

ASSESSMENT OF ROTATOR CUFF TEARS AMONG BODYBUILDERS IN LAHORE

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ABSTRACT

Background: The current was performed on bodybuilders to see the shoulder rotator cuff injuries among them. A bodybuilder is a person who strengthens and enlarges the muscles of their body through strenuous exercise. The chances of injury in shoulder is much more than any other region of body because of excessive workout of upper body shoulder and chest than lower region

Objective: To determine the Assessment of rotator cuff tears among bodybuilders in Lahore.

Methodology: It was the cross-sectional study. Data was collected by 161 bodybuilders on basis of inclusion and exclusion criteria. Convenient sampling technique was used in this study. Oxford shoulder score questionnaire along with manual physical testing for assessing the rotator cuff injury was used in this study. Data was analyzed by using SPSS.

Results: In current study the mean age of respondents was 30.12 with SD 5.85. Minimum age was 20 and maximum age was 45 years. 72.6% of the bodybuilders had right side dominant and 27.3 had left side dominant. 22.98% had 1-3 years of experience, 49.68 had 4-6 years of experience and 27.3 had 7-10 years of experience. 31.67 had discomfort in their right shoulder and 58.3% had discomfort in left shoulder and 9.93 % had discomfort in both shoulders. 18.51% of the bodybuilders had positive lift of test for subscapularis injury, 40.71 positive drop arm test for supraspinatus and infraspinatus injury, 9.87% had positive horn blower test for teres minor and 30.86% of the bodybuilder had all the rotator cuff tests were negative its mean the other type of shoulder injury rather than rotator cuff.

Conclusion: From current study, it was concluded that rotator cuff injury was the commonest injury among all the shoulder injuries. Among the rotator cuff the supraspinatus and infraspinatus was the commonest injured muscle. There should be proper trainer for muscle building so that injury can be prevented. As there was much high prevalence of rotator cuff injury was found in current study. Clinicians and strength and conditioning professionals should consider the biomechanical stresses and adaptations associated with weight training when prescribing upper extremity exercises.

Keywords: Rotator cuff, Injury, Oxford shoulder score.

INTRODUCTION

Rotator sleeve malady positions pervasive of musculoskeletal issue, upwards of 17 million human beings in the United States in hazard for disability (1, 2). In spite of the fact that it creates the impression that a lion's share of people with rotator sleeve tears are asymptomatic, they talk to a giant populace in danger for the enhancement of torment (2-5) Given their medical significance, shockingly minimal comparable records is on hand with recognize to asymptomatic and symptomatic rotator cuff tears (6-8). Such data can also mortgage knowledge into the normal records of rotator cuff sickness and into which aspects might be good sized for the advancement of indicators (7).

Bodybuilders is nicely acknowledged motion that utilized to maintain up wellness or moreover put together for extraordinary brandishing exercises. "Weight lifting" is a traditional time period that is related to a few fine making ready sports including force lifting and working out. In lifting weights, the integral goal is hypertrophy and structure (9) Bodybuilder stake an activity in the motion to build their familiar wellbeing, quality. While making an attempt and expand quality, several competitors who carry loads coincidentally overemphasize reinforcing the pectoralis, deltoid, and belly gatherings whilst dismissing the muscle tissues that stability out scapula and glenohumeral joints (10)

An examination among the bodybuilding populace and non weight getting ready human beings (non body builders) has no longer been these days contemplated. A correlation of unity and ROM esteems would be beneficial to further depict "practice hazard" recognized with lengthy haul shoulder disease in the populace. Mazur et al. express that future deliberate examinations are anticipated to all greater probable signify the frequency of injury in great preparing and in weight training (11)

Focused working out is a weightlifting game with the point of expanding bulk, symmetry, and physique definition. A best body extent shows as meager muscle versus fat as ought to reasonably be anticipated (12). This is done through a recreation pursuits with loads just as a quite structured nourishment program, typically unsteady for "off - season" and "on-season" cycles. The "off - season" for the most phase accommodates substantial supplement and complement admission joined with weightlifting pastime to put on weight and increment bulk. Within the "on-season" or amount prompting a challenge, competitors endeavor to keep up bulk Whilet increasing definition and body symmetry. Throughout group action, the body is shown to made a choice specifically presents (13, 14)

Along these lines, aggressive weight lifters are endeavoring to achieve a robust perfect, which is evaluated. For sure competitors, this sport may also evoke a persistent warfare for flawlessness. Related impulses comprise going through hours in the exercising center, uncommon consuming designs, or even substance misuse (13). It has stayed hazy whether the inordinate weight getting ready and eating regimen cycles lead to increments in abuse issues or wounds contrasted with exclusive video games or weightlifting disciplines. Information for focused and first classification working out is uncommon, albeit a few investigations have inspected this issue for the controls of powerlifting and Olympic bodybuilding. Within the up to date examinations getting to know jocks, the aggressive diploma of the rivals is vague (15, 16). Intense wounds generally occurring at some stage in weight making ready comprise sprains, strains, ligament separations, and compartment disorders (3, 17).

In 2016 Antonio gigante¹, carlobottegoni¹, Pamela barbadoro², et al. led an examination on coracoids syndrome: a disregarded cause for front shoulder ache and tenderness that present investigation reviews the presence, and attributes, of a "coracoid process" described by way of anterior shoulder pain and tenderness to palpation over the summit of the coracoid system and established that the ache is commonly amiable to steroid treatment. This ailment ought to be plainly identified from anterior shoulder pain due to the fact of exclusive causes, so as to hold away from unseemly traditionalist or surgical treatment. (33)

OBJECTIVES

To determine the Assessment of rotator cuff tears among bodybuilders in Lahore.

OPERATIONAL DEFINITION

Weight lifting:

¹Weight lifting is a popular activity that is used to maintain fitness and also to train for various sporting activities. "Weight lifting" is a generic term that is applied to several strength training sports including powerlifting and bodybuilding. In bodybuilding, the primary objective is hypertrophy and form (1) Bodybuilders participate in the activity for the purpose of increasing their general health, strength, and fitness or for entering into competition in a formal show or venue.

Rotator cuff tear:

⁴A rotator cuff tear is an injury of one or more of the tendons or muscles of the rotator cuff of the shoulder. Symptoms may include shoulder pain, which is often worse with movement, or weakness. Clicking may ⁶also occur with movement of the arm. Tears may occur as the result of a

sudden force or gradually over time.(2)

METHODOLOGY

It was the cross sectional observational study conducted on professional body builders to see the prevalence of rotator cuff injuries among body builders. The data was collected by 161 professional body builders on basis of selection criteria. Convenient sampling technique was used to collect data from different gyms of Lahore. Study was completed after the four months of synopsis approval. Male bodybuilders having minimum of one year of gym experience with age between 20 -45 years were included in this study. Those bodybuilders with history of trauma or history of fracture or accident or with congenital abnormality were excluded from this study.

The Oxford Shoulder score questionnaire was be used to collect data. The questionnaire was consisted of two parts. First part deals with the demographic data and second part deal with shoulder symptoms. The oxford questionnaire consisted of 12 questions, each question with possible 5 answers. Patients were asked to rate their symptoms between 1 mean minimal symptoms and 5 maximum symptoms. The total obtained score is between 12 minimum to 60 maximum. Lower the score the better was the shoulder higher the score the worse was the shoulder. For the diagnosis of rotator cuff injury, the physical test was performed i.e. lift off test for subscapularis, drop arm test for supraspinatus and infraspinatus and horn test for teres minor.

The data was analyzed using SPSS 22.0. For quantitative variables mean and standard deviation was calculated. For qualitative variables frequency and percentage was be used. Appropriate statistical test was used after checking normality of data

RESULTS

The mean age of respondents was 30.12 with SD 5.85. minimum age was 20 and maximum age was 45. 72.6% of the bodybuilders had right side dominant and 27.3 had left side dominant. 22.98% had 1-3 years of experience, 49.68 had 4-6 years of experience and 27.3 had 7-10 years of experience. 31.67 had discomfort in their right shoulder and 58.3% had discomfort in left shoulder and 9.93 % had discomfort in both shoulders. 18.51% of the bodybuilders had positive lift of test for subscapularis injury, 40.71 positive drop arm test for supraspinatus and infraspinatus injury, 9.87% had positive horn blower test for teres minor and 30.86% of the bodybuilder had all the tests were negative. The mean oxford shoulder value was 27.56 with minimum 16 and maximum was 46.

Table no. I 11
Manual Test for Rotator Cuff Injury

Manual Test for Rotator Cuff Injury	Frequency	Percent
positive lift of test for subscapularis	30	18.5
positive drop arm test for supraspinatus and infraspinatus	66	40.7
positive horn blower test for teres minor	16	9.9
all are negative	50	30.9
Total	162	100.0

18.51% of the bodybuilders had positive lift of test for subscapularis injury, 40.71 positive drop arm test for supraspinatus and infraspinatus injury, 9.87% had positive horn blower test for teres minor and 30.86% of the bodybuilder had all the tests were negative.

Table no. II
Oxford shoulder score

Statistics of Oxford Shoulder Score

Sample size	161
Mean	27.56
Median	27.00
Std. Deviation	6.146
Minimum	16
Maximum	46

This table showed that the average oxford scale was 27.56 with minimum 16 and maximum was 46. The SD value was 6.146.

Table no. III
Manual Test for Rotator Cuff Injury * Pain or Discomfort in Shoulder Crosstabulation

Manual Test for Rotator Cuff Injury	Pain or Discomfort in Shoulder			Total
	Right	Left	Both	
positive lift of test for subscapularis	8	20	2	30
positive drop arm test for supraspinatus and infraspinatus	10	46	10	66
positive horn blower test for teres minor	6	10	0	16
all are negative	27	18	4	49
Total	51	94	16	161

The P value less than 0.005 indicates the positive association between rotator cuff injury and shoulder discomfort in given data.

DISCUSSION

The current was performed on bodybuilders to see the shoulder rotator cuff injuries among them. A bodybuilder is a person that strengthens and enlarges the muscles of their body through strenuous exercise. Chances of injury in shoulder is much more than any other region of body because of excessive workout of upper body shoulder and chest than lower region. The average oxford scale score in given data was 27.56.

In current study the mean age of respondents was 30.12 with SD 5.85. 72.6% of the bodybuilders had right side dominant and 27.3 had left side dominant. 22.98% had 1-3 years of experience, 49.68 had 4-6 years of experience and 27.3 had 7-10 years of experience.

31.67 had discomfort in their right shoulder and 58.3% had discomfort in left shoulder and 9.93 % had discomfort in both shoulders. 18.51% of the bodybuilders had positive lift of test for subscapularis injury, 40.71 positive drop arm test for supraspinatus and infraspinatus injury, 9.87% had positive horn blower test for teres minor and 30.86% of the bodybuilder had all the rotator cuff tests were negative its mean the other type of shoulder injury rather than rotator cuff. Among rotator cuff the supraspinatus and infraspinatus were the most common. P value less than 0.005 indicates the positive association between rotator cuff injury and shoulder discomfort in given data.

In our study the overall prevalence of rotator cuff injuries was found to be 69.1% among rotator cuff the supraspinatus was most common injure muscle. This results of current studies supported by the study of Kolber and his colleagues on shoulder injuries in resisted shoulder training in which rotator cuff injuries was found to be 36%. (3).

The results of current study also supported by the study of Siewe and his co workers on injuries and overuse syndrome among power lifters. The results showed that among shoulder the rotator cuff injuries was the most commonest, the overall prevalence of rotator cuff injuries was 47.3%. this results also supporting the results of current study (4).

The results of present study also similar to the study of Leung et al . the results of Leung study showed that there was multiple injuries that could happen to shoulder joint along with rotator cuff as anterior dislocation, fracture and bursitis etc. the prevalence of rotator cuff injury was 38.4% followed by tendinitis and bursitis. In present study the prevalence of rotator cuff injury was 69.1% (5).

In another work of Kobler and his collaborators it was expressed that 121 weightlifters who had detailed being harmed during rotator sleeve, 27% announced having a previous history of

shoulder torment during lifting, which brought about constrained capacity to practice for as long as 7 days. The district of agony regularly recognized incorporated the long leader of the bicep (at the shoulder starting point) and supraspinatus musculature, this result also supporting the results of present study in which it was found that among rotator cuff muscles the supraspinatus was the most common injured muscle on basis of pain and physical test of rotator cuff muscles(6).

In another work, it was reasoned that rotator cuff lesions are prevailed 67.6% and these happened all the more as often as possible in competitors in games including tossing (66%). Bursal injuries happened in 32.4% of competitors, prevalently in the individuals who muscled assembling (75%). But in current study the prevalence of RT injuries are more than the prevalence of other injuries in shoulder joint among bodybuilders(7)

CONCLUSION

From current study, it was concluded that rotator cuff injury was the commonest injury among all the shoulder injuries. Among the rotator cuff the supraspinatus and infraspinatus was the commonest injured muscle. There should be proper trainer for muscle building so that injury can be prevented. As there was much high prevalence of rotator cuff injury was found in current study. **Clinicians and strength and conditioning professionals should consider the biomechanical stresses and adaptations associated with weight training when prescribing upper-extremity exercises.**

LIMITATION and RECOMMENDATIONS

This work should be done on larger scale. The sample size was small. In shoulder with rotator cuff more injuries were not included due to shortage of time. There was a limited time to complete this study. This study should be conducted on large sample size. This study should be conducted in different gyms of Lahore and Chichawatni. Further studies should be conducted on larger scales of population of bodybuilders. By increasing the time frame of this study, possible errors can be eliminated. Different strategies should be carried out regarding intervention and rehabilitation of rotator cuff tear

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