

Prevalence of Upper Cross Syndrome in Different Occupations

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Highlights:

- This research was conducted on different occupations.
- Cross-sectional Study.
- Numeric Pain Rating Scale and Neck

Abstract:

Upper crossed syndrome is caused by weak lower and middle trapezius, tight upper trapezius and levator scapulae, weak deep-neck flexors, tight sub occipital muscles and sternocleidomastoid, weak serratus anterior, and tight pectoralis major and minor

Objective:

To find prevalence of upper cross syndrome in different occupations

Methodology:

In this cross sectional study data was collected from department of physical therapy Hamza Medical Centre, Islamabad. Study was conducted in 6 months (June 2019 to December 2019). Sample size was 37 that was collected through Epitool calculator. Participants were made aware of the study Pectoralis major contracture test was performed to check the pectoral muscles tightness. After that, trapezius weakness test was performed. In this test weakness of middle and lower trapezius muscle was assessed Verbal consent form was taken. Data collection tools were Numeric pain rating scale (NPRS) and Neck disability index (Pain). Data was analyzed by using SPSS version 20.

Results:

Total 37 participants were recruited for this The mean age for the participants was 32.11+ 5.606. There were 54.5% male participants and 45.95 female participants.%. Prevalence of upper cross syndrome in desk workers was

(12)32.43%. Pravalence of Upper Cross syndrome in Drivers was (9)24.32%. Pravalence of upper cross syndrome in House wives was (10)27.03%. Pravalence of Upper cross syndrome in teachers was (6)16.22%.

Conclusion:

This research concluded that there is prevalence of upper cross syndrome in different occupations. This study also concluded that rest and medicine are reliving factors for upper cross syndrome participants

Keywords:

Upper Cross Syndrome, Pain, Prevalence

Introduction:

Upper crossed syndrome is caused by weak lower and middle trapezius, tight upper trapezius and levator scapulae, weak deep-neck flexors, tight sub occipital muscles and sternocleidomastoid, weak serratus anterior, and tight pectoralis major and minor.¹ Mainly the head get one of the seventh percent of the body weight; therefore, preserved a unmoving placement with the head leaning anteriorly exerts 3.6 times force is greater than is necessary for the preservation of the identical posture as with straight standing position.² As Jandasaid there are concurrent incidences of forward head and protracted shoulders in upper cross syndrome.³ In upper cross syndrome Forward head is a forward leaning position of head with cervical spine hyperextension and linked with tightness of the trapezius (upper), the splenius and semispinalis capitis and cervicis and levator scapulae musculature.⁴ In upper cross syndrome, forward head is usually correlated with posterior cervical extensor muscles shortening, upper trapezius tightness as well as tightness of the sternocleidomastoid muscle.⁵

With regard to the natural body path, the position of shoulders toward the back spine has an important role in having proper look (beauty) and preferred physical condition.⁶ Scapular changes and shoulder are linked to each other.⁷ Any type of change in natural direction of scapula leads to change in local presentation, position and movement chain. When the distance of scapula's becomes so far or near to each other various physical positions.⁸ Such as Pigeon chest, forward shoulder posture, kyphosis, scoliosis.⁹ or scapular winging are accounted.¹⁰ The forward posture of shoulder is the front deviation in shoulders.¹¹ Which is related to the scapular protraction position and created by muscular discrepancy between the shortened small pectoralis muscle and weak middle trapezius muscle.¹² An exercise plan for forward head posture conducted by principles of stretching and strengthening exercises protocol that deal with.¹³ fundamental problems of soft tissues would include flexors of deep cervical and strengthening of shoulder retractors and extensors of cervical and muscle stretching of pectoralis muscles.¹⁴ The beneficial tool of weakened postural muscles strengthening and stretching of tight ones to get better position of posture has been promoter and is a focus of physiotherapy practice as well as other bodywork plan.¹⁵ Seok Hyun Nam et al (2013) studied that onset of neck pain mainly associated with forward head posture which cause sub occipitals muscle shortening, weakness of the scapular retractor muscles and anterior muscles of neck.¹⁶ Katherine Harman et al (2015) studied that forward head posture was linked with headache and poor strength. This biomechanical strain, in the incidence of condensed strength of the core stabilizing neck muscles, in particular if it is repeated or prolonged are the major clarification for symptoms related with forward head posture.¹⁷ The purpose of this research was to check the prevalence of upper cross syndrome in different occupations. Relieving and aggravating factors of upper cross syndrome were also checked. There is very few literature

available on these factors associated with upper cross syndrome as per m knowledge.

Methodology:

In this cross sectional study data was collected from department of physical therapy Hamza Medical Centre Islamabad. Sample size was 37 that was collected through Epitool calculator. Participants were made aware of the study Pectoralis major contracture test was performed to check the pectoral muscles tightness. After that, trapezius weakness test was performed. In this test weakness of middle and lower trapezius muscle was assessed Verbal consent form was taken. Data collection tools were Numeric pain rating scale (NPRS) and Neck disability index (Pain) Ethical letter was taken before data collection procedure. Inclusion Criteria was Participants with constantly or frequently occurring neck-shoulder pain more than 1 month. Participants working for at least 3 years. Age between 25 and 50 years. Exclusion Criteria was .Any malignancy related to soft tissue and joints. Congenital shoulder deformities Recent fractures to related joints. Recent surgery. Data was analyzed using SPSS version 20.

Results:

Total 37 participants were recruited for this The mean age for the participants was 32.11+ 5.606. There were 54.5% male participants and 45.95 female participants.%. Table 1 shows that Prevalence of upper cross syndrome in desk workers was (12)32.43%. Pravalence of Upper Cross syndrome in Drivers was (9)24.325. Pravalence of upper cross syndrome in House wives was (10)27.035. Pravalence of Upper cross syndrome in teachers was (6)16.22%. Table 2 stated that. Among 35 participants 12(32.4%) marked Neck Extension as Aggravating factor. 4(10.8%) marked Neck flexion as aggravating factor. 5(13.5%) marked side bending. 3(8.1 5) marked neck rotation. 13(35.1 %) marked all neck movements as aggravating factors. Table 1 stated that Rest was a relieving factor for 14(37.8%), Medicine was relieving for 15(40.5%) 8(21.6%) stated there was no relieving factor for them.

Occupation	Frequency (%)
Desk Workers	12(32.4)
Drivers	9(24.3)
Housewife	10(27.0)
Teacher	6(16.2)
Total	37(100)

Table 1: Demographics of Pravalence of upper cross syndrome in Different Occupation

Aggravating Factors	Frequency (%)
Neck Extension	12(32.4)
Neck Flexion	4(10.85)
Side Bending	5(13.5)
Neck Rotation	3(8.1)
All Neck Movements	13(35.1)
Total	37(100)

Table 2: Frequency of Aggravating Factors

Relieving Factors	Frequency (%)
Rest	14(37.5)
Medicine	15(40.5)
Nil	8(21.6)
Total	37(100)

Table 3: Frequency of Relieving Factors

Discussion:

In this study prevalence of upper cross syndrome was checked in different occupations. Desk workers and drivers showed more occurrence due to their posture imbalance as compared to teachers and housewives. Rest and medicine were relieving factors among all. Aggravating factors include different neck ranges. In some participants all neck movements were marked as aggravating factors. According to a study conducted on drivers in 2016 by Rugbeer and coworkers. Due to driving (22%), most of the pain was noted in the upper back (44%), followed by lower back (42%), neck (42%), shoulder (37%), and wrist/hand (31%).¹⁸ Results of current study were in favor of this

research. In current study prevalence of upper cross syndrome was checked. Drivers marked 24.3% pain due to driving in current study. Another study was conducted by Junaid *et al.*, in 2019 on Drivers. This study also concluded that there were no relieving factors of upper cross syndrome patients.¹⁹ Results of this study were in contrast with current study. Current study stated that there were many relieving factors for upper cross syndrome patients. Rest and medicine was found to be very important relieving factors for upper cross syndrome patients. A study was conducted in Kashan in 2011 to check prevalence of upper cross syndrome in office workers. This study stated that 35.9% office workers were suffering from upper cross syndrome. Neck and body posture was the main reason according to this study.²⁰ Results of this research were in favor of current study as it stated that participants from different occupations: drivers (24.3%), desk workers marked (32.4%). According to the results of current study housewives were also suffering from upper cross syndrome. Reason behind is that during household tasks they don't maintain a good posture that causes them pain and other difficulties. According to current research teachers' were also suffering from upper cross syndrome. This can be due to they have to perform their duty while continuously standing.

Conclusion:

This research concluded that there is prevalence of upper cross syndrome in different occupations. This study also concluded that rest and medicine are relieving factors for upper cross syndrome participants.

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