

Prevalence of Wrist Injury in People Who Are Lifting Heavy Weights in Gym

Akshad Dipak Malve¹, Dr. Smita Chandrakant Patil²

¹Final Year Student, Krishna College of Physiotherapy, Krishna Vishwa Vidyapeeth, Karad, Maharashtra, India.

²Associate Professor & HOD Department of Sports Physiotherapy, Krishna College of Physiotherapy, Krishna Vishwa Vidyapeeth, Karad, Maharashtra, India.

Corresponding Author: Dr. Smita Chandrakant Patil

DOI: <https://doi.org/10.52403/ijhsr.20240125>

ABSTRACT

Background: We aim to Identify the types and severity of wrist injuries that occur during weightlifting activities in the gym. Identify the training-related and demographic variables linked to a higher risk of wrist injuries. Assess the impact of wrist injuries on the ability to perform weightlifting exercises and overall physical activity levels. Develop strategies to prevent wrist injuries among weightlifters in the gym setting.

Method: This was an observational study undertaken on 45 participants. Aged between 15 to 30 years. Study quality was done by using self-made questionnaire.

Results: 45 Individual who participated in a survey of the weight lifting population. According to this study, 43.3 percent of participants had mild wrist injuries, 50% had moderate wrist injuries, and 6.7% had severe wrist injuries as a result of lifting something heavy.

Conclusion: According to these results, wrist injuries occur most frequently in weightlifters. Lifting big weights in the gym can lead to a lot of wrist injuries.

Keywords: wrist injury, GYM, physical activity, training

INTRODUCTION

Wrist injuries are common among people who lift heavy weights in the gym. {1} Many factors, including poor form, overuse, and a lack of warm-up or stretching exercises, can lead to these injuries. The prevalence of wrist injury in weightlifters is significant, and it can cause severe pain and discomfort, leading to a decrease in performance and affecting daily activities. For this reason, knowing the reasons behind wrist injuries and how to prevent them is crucial to preventing long-term harm and guaranteeing a secure and efficient exercise regimen. Incorrect technique is one of the main reasons weightlifters sustain wrist injuries {2}. Lifting weights with incorrect form can put excessive pressure on the wrist joint, leading to strains, sprains, and even

fractures. To prevent overusing the wrist joint, it is essential to learn the proper form for every exercise and begin with lower weights. Wrist injury is the most frequent injury that happens in gym, whether it is by using gym equipment's, kettle bells, performing martial arts or circuits as many regimes involve use of your hands. Some people experience tenderness or pain in their wrist while exercising or following gym exercises and this discomfort is usually caused by weakness, overuse and poor positioning. In conclusion, wrist injuries are typical among weightlifters, but they can be prevented by following proper technique, incorporating rest and recovery time, warming up before workouts, stretching regularly, and using supportive gear. By taking these preventive measures,

weightlifters can avoid long-term damage and ensure a safe and effective workout routine.

MATERIALS & METHODS

Participants were selected according to age of 18 to 30 years and according to inclusion and exclusion criteria. Participants were explained about the procedure of study and written consent was taken. Based on inclusion and exclusion criteria, sample population was selected. Then a questionnaire was given to participants who have filled out the consent form. It provided both males and females. Subjects were given instruction to fill out the questionnaire. After that, responses were collected. On the basis of responses, statistical data was analyzed. At last, results and conclusion was determined.

RESULT

According to figure 1 total of 43 subjects participated in the study out of which, there

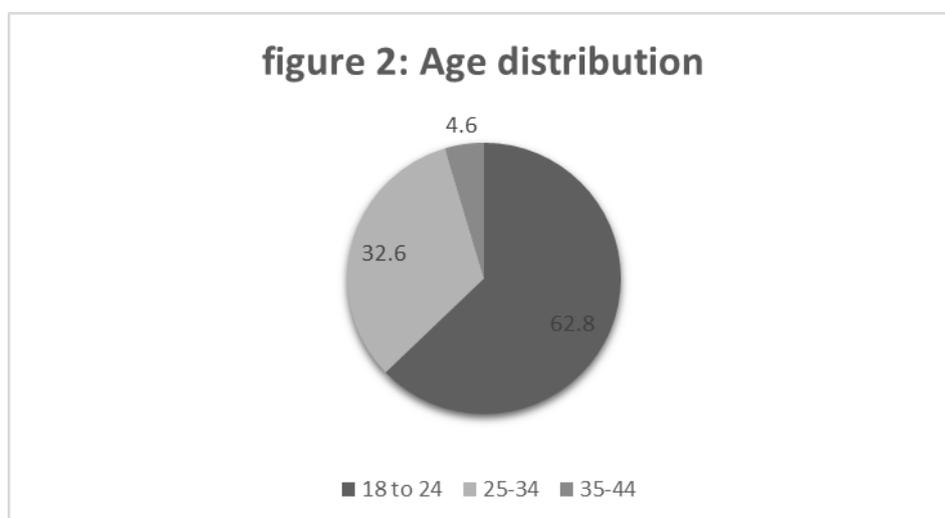
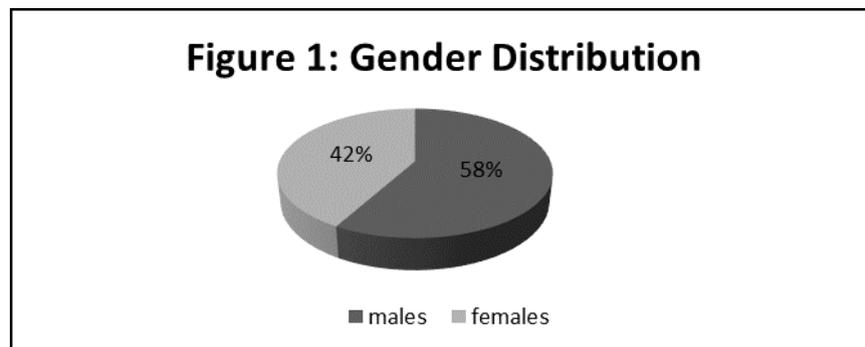
were 42 % were females and 58% were males.

According to figure 2, 62.8% participants were between 18 to 24 years of age, 32.6% were from 25 to 34 years and 4.6 % participants were between the age of 35-44%.

According to figure 3, out of 43 participants, 26% had injury to shoulder, 18% had injury to elbow, 32% had injury to wrist, 15% had injury to lumbar spine and 9% had injury to knee joint.

Thus, prevalence of wrist injury was more among the participants, followed by shoulder and then by elbow.

According to table no 1. 48.8 % individuals lifted weight 3-4 days /week, 30.2% lifted weight 5-6 days/week, 16.3% lifted weight 1-2 days per week and 4.7 % lifted weight every day. On an average the individuals practiced strength training for minimum of 3-4 days per week.



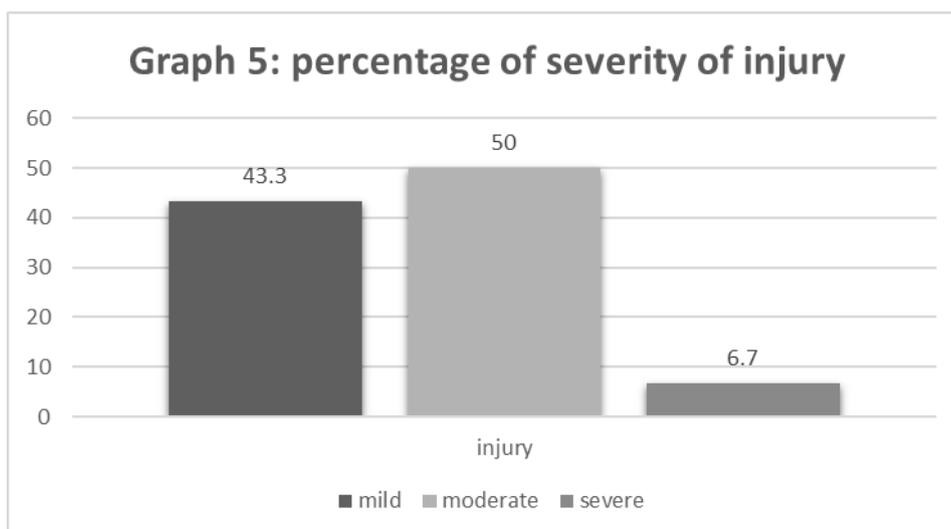
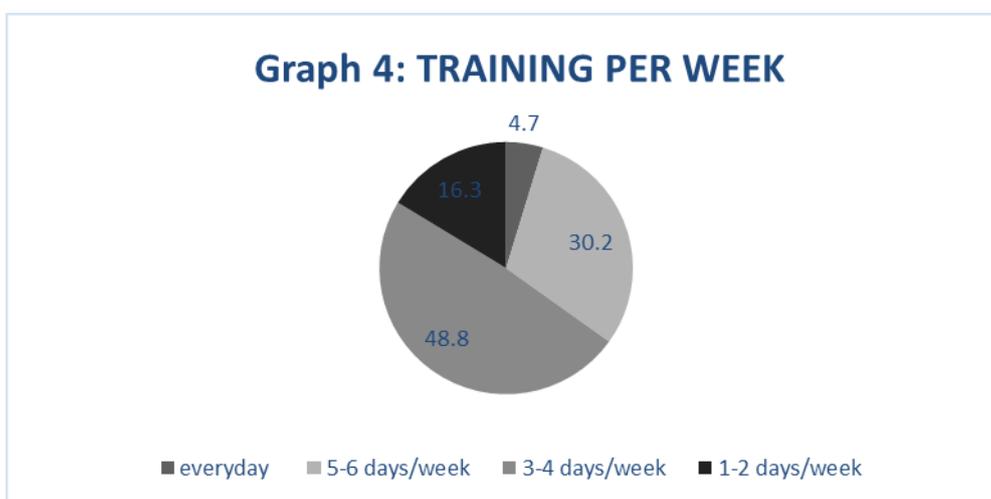
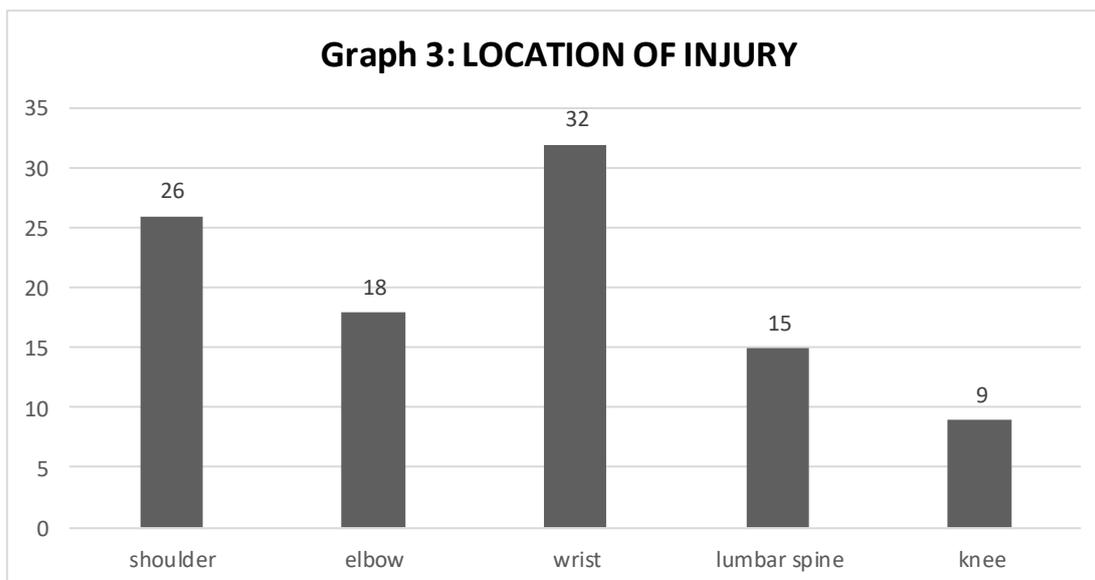


Table 1: weight lifting training in a week

Weight lifting training Days /week	Percentage
1-2 days per week	16.3
3-4 days per week	48.8
5-6 days per week	30.2
Everyday	4.7

Table 2: severity of injury around wrist

Type of injury	Participants	Percentage
Mild	13	43.3
Moderate	15	50
Severe	2	6.7

Table no 3: General Questions about training

Questions	Yes (%)	No (%)
Medical treatment taken for the injury	26.2	73.8
Injury caused stop lifting weight over a period of time	70	30
were you educated about wrist positioning and technique while lifting weight	50	50
Do you perform warm up before workout	93.2	6.8

DISCUSSION

Wrist injuries are a common occurrence in people who lift heavy weights in the gym. These injuries can range from mild sprains to severe fractures that require surgery. The prevalence of wrist injury in weightlifters is a concern, as it can limit their ability to train and lead to long-term complications.

One of the primary causes of wrist injury in weightlifters is improper technique. Lifting heavy weights with poor form places excessive stress on the wrist joint, leading to strains and sprains. Additionally, lifting weights that are too heavy for one's strength level can also cause wrist injuries.

We conducted a study based on questionnaire, we found that 43.3 percentage people having mild wrist injury, 50 percentage people having moderate injury around wrist and 6.7 percentage of people having severe injury.

Another factor that contributes to wrist injuries in weightlifters is overuse. Repetitive movements, such as those involved in lifting weights, can lead to chronic wrist pain and inflammation. This is especially true for exercises that involve gripping, such as pull-ups or deadlifts.

The prevalence of wrist injury in weightlifters is difficult to determine, as many injuries go unreported. However, studies have shown that weightlifters are at an increased risk for wrist injuries compared to the general population. A study published in the Journal of Athletic Training found that weightlifters had a higher incidence of wrist

injuries than other athletes, with sprains being the most common injury.

Preventing wrist injuries in weightlifters requires proper technique and training. It is essential to start with lighter weights and gradually increase the load as strength improves. Additionally, weightlifters should focus on exercises that improve wrist stability and flexibility, such as wrist curls and reverse wrist curls.

CONCLUSION

These findings suggest that wrist injury is most common along the weight lifters. Wrist injury is a prevalent issue in people who lift heavy weights in the gym.

Declaration by Authors

Ethical Approval: Approved

Acknowledgement: None

Source of Funding: None

Conflict of Interest: The authors declare no conflict of interest.

REFERENCES

1. Woitzik E, deGrauw C, Easter B. Ulnar Impaction Syndrome: A case series investigating the appropriate diagnosis, management, and post-operative considerations. *J Can Chiropr Assoc.* 2014 Dec;58(4):401-12. PMID: 25550665; PMCID: PMC4262812.
2. Teixeira, R.C.M.; Guimarães, W.P.S.; Ribeiro, J.G.; Fernandes, R.A.; Nascimento, L.B.F.; Torné, I.G.; Cardoso, F.S.; Monteiro, G.R. Analysis of the Reduction of Ergonomic Risks through the Implementation of an Automatic Tape Packaging Machine. *Int. J. Environ. Res. Public Health* 2022, 19, 15193. <https://doi.org/10.3390/ijerph192215193>

3. Mandelbaum BR, Bartolozzi AR, Davis CA, Teurlings L, Bragonier B. Wrist pain syndrome in the gymnast. Pathogenetic, diagnostic, and therapeutic considerations. *Am J Sports Med.* 1989 May-Jun;17(3):305-17. doi: 10.1177/036354658901700301. PMID: 2729480.
4. Caine DJ, Nassar L. Gymnastics injuries. *Med Sport Sci.* 2005; 48:18-58. doi: 10.1159/000084282. PMID: 16247252.
5. Alnasser S, Alyamani A, AlDawod I, Almujiil A. Prevalence and type of injuries among gym members in Saudi Arabia. *Saudi J Sports Med* 2022; 22:30-7
6. Kerr ZY, Collins CL, Comstock RD. Epidemiology of weight training-related injuries presenting to United States emergency departments, 1990 to 2007. *Am J Sports Med.* 2010 Apr;38(4):765-71. doi: 10.1177/0363546509351560. Epub 2010 Feb 5. PMID: 20139328.
7. Gabel GT. Gymnastic wrist injuries. *Clin Sports Med.* 1998 Jul;17(3):611-21. doi: 10.1016/s0278-5919(05)70104-6. PMID: 9700422.
8. DiFiori JP, Caine DJ, Malina RM. Wrist pain, distal radial physeal injury, and ulnar variance in the young gymnast. *Am J Sports Med.* 2006 May;34(5):840-9. doi: 10.1177/0363546505284848. Epub 2006 Feb 21. PMID: 16493174.
9. Hart E, Meehan WP 3rd, Bae DS, d'Hemecourt P, Stracciolini A. The Young Injured Gymnast: A Literature Review and Discussion. *Curr Sports Med Rep.* 2018 Nov;17(11):366-375. doi: 10.1249/JSR.0000000000000536. PMID: 30407945.
10. Bukhary HA, Basha NA, Dobel AA, Alsufyani RM, Alotaibi RA, Almadani SH. Prevalence and Pattern of Injuries Across the Weight-Training Sports. *Cureus.* 2023 Nov 30;15(11):e49759. doi: 10.7759/cureus.49759. PMID: 38046743; PMCID: PMC10689975.
11. Keogh JW, Winwood PW. The Epidemiology of Injuries Across the Weight-Training Sports. *Sports Med.* 2017 Mar;47(3):479-501. doi: 10.1007/s40279-016-0575-0. PMID: 27328853.
12. Aasa U, Svartholm I, Andersson F, et al. Injuries among weightlifters and powerlifters: a systematic review. *British Journal of Sports Medicine* 2017;51:211-219.
13. Golshani K, Cinque ME, O'Halloran P, Softness K, Keeling L, Macdonell JR. Upper extremity weightlifting injuries: Diagnosis and management. *J Orthop.* 2017 Nov 7;15(1):24-27. doi: 10.1016/j.jor.2017.11.005. PMID: 29657436; PMCID: PMC5895929.
14. Avery, D.M., Rodner, C.M. & Edgar, C.M. Sports-related wrist and hand injuries: a review. *J Orthop Surg Res* 11, 99 (2016). <https://doi.org/10.1186/s13018-016-0432-8>
15. Strömbäck E, Aasa U, Gilenstam K, Berglund L. Prevalence and Consequences of Injuries in Powerlifting: A Cross-sectional Study. *Orthop J Sports Med.* 2018 May 14;6(5):2325967118771016. doi: 10.1177/2325967118771016. PMID: 29785405; PMCID: PMC5954586.

How to cite this article: Akshad Dipak Malve, Smita Chandrakant Patil. Prevalence of wrist injury in people who are lifting heavy weights in gym. *Int J Health Sci Res.* 2024; 14(1):214-218. DOI: <https://doi.org/10.52403/ijhsr.20240125>
