A Cross-sectional Study
Volume 6:3, 2021

Journal of
Physiotherapy & Physical Rehabilitation

ISSN: 2573-0312 Open Access

Prevalence of Scapular Dyskinesia in Bankers

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Abstract

Objective: The primary objective was to assess and to calculate the prevalence of scapular dyskinesia in bankers. The secondary objective was to check the association of scapular dyskinesia, BMI Kg/m^2 and with the sex of the participants

Methods: This study is an observational cross-sectional type and sample size taken was of 101. Non-probability judgment sampling was used and research was carried out at the district of Gujrat and Gujranwala. Test used to identify scapular dyskinesia was lateral scapular slide test, DASH questionnaire was used and pain was measured using numerical pain rating scale.

Results: According to the results among the total participants of 101 only 26 participants (25.7%) were recorded to be positive and the rest 75 (74.3%) were negative.

Conclusion: It was concluded that bad postural habits somehow had an impact on the musculoskeletal condition of the worker specifically in the office sittings which might lead to scapular dyskinesia.

Keywords: Scapular Dyskinesia • Strengthening Exercises • Postural Training • Large Synoptic Survey Telescope • Dietary Approaches to Stop Hypertension • Numerical Pain Rating Scale

Introduction

Scapular dyskinesis is described as a condition in which there is disturbed ratio between the scapular stabilization and mobility because of the weakness of stabilizers. Scapular Dyskinesis is a term used for noticeable alternations in position of scapula that are linked with injuries of shoulder [1]. Computer work related musculoskeletal disorders are at the prevalence of about 76% among which pain is at 55% and stiffness at 14.8%. Further-more it was seen that back issues in bankers were at a prevalence of 18.6%. It is also known that the occurrence of scapular alterations during flexion and abduction of shoulder are same in participants with and without the presence of symptoms, having the prevalence of about 71-77% and 71-76% respectively [2].

Scapular winging has a direct effect on the movement of shoulder and causes its restriction [3] Similarly, risk factors involved in scapular dyskinesia are either because of injury, idiopathic reasons, trauma to nerve or restricted motion of a group of muscles. Other factors include extreme kyphosis of the thoracic region, instability of acromioclavicular joint, mal-alignment after the fracture of clavicle and soft tissue fatigue or bad posture [4,5]. Exercise for treatment of scapular dyskinesia are strengthening exercises [6], wall washes exercises, stretching pet. Minor, seated push-ups, punches, black-burn exercises for scapular retractors strengthening [7].

There is a limited data available on scapular dyskinesia in Gujrat and secondly there is need to access prevalence of Scapular dyskinesia in this Population to provide awareness in bankers to improve work performance and reduce risk of scapular dyskinesia in bankers and to reduce the pain in office workers. This study therefore intends to identify problems existing in bankers related to scapular dyskinesia, to check the prevalence of it and to avoid further such conditions generalized musculoskeletal disorders are observed in bankers but specifically scapular dyskinesis is not observed.

Material and Methods

An observational cross-sectional study was done. Data were collected from the Banks of Gujarat district and Gujranwala. Sample size of 101 participants was taken. Probability nonjudgmental sampling Sample selection criteria included People having experience of working for more than 1-2 year due to constantly sitting and working more than 8 hours a day and 5 days in a week [8]. Age between 25- 60 years to see the variation occurring in which stage of life using computer desk continuously for more than 5 to 6 hours in sitting posture without having breaks [5-12]. Excluded people were Obese population having BMI >30 kg/m2 are excluded. Having any surgery associated with upper limb [13]. Having congenital diseases like they are present at or before birth such as congenital anomalies related to upper extremity, spinal bifida, or heart anomalies Fracture or recent history of fall in the upper extremity. Pain in region other than upper back specially abdominal or pelvic pain because they can radiate to the shoulder [12]. The Disabilities of the Arm, Shoulder and Hand (DASH) questionnaire and the Lateral Scapular Slide Test (LSST) is used to determine scapular position with the arm abducted 0, 45, and 90 degrees in the frontal plane. Measurements were taken in 3 different positions: Sitting/standing with arms resting on the side, Hands on the waist, Thumbs posterior (45 abduction), 90 degrees abduction and maximal internal rotation. Measurement should not be more than 1.5 cm according to current studies. Goniometry was used for finding the ranges of shoulder flexion and abduction and cervical ranges of flexion, extension, lateral rotation of right and left and right left rotation. BMI was calculated also by using weight machine and measuring tape. Numerical pain rating scale was used for finding the pain frequency of the participant. Data were analyzed by SPSS software 21 version [14].

Results

A sample of 101 participants of both genders was taken. Out of total 31(30.7%) were females that ratio was approximately not equal to the male with 70(69.3%) that is presented in Table 1. Numerical Pain rating Scale were seen 44(43.54%) had mild pain from 0 to 4 34(33.6%) had moderate pain from 5 to 8 disagree 20(19.8%) had severe pain from 8 to 10 3(2.97) had no pain as shown in Table 2.

Out of total both genders it was seen that 26(25.7) had positive scapular dyskinesis. The result was obtained by the lateral scapular slide test and the positive participants had more than 1.5 cm value and 75(74.3%) had negative they had less than 1.5 cm as shown in Table 3. Prevalence of scapular dyskinesis was found about 74.26% out of total and difference was statistically with p-value of 0.000 as shown in Table 3 and the association between the health status through BMI and scapular dyskinesia in which, out of total, 2(1.98%) was in underweight having positive result and, 8(7.92%) in normal weight and 16(15.84%) in over weight were seen as presented in Figure 1.

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Received 01 March 2021; **Accepted** 22 March 2021; **Published** 29 March 2021

Table 1. Demographic characteristics of participants.

Variables		N (%)
Gender	Male	31 (30.7%)
	Female	70 (69.3%)

Table 2. Numerical pain rating scale.

Variables		N (%)
Numerical pain rating scale	mild pain 0 to 4	44(43.5%)
	moderate 5 to 8	34(33.7%)
	severe 8 to 10	20(19.8%)
	Unable	3(3%)
	Total	101

Table 3. Scapular dyskinesis Test.

Associations	Gender	n%	p-value
Scapular dyskinesis Test	Positive (more than1.5)	26(25.7%)	<0.00
	Negative (less than 1.5)	75(74.3%)	<0.00

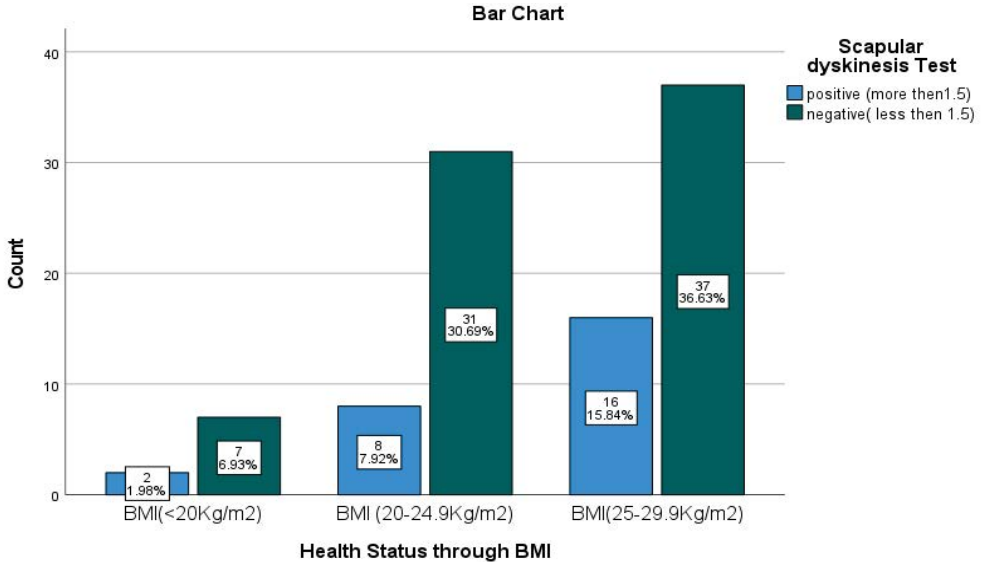

Figure 1. Body mass index (BMI) Kg/m^2.

Discussion

Whereas in the recent study sample size is of 101 was taken and the prevalence of scapular dyskinesia occurred to be 25.3% In our study the results show that both gender that work more than 6 hours 99.01% had risk of having as compared to those that work less than 6 hours. In our study the pain was about 37% more than 5 min between 1 hour And the incidence of scapular dyskinesis positive was about 24.7% in both genders and the pain scale of each individual was 43.6%in mild 33.7% in moderate and 19.8% in severe and 3% individual are unable to tolerate the pain level. Out of total 101 samples the prevalence of scapular dyskinesia was seen about positive 18.81% in males and about 6.93% in females. Previously most researches were conducted on the populations like tennis players, swimmers, athletes, in asymptomatic population, in overhead and non-overhead athletes and their prevalence were recorded to be 43%, 44%, 35%, 54.5% and 33.3% respectively. According to one study prevalence of different conditions was seen, among which low back pain was at 18.5%, at neck it was 14.5%, in lower limb they were at 3%. In another study they had a prevalence of 34.6%. A sample of 36 participants in which 41.7% of office workers had positive test and the prevalence rate for negative responses was 58.314. A study conducted in 1 year concluded that 36.7 pain was seen in the neck region as compared to the shoulder, scapula and arm pain 32% and this conditions was associated with work related attitude and poor working posture sitting in one posture for a long time. The findings that we had seen like other studies that work environment play an important role in musculoskeletal system in office workers and scapular dyskinesis was seen in them.

The limitations of this study were that bankers were already aware of the assessment being held which could result in the change of behavior of participants. Because of their busy routine most of the participants didn't co-operate well.

Conclusion

Hence, it was found from our study that maintaining good posture while sitting at the offices or in banks is must and a healthy life-style should be adopted at work places for preventing workers from having further postural abnormalities later in life. The main reason behind getting scapular dyskinesia is having fatigued stabilizer muscles of scapula because of the prolonged sitting posture which might further affect the functional activities of upper extremity. Postural training is a must to be provided to office and bank workers during proper training sessions in order to protect musculoskeletal injuries

Acknowledgement

I would like to pay my regards and heartedly thankful and appreciations toward to my supervisor Dr. Shamaila Yaqub and the University of Lahore for this invaluable supervision guidance and constant encouragement throughout the

study and assistance to bring this data in final shape and assisting in typing the study and analysis of the data.

I respect and thanks Mr. Asim Raza for giving me all support and guidance which made me complete the thesis duly. I aspire to explicit my deep gratitude and particularly my intense gratification for such support

I acknowledge the effort and advice of Dr. Farooq Islam (HOD, UIPT) and my seniors and fellow colleagues for helping me during this project

I am most grateful to Almighty who provided me this opportunity to conduct this study. I am highly obliged and grateful to my honorable and respected supervisor for everything she did to make this a successful project.

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How to cite this article: Shamaila Yaqub, Aimeen Sajjad Paroya, Farooq Islam, Zainab Sabir, and Amber Arooj. "Prevalence of Scapular Dyskinesia in Bankers". Physiother Rehabil 6 (2021):215.