risk factors were selected by simple random sampling using random number table. A self-Administered questionnaire was used, reliability and validity of which was done by literature review.

1.5.8 Ethical consideration

The ethical committee and Department of Medical Education of University of Lahore approved to conduct the study in the University. Only those students were included in the study who signed the written consent. All the personal information of participants were kept hidden

1.5.9 Statistical Procedure

The Data was analyzed using SPSS v20.Mean±SD was calculated for numeric variables i.e. age, weight, and height. Frequency and percentage was shown with categorical variables e.g. Neck Pain, working duration, shoulder posture.

2. Results

Variables	Mean	Standard Deviation
Age	19	0.98
Weight	56	12
Height	60	2

The mean age of the respondents was 19.17 ± 0.98 years where as the minimum age was 17 years and maximum was 22 years. The mean weight of the respondents was 56.30 ± 12.00 years where as the minimum weight was 20 KG and maximum was 100 KG. The mean height of the respondents was 60.66 ± 2.22 inches where as the minimum height was 48 Inch and maximum was 72.01 Inch.

Variable	Construct	Frequency	Valid
			Percentage
Neck Pain	Yes	86	35.2
	No	158	64.8
Neck Pain Intensity	1 to $3 = Mild$	187	76.6
	3 To 7 is =	5.4	22.1
	Moderate	54	22.1
	7 to 10 is =	2	1.0
	Severe	5	1.2
Working Duration	0 to 2 hr	86	35.2
	2 to 4 hr	134	54.9
	4 to 6 hr	11	4.5
	more than 6 hrs	13	5.3
Shoulder Posture	Rounded	129	52.9
	Erect	115	47.1
Neck Pain During	Yes	57	23.4
Flexion	No	187	76.6
Neck Pain During	Ves	41	16.8
Extension	No	203	83.2
Neck Pain in PPOM	Vas	38	15.6
During Right Side	No	206	84.4
Potation	INO N	200	04.4
Kotation			
Neck Pain in PROM	Ves	20	11.0
During Left Side	103	22	11.7
Rotation	No	215	88.1
Kotation	NO	215	00.1
Neck Pain in PROM	Ves	36	14.8
During Right Side	103	50	14.0
Bending	No	208	85.2
Thoracic Pain in AROM	Ves	60	24.6
during Flexion	No	184	75.4
Thoracic Pain in AROM	Ves	41	16.8
during Extension	No	203	83.2
Thoracic Pain in AROM	Ves	32	13.1
during Dight Side	105	32	15.1
Rotation	No	212	86.9
Thoracic Pain in AROM	Ves	32	13.1
during L eft Side Rotation	No	212	86.0
Thoragia Dain in AROM	NO Vos	212	15.2
during Dight Side	105	57	13.2
Banding	No	207	84.8
Thoracic Dain in APOM	Vac	32	13.1
during Left Side Banding	No	212	86.0
Visual Display Tamir -1	Vac	212	00.9
Visual Display Terminal	I es	242	99.2
Deviation from View 1		17	0.8
Deviation from Visual	TO THE LEFT	1/	7.0
Display Terminal	IU THE	36	14.8
	DIRECTLY IN	191	78.3
	FRUNT		
Space Between KB and	NOT ENOUGH	85	34.8
Table Edge	5PACE ENQUEU		
	SDACE	159	65.2
	SFACE	1	1

There were 86(35.2%) respondents who had a considerable neck pain whereas 158 (64.8%) had no neck pain. There were (76.6%) respondents who had mild pain, (22.1%) had moderate pain and 1.2% had severe pain. There were 86 (35.2%) respondents who were working for 0 to 2 hours, 134 (54.9%) were working between 2 to 4 hours, 11 (4.5%) of the respondents were working for 4 to 6 hours, 13 (5.3%) patients were working for more than 6 hours. There were 129 (52.9%) respondents who had rounded shoulder posture, 115 (47.1%) had Erected shoulder posture.

There were 57 (23.4%) respondents who were having neck pain in PROM during Flexion and 187 (76.6%) were not having pain in PROM. There were 41 (16.8%) respondents with neck pain in AROM during extension and 203 (83.2%) respondents had no neck pain in AROM during extension. There were 38 (15.6%) respondents who were having neck pain in PROM during right side rotation and 206 (84.4%) respondents had no pain in PROM during right side rotation. There were 29 (11.9%) respondents who had neck pain in PROM during left side rotation and 215 (88.1%) respondents who had no neck pain in PROM during left side rotation. There were 36 (14.8%) respondents with neck in PROM during right side bending and 208 (85.2%) respondents had no neck pain in PROM during right side bending.

There were 60 (24.6%) respondents with Thoracic pain in AROM during Flexion whereas 184 (65.4%) respondents had no thoracic pain in AROM during flexion. There were 41(16.8%) respondents with thoracic pain in AROM during Extension. There were 32 (13.1%) respondents who had thoracic pain in AROM during right side rotation. There were 32 (13.1%) respondents who had thoracic pain in AROM during left side rotation. There were 37 (15.2%) respondents who had thoracic pain in AROM during right side bending. There were 32 (13.1%) respondents with thoracic pain in AROM during left side bending. There were 242 (99.2%) respondents who had visual display terminal use. There were 17 (7%) respondents who had deviation from visual display terminal to the left, 36 (14.8%) respondents had deviation from visual display terminal to the right and 191 (78.3%) respondents had devotion from visual display terminal directly in front. There were 85 (34.8%) respondents who had between KB and Table edge and 159 (65.2%) Respondents had enough space.

3. Conclusion

This study shows that a couple undergrad who select in a DPT course with past dreadful stances can have these issues exacerbated in the midst of get ready. An obvious measure of new events is possible as a delayed consequence of the change they manage or get from various students. Only a few the throbs and postural issues upheld in school were not kidding to the level of thwarting the presentations of customary consistently work. Potential markers may consolidate design uneasiness, sex, level of Visual Display Terminal (VDT), and misarranging while examining. Several understudies changed their arrangement conduct on account of their injury. Peril

parts and instruments accountable for the unusual measures of throbs occurring due to frightful stances require further examination. This investigation perceives a basic prerequisite for understudies to hold quick to honest to goodness framework standards and also the need to layout a comprehensive and shrewd tradition to turn away harm to physiotherapy understudies in the midst of their planning program.

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