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Frequency of Shoulder Pain Among Weight Lifters in Islamabad and Rawalpindi

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[1]Conception and design, Final approval and guarantor of the article
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ABSTRACT

Background: Shoulder pain is a very common complaint in population because of shoulder joint's extreme mobility and less stability. Improper exercises or weight lifting not under the supervision of professional trainers or coaches may worsen or add to the development of glenohumeral joint hyper laxity, instability, or impingement.

Objective: To determine the frequency of shoulder pain among weight lifters in Islamabad and Rawalpindi.

Methodology: A descriptive cross sectional study was done in several different gyms of Rawalpindi and Islamabad from February 2015 to July 2015. A sample of 291 male weight lifters (age 14-55 years) was recruited through convenient sampling. Frequency of shoulder pain was assessed through self-structured Questioner. Data was analyzed through SPSS 21.

Results: The results showed that the mean age of the weight lifters was 24 and out of 291(100%) weight lifters 23% weight lifters had shoulder pain, among which majority had mild (46.3%) to moderate level (49.3%) pain. And mean of the DASH score was 40.96, indicates that shoulder Pain among weight lifters was causing mild disability.

Conclusion: It is concluded that a valuable percentage of weight lifters have mild to moderate level of dull shoulder pain. Among which majority has unilateral pain and this pain is more evident in those weight lifters who spend one hour daily in gyms and fitness centers for their workouts and do repetitive activities and work in overhead positions in there occupational settings or in their daily livings.

Introduction

Shoulder complaints are regular; population based studies have reported point prevalence going from 70 to 260 for every 1000. [1] The prevalence calculated of about 12 months in different studies ranges from 7 and 52%. The point prevalence to be calculated in The Netherlands has been evaluated at 21%. In a British study a lower point prevalence of 14% has been discovered. [2] Eighteen studies on prevalence and one study on incidence reports, incidence figures of 0.9–2.5% for different age groups. Prevalence figures differed from 7.2 to 28% for point prevalence, 19–33% for 35 days prevalence, 5.1–47.2% for 1 year prevalence and 7.2–67% for I year prevalence.[3]

Weight lifting is a famous physical act which is involved to gain proper fitness and is also involved for training activities like sports. "Weight lifting" is a generic term that is applicable to many power training activities, sports including power raising and muscle mass building. Bodybuilders involve themselves in maintaining good health and strength to enter in competitions for events. [4]

Power lifting is considered as a sport in which participants try to achieve a high percentage of their 1 repetition maximum in the progression of lifts including the deadlight, squat, and bench press. Current International Power lifting Federation (IPF) statistics show that bench press surpass the lifter's body mass by three times, squat

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surpass the lifter's body mass by five times, and deadlifts also surpass the lifter's body mass by five times. These amazingly high loads may put the lifter at danger for a host of injuries. Power lifting has been connected with more than 1 injury for every year or 2.6-4 injuries for each 1,000 hours of training. Not surprisingly, the most frequently injured body part in power lifters is the shoulder. Raske and Norlin found that 93% of shoulder injuries in power lifters endured all the more than one month, recommending these wounds usually bring about delayed periods far from game.[1] Three anatomical regions thought to be at high danger of harm for weightlifting are likewise basic injury sites in numerous games the knee, the low back, and the shoulder. Information on power lifting and body building show that most injuries happen in the shoulder region, trailed by the low back and the knee. Athletic injuries to the shoulder most commonly involve the rotator cuff, glenohumeral joint, and acromioclavicular joint. Although less common, peripheral nerve injuries about the shoulder during athletic competition have increased along with the general interest in recreational athletics. Poor training techniques and specialization at an early age have contributed greatly to the increase in these injuries. Injuries to the maxillary, suprascapular, musculocutaneous, long thoracic, and spinal accessory nerves produce distinct clinical syndromes about the shoulder. Early recognition of these injuries by involved medical personnel is critical for the prompt treatment, rehabilitation, and return to sport in these athletes. [5]

Imbalance of the muscles responsible for scapula stability may develop from prolonged motor patterns "learned" through strength training activities, sport activity, injury, or simply from repetitive overuse of the shoulder joint.[2] Numerous competitors, who lift overwhelming weights, will naturally accentuate on change of pectorals, deltoid, and abdominal muscles quality, yet they neglect to enhance the quality of balancing out muscles of glenohumeral joint. In past studies, a general loss of shoulder rotation of weight lifters as compared with non-weightlifters and failure in shoulder adduction and internal rotation in weight lifters were observed. ([8]) Injuries to the shoulder are generally regular among weight coaches and can be profession debilitating to those at the focused level. Luckily, most shoulder Injuries from resistance training are minor musculo-tendonous strains or ligamento-scapsular sprains. Nonetheless, when improper exercises or exercise techniques are used, resistance training may worsen or add to the development of glenohumeral joint hyper laxity, instability, or impingement.[3]

Methodology

A descriptive cross sectional study was done in several different gyms and fitness centers of Rawalpindi and Islamabad. The duration of our study was 6 months (from February 2015 to July 2015). A sample of 291 male weight lifters (age 14-55year) was recruited through convenient sampling. 36 subjects reported recent shoulder pathology, traumatic injury or fracture of shoulder complex region and thus excluded from the study on the basis of exclusion/inclusion criteria. Prevalence of shoulder pain was assessed by self-structured Questioner in which Pain assessment was done by NPRS, physical function and symptoms were measured by a standard DASH Questioner. Later the data was analyzed through SPSS.

Results

Out of 291(100%) weight lifters 23% weight lifters had shoulder pain that were at an average age of 24.Majority (59.1%) of the weight lifters visit the gym daily and (64.6%) weight lifters spent one hour, among which majority (46.3%) and (49.3%) had mild and moderate level of pain respectively. Result also showed that weight lifters with shoulder pain had more (82%) unilateral pain than (17.9%) bilateral pain.

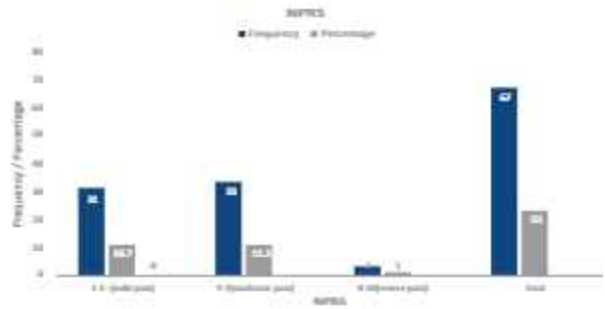

Figure 01: Intensity of Pain

Mean of the DASH score was 40.96, indicated that shoulder pain among weight lifters was causing mild disability. Out of (23%) weight lifters with shoulder pain majority (37.3%) weight lifters have dull pain, (45.7%)

weight lifters have no other joint pain, in majority (29.9%) weight lifters pain was aggravated by lifting arms and in (25.4%) weight lifters pain was aggravating by moving shoulder in different activities.

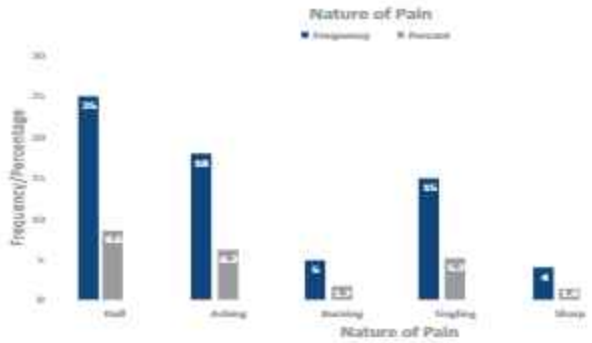

Figure 02: Nature of pain

Results also showed that majority of the weight lifters (67.2%) who had pain, performed repetitive activities in their occupational settings or in ADLs and (32.8%) weight lifters did not perform repetitive activities. And (53.7%) weight lifters worked in overhead positions and (46.3%) weight lifters did not work in overhead positions.

Majority (59.1%) of the weight lifters visits the gym daily and (64.6%) weight lifters spent one hour.

Discussion

Results of our study showed that 23% of weight lifters have mild to moderate level of pain. Majority of them were visiting the gym daily, performing repetitive movements in their occupational settings and their pain was aggravating by lifting arm over the head. And this pain was causing mild disability in performing their ADLs.

A study of Durall CJ, Manske RC and Davies GJ. In 2001 shows that weight lifters, caoches and trainers are at high risk of shoulder problems. They recommended that trainers should design exercise protocols according to every single participant's need so that improper and non-requiring exercises should be avoided. Trainers should prescribe muscle focusing, limited exercises so that every weakend muscle can be strengthened and repetitive use of any activity can be avoided. [9]

Poor training techniques and specialization at an early age have contributed greatly to the increase in shoulder pain. Injuries to the involving these structures called axillary, suprascapular, musculocutaneous, long thoracic, and spinal accessory nerves causes mark able syndromes at shoulder complex. Also, when improper exercises or exercise techniques are used, resistance training may worsen or add to the development of glenohumeral joint hyper laxity, instability, or impingement. [5]

A recent study recommended that overuse stress injury of the proximal humeral physics is important to recognize early in order to prevent later complications. In adolescent athletes, glenohumeral instability is an important underlying pathomechanical basis for shoulder pain. [10]

In relation to our study a by Duralde, Xavier A reported that rotator cuff, glenohumeral and acromioclavicular joint injuries are very common in athletes. Moreover 1st degree nerve injuries also contributes in shoulder related pain and there recovery require an extended period of time. [11]

Conclusion

Hence it is concluded that a valuable percentage of weight lifters have mild to moderate level of dull shoulder pain. Among which majority has unilateral pain and this pain is more evident in those weight lifters who spend one hour daily in gyms and fitness centers for their workouts and do repetitive activities and work in overhead positions in there occupational settings or in their daily livings. This pain was causing mild disability in their normal functioning.

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