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Prevalence Of Scapular Dyskinesis And Scapular Muscle Weakness In Sugar Factory Workers

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ABSTRACT

Background**:**

scapular dyskinesis and scapular muscle weakness are condition associated with upper limb activity, poor posture, sustained manual labor. This cause discomfort and pain. Sugar factory workers frequently engage in repetitive activity that can cause scapular dyskinesis.

Methods**:**

The cross-sectional survey that was conducted in Ajinkya tara sugar factory satara the purpose of this repetitive study is to determine how many sugar factory workers are affected with scapular dyskinesis. Prior to conducting the survey, the ethical committee approval was made. Patient select according to inclusion and exclusion criteria. With permission.172 sugar factory workers are participating in this study. And result was obtained by the help of statistician

Result**:**

in this study we found 128 sugar factory workers are positive for scapular dyskinesis the percentage of prevalence of this study was 74.41%and also these workers are present with scapular muscle weakness and present with shoulder pain.

Conclusion**:**

this study indicates that SD is prevalent in sugar factory worker. Those are engaged in repetitive overhead activity and heavy lifting. And also, scapular muscle weakness seen in this people.

Keywords: scapular dyskinesis, sugar factory workers, scapular muscle weakness.

INTRODUCTION

Scapular dyskinesis is musculoskeletal condition leading to pain and dysfunction in the shoulder region. [1] Prevalence of scapular dyskinesis in specific occupational group such as sugar factory workers is limited it is essential to understand the potential risks factor Scapular dyskinesis involve alternation in the normal movement of scapula [2]This condition can result from variety of factors including muscle imbalance, overuse and traumatic injuries, repetitive movement of shoulder [3] This condition can disturbed the normal biomechanics of shoulder complex lead to pain ,discomfort and functional limitations and also cause scapular muscle weakness. [4] Scapular muscle is playing important role in stabilizing shoulder complex when this muscle are weak that lead to shoulder abnormality. [5] Scapular dyskinesis is defined as the alternation in static and dynamic position or motion of the scapula during coupled scapulohumeral rhythm. [1]are impacting not only athletes but also individual engaged in various occupational activities, such as , factory workers. Any changes from normal scapular kinematics can lead to discomfort, and even more severe musculoskeletal issues. [6] There is growing need to exposure its occurrence in the context of occupational settings such as factories and. work related activities heavy lifting and prolonged period of overhead work can place significant stress on the shoulder complex, potentially increasing risk of scapular dyskinesis. [7] proper scapular movement and position are important for stability, strength and mobility of shoulder. [8] prevalence on scapular dyskinesis has primarily on athletes, especially those involved in overhead

sports, like baseball. Swimming limited attention paid to the prevalence and implication of scapular dyskinesis in individual engaged in various occupational activity like factory workers , construction workers. [9]as sugar factory workers often require repetitive motion , heavy lifting and prolonged period of heavy work these work related activities can subject the shoulder complex and particular in scapula to substantial stress it is important to investigate the prevalence of scapular dyskinesis in sugar factory workers and its potentially impact on their health and productivity of work [10]Chances of having scapular dyskinesis in sugar factory workers are very high because of their work related risk factor like heavy lifting of sugar bag repetitive movement of scapula and shoulder during work or forward posture during various machinery operating [11] Scapular muscle strength is very important for doing this work and due to this activity doing during the work scapular muscles are go to the weakness and other musculoskeletal problems are occur like shoulder pain neck pain and that problem hampers the workers well-being inside and outside the work. [12] Sugar factory workers maintain posture like standing forward head posture during work for many hours so that impact on their scapular and shoulder health that lead to the pain or discomfort to patient[13] Understanding the prevalence of scapular dyskinesis and muscle weakness n sugar factory workers for very reasons it allow identification of potential health risks within this workplace which can improve productivity of work Muscle imbalance due to repetitive activity than can cause instability is important factor for scapular dyskinesis [14]Our goal is to investigate the prevalence of scapular dyskinesis and scapular muscle weakness in sugar factory workers due to their demanding task it is high chances of having scapular dyskinesis so that can we prevent or proper advice for exercise and other instruction given to workers to prevent long term complication and we also help to improve quality of life and productivity of workers . [15]

METHODS

A cross-sectional survey conducted in satara city in Ajinkya Tara sugar factory shendre.172 participants are given their consent to participant in this study .102 of them are men and 70 were women. Who are working in sugar factory at least 1 year. the statistician determined the sample size based on a thorough review of literature.

Ethical committee give permission for conducting this study with ethical concern. Workers are working in sugar factory in Ajinkya Tara sugar factory in satara are having complains of pain and muscle weakness. We ask them about work related questions to give information about risk factor that causes the pain. Out of 172 workers around 160 workers are working from at least 1 year and for determining the scapular dyskinesis in this worker we using outcome measure as lateral scapular slide test and for identify muscle weakness we use manual muscle test grading. Pain intensity was identify using visual analogue scale. All data was collected and the assistance of statistician was used for data analysis. And result was made.

MEASUREMENT OF SCAPULAR DYSKINESIS:

Lateral scapular slide test (LSST) is performed in workers. This test need no expensive and need minimal assistance material requiring like pen measure tape, pencil this test can provide diagnostic accuracy and specificity test is explain to workers and performed this test is performed in 3 different position

1)shoulder at neutral position marking taking from spinous process of thoracic vertebra and inferior angle of scapula

2)shoulders at 45 degrees of Abduction

3)90-degree shoulder abduction with thumb downward position

RESULT:

The present study was conducted the prevalence of Scapular Dyskinesis in sugar factory workers .in this study 172 workers are participate

1)Age

Age group	n(%)
20 to 30	56(32.5%)
30 to 40	48(27.9%)
40 to 50	35(20.3%)
50 to 60	33(19.1%)

Table no.1: frequency of Age group of participants

Table 1-this explained description age group of participants as there 56 workers are in age group of(32.5%) and 48 workers are in age group of 30 to 40(27.9%) and 35 workers are in present with age group of 40 to 50 35(20.3%) and remaining 33 people are in age group of 50 to 60 (19.1%)

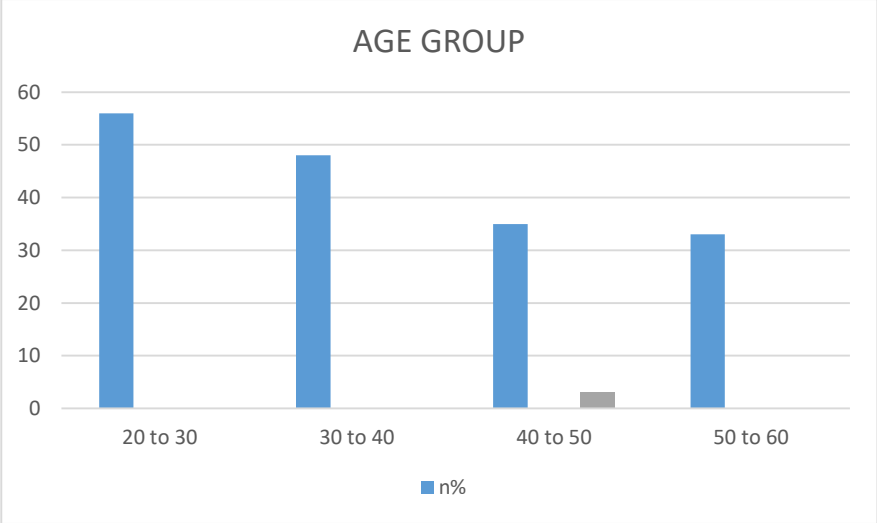


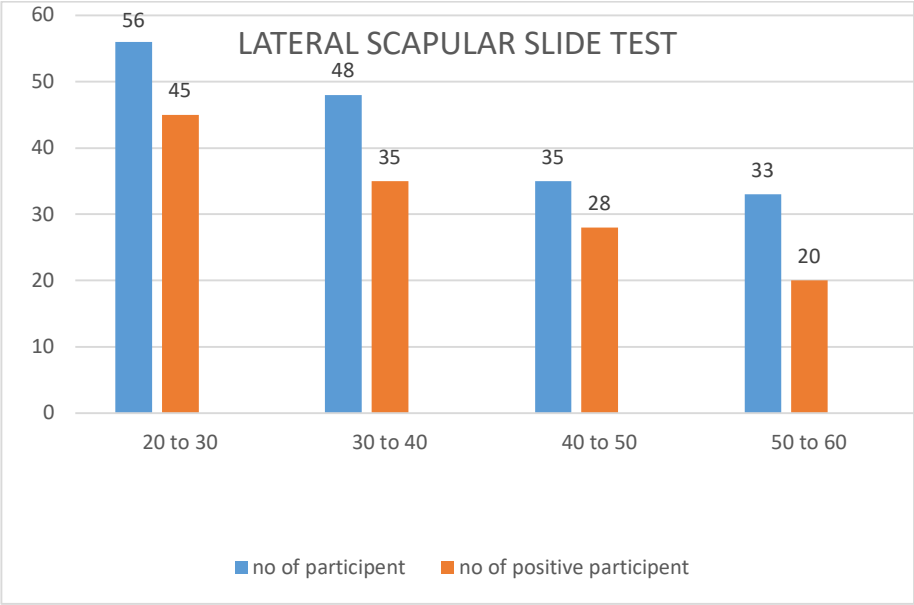
table 2: lateral scapular slide test

according to lateral scapular slide test 128 workers are positive for scapular dyskinesis

no. of participant according to age

AGE GROUP	NO. OF PARTICIPENT	NO. OF POSITIVE PARTICIPIENT	PERCENTAGE OF POSITIVE PARTICIPIENT
20 TO 30	56	45	80.35%
30 TO 40	48	35	72.9%
40 TO 50	35	28	80%
50 TO 60	33	20	60.6%

table 2: distribution of positive participants according to lateral scapular slide test age group 20 to 30 , 45 workers are positive for LSST age group 30 to 40- ,35workers are positive for LSST 40 to 50-, 28 workers are positive for LSST50 to 60- 20 workers positive for LSST total 128 participant positive for lateral scapular slide test out of 172 (74.41%)



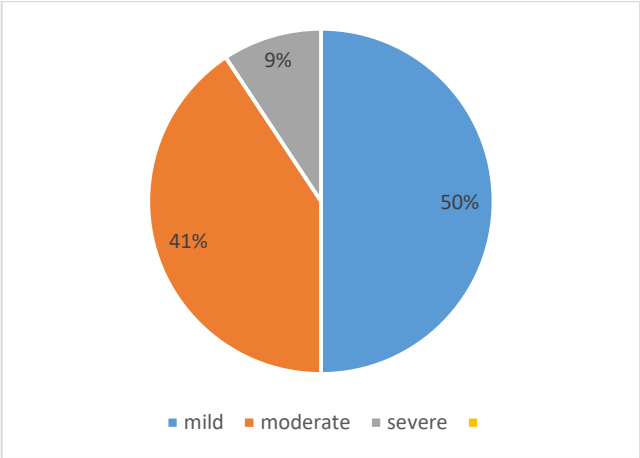
3)pain assessment (visual analogue scale)

Table 3-

Level of pain	Frequency(f)	Percentage(%)
mild	86	50%
moderate	26	40.6%
severe	16	9.3%

Table 3-According to visual analogue scale we find pain in workers where this are present with lateral scapular slide test workers present pain around shoulder region and scapular region during activity or rest in activity pain should be moderate or severe or in rest it should be mild
Detailed data and pain level of workers might be observed in table

PAIN SCALE



4)manual muscle testing

Table 4-

Muscle involved	Frequency	percentage
Serratus anterior	32	25%
Rhomboid	49	38.2%
Trapezius	47	36.7%

DISCUSSION-:

The study was aimed to find out prevalence of scapular dyskinesis and scapular muscle weakness in sugar factory workers at age between 20- to 60-year-old this study was performed among 172 workers using lateral scapular slide test and manual muscle testing as a outcome measure. this test performed at 3 different position of shoulder joint abduction and measuring distance from inferior angle of scapula to the spinous process. Scapular dyskinesis abnormal scapular movement or motion during scapulohumeral movement it is painful condition it negatively workers work at sugar factory and also affect quality of life. Therefore, study is must to conducted for prevalence of scapular dyskinesis in sugar factory workers. Study was conducted in Ajinkya tara sugar factory satara total 172 workers are examined according to inclusion criteria. First questionnaire are distributed in all participant and test was explained to all participant and consent form was taken on their consent in present study shown that from total participation of 172 people 32.5% of population belong to age group of 20-29,27.9% of population belong to age group of 30 to 39, 20.35% of population belong to age group of 40 to 49 and 19.1%of population belong to age group of 50 to 60 in lateral scapular slide test(LSST)74.41% of participant tested positive for test measurement more that 1.5cm means that presence of scapular dyskinesis. And remaining of participant measurement is in 10% people is between 0.5cm to 1.4 cm and 15% of participant measurement is below 0.5cm this shows total 25.5% participant tested negative for this LSST and according to manual muscle testing in that population muscle weakness present at latissimus dorsi, trapezius muscle total 128 people having muscle weakness out of 172 and also this people positive for LSST. Pain assessment for shoulder pain should be given according to visual analogue scale (VAS) this scale given at rest or on activity and there are 0 to 10 marking 0 to 3 is mild level of pain, 4 to 6moderate level of pain 7 to 10 is severe level of pain, there are individual those are present with scapular dyskinesis are 128 out of this 86 workers having mild degree pain 70 workers having moderate degree pain and 16 workers having severe degree pain. Recommendation from the study is proper posture during work and avoid lifting heavy weight and proper exercise for maintain strength of scapula muscle is necessary and to prevent scapular dyskinesis proper exercise regimen for the workers should be given to improve muscle strength various strengthening exercise weight bearing exercise should be initiated all this can help and prevent scapular dyskinesis and also improve overall work efficacy of workers

CONCLUSION-

This study observe that the sugar factory workers are lack of knowledge about maintain proper posture and therefore discomfort was present pain also present due to heavy lifting .and that putting stress on scapular muscle hence scapular muscle weakness is present in this population. this Study concluded that prevalence of scapular dyskinesis present in 74.41% of total participant.

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