

To Evaluate the Percentage of Shoulder and Neck Pain in Gym Going Individuals: An Observational Study

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ABSTRACT

Background: Musculoskeletal disorders are very common among gym going individuals through their sessions. Gym going individuals do high intensity workouts which may lead to the cause of injuries and pain.

Aims: To study the percentage of shoulder and neck pain gym going individuals.

Methods and material: An observational study was performed on 227 gym going individuals by using outcome measures like visual analog scale, goniometry, neck disability index and shoulder assessment questionnaire.

Results: Most participants retained near-normal range of motion; however, early signs of musculoskeletal strain were evident, particularly in specific neck and shoulder movements. These findings underscore the importance of proper training techniques, adequate recovery, and preventive strategies to minimize injury risk.

Conclusion: Minimal to mild neck and shoulder discomfort was seen among gym going individuals with early signs of musculoskeletal pain were observed.

Keywords: Neck pain, Shoulder pain, gym individuals.

INTRODUCTION

Physical fitness although defined in several ways has generally been described as a set of attributes or characteristics are commonly separated into health and skill related components of physical fitness. ⁽¹⁾ An individual unaccustomed to physical exertion may be at risk for occurrence of an adverse effects from exercise associated with a unknown or an undiagnosed health condition. ⁽²⁾

Physical fitness has become a priority for many individuals. Musculoskeletal disorders are very common among gym going individuals. Gym going individuals do high intensity workouts this may lead to the cause of injuries and pain through their sessions. ⁽³⁾ Specific to each exercise in a program, the accuracy with which the individual performs an exercise affected the safety of the individual. ⁽³⁾

According to study 47% of weightlifters have musculoskeletal injuries. Symptoms may vary in every individual but the commonly affected areas were shoulder wrist hands and cervical spine. ⁽⁴⁾ According to study training multiple times a day and supervision are associated with causing

multiple musculoskeletal injuries and pain.⁽⁴⁾

According to the studies most people focused on good looks without a proper understanding of how it may injury the musculoskeletal system this leads to various injuries and stress to the body.⁽⁵⁾

Shoulder pain and neck pain is most common complaint in every individual. Musculoskeletal pain results in traumatic injuries and fractures it can also be result repetitive activities done in gyms that strains the muscles and sprain the ligaments.⁽³⁾

Cervical spine is an area in which stability has been sacrificed for mobility, making the cervical spine particularly vulnerable to injury.⁽⁶⁾ The most common cause of pain is strenuous activities done in gym which causes restriction in cervical movement that further leads to reduced range of motion and development of tender points around the neck.⁽³⁾ according to study 26% and 40% prevalence of neck pain was seen in both the men and women respectively.⁽⁷⁾ Neck pain is a multi-factorial disease so contributing there are several risk factors affecting the development of the span and other diseases.⁽⁷⁾

According to study shoulder pain is the result of many factors like occupational and individual factors also physical work with a heavy load, awkward work postures, mental stress, and obesity are the risk factors.⁽⁸⁾ Shoulder pain can be caused because of internal injuries to the glenohumeral joint which consists of many degrees of freedom and stiffness over those internal structures may cause restriction in range of motion and activities of daily living can be affected.

Study reveals that prevalence of shoulder pain is estimated to be between 16% and 26%; and most common cause of musculoskeletal discomfort.⁽⁹⁾ It is also said that vibrations influence the level of symptoms and disability, and psychosocial factors are also important. Recent studies says that chronicity of shoulder pain and recurrence of same are commonly seen in most of the individuals.⁽⁹⁾

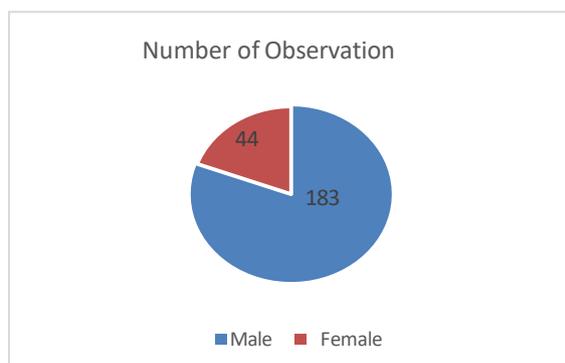
As early studies proven that there is high percentage musculoskeletal injuries and pain in fitness instructors' population but lack in literature in the fitness trainees and no focus on a particular joint.

MATERIALS & METHODS

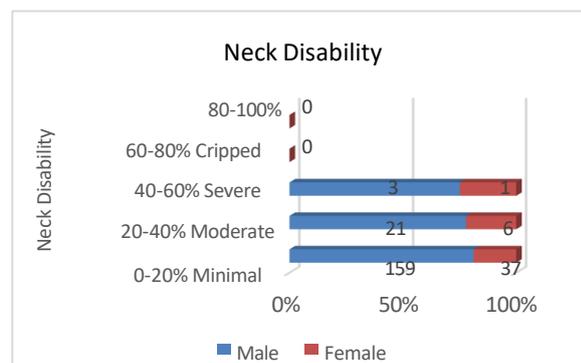
The study was conducted after the Institutional Ethics Committee reviews the proposal and grants ethical approval to conduct the study. The participants were given a central idea about the purpose behind the study.

Individuals were screened according to the inclusion and exclusion criteria then informed consent was taken from every participant. Outcome measures tools like neck disability index to check the neck pain. Another scale that is reading shoulder unit scale was used to assess the shoulder pain and pain free movement range, visual analog scale was also used to quantify the pain and goniometric measurements were used to check the shoulder and neck range of motion of the affected area. Statistical analysis was done and results were obtained.

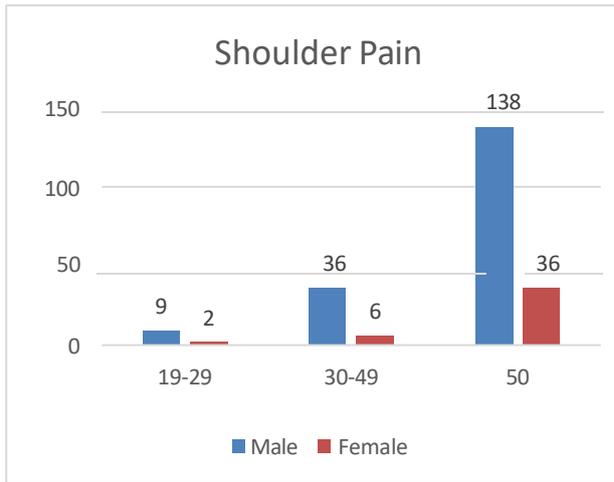
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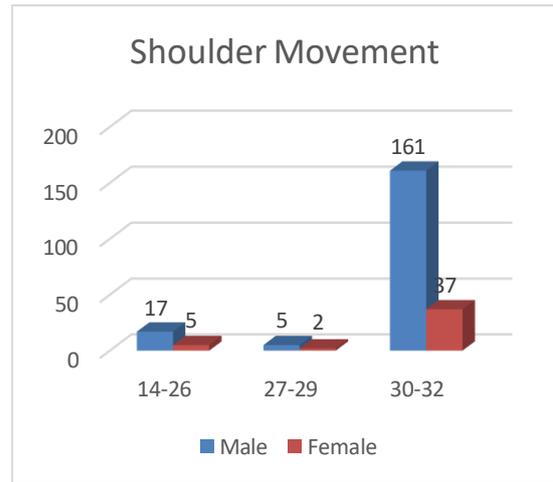
Graph 1.



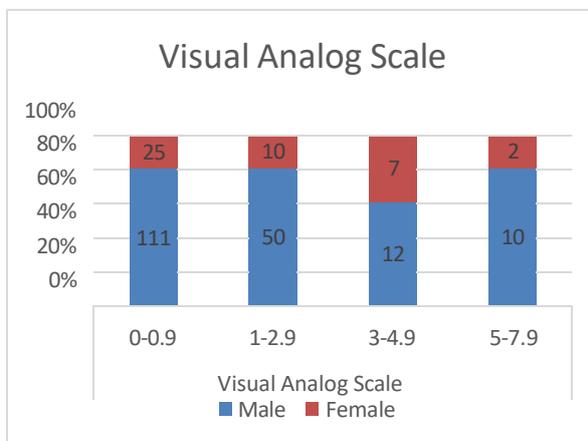
Graph 2.



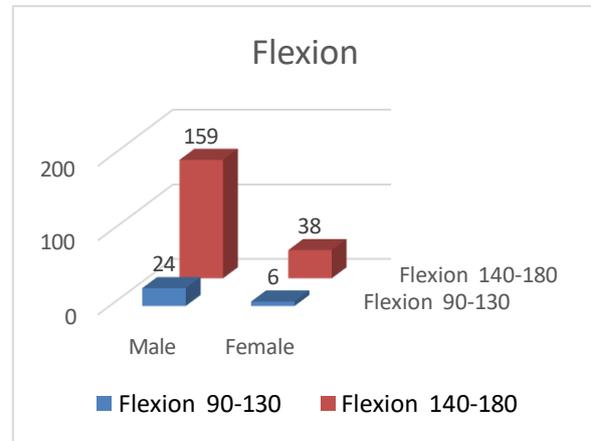
Graph 3.



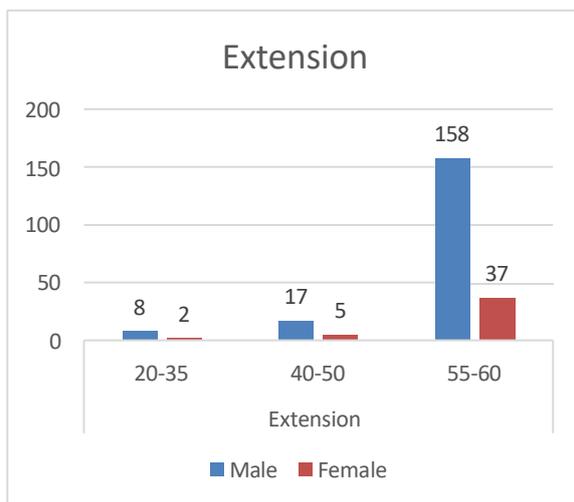
Graph 4



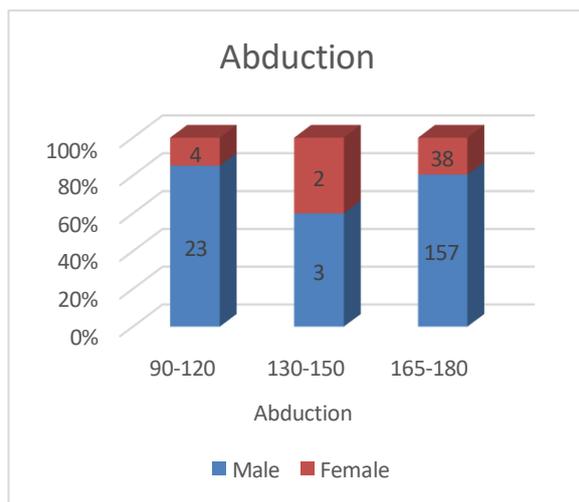
Graph 5.



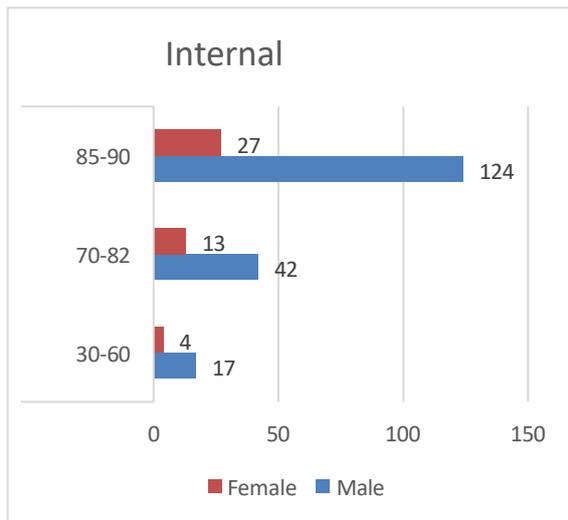
Graph 6.



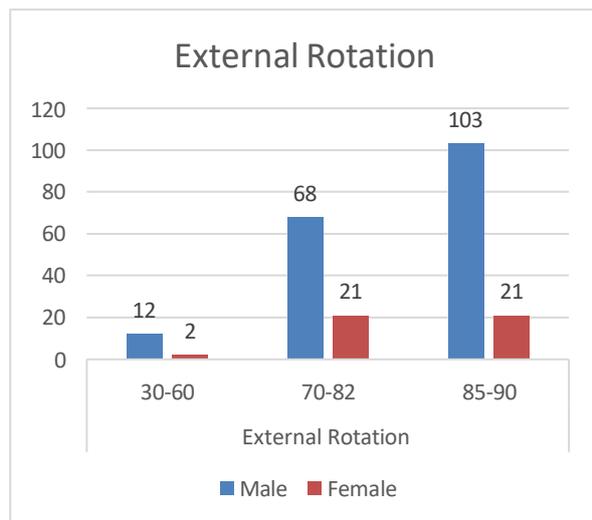
Graph 7.



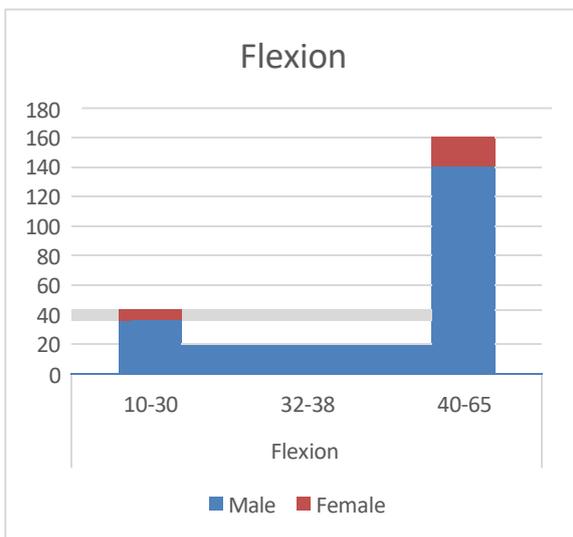
Graph 8.



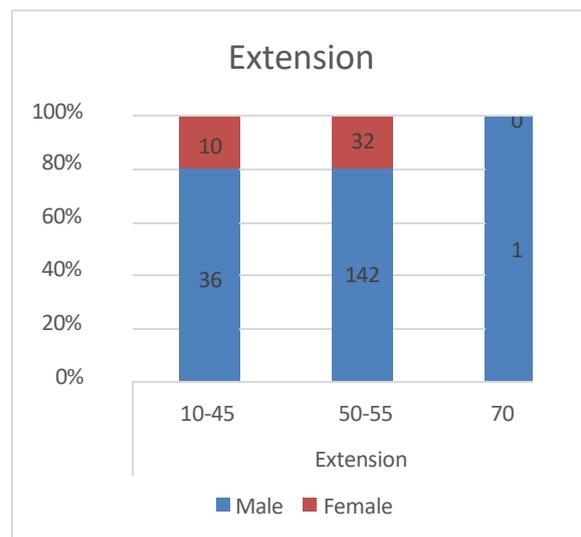
Graph 9



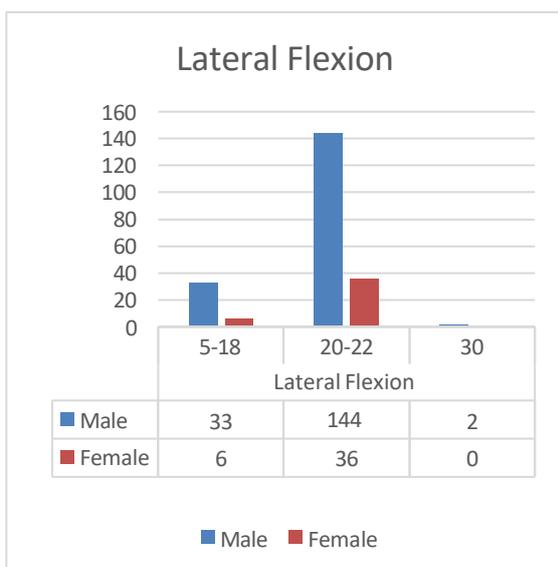
Graph 10



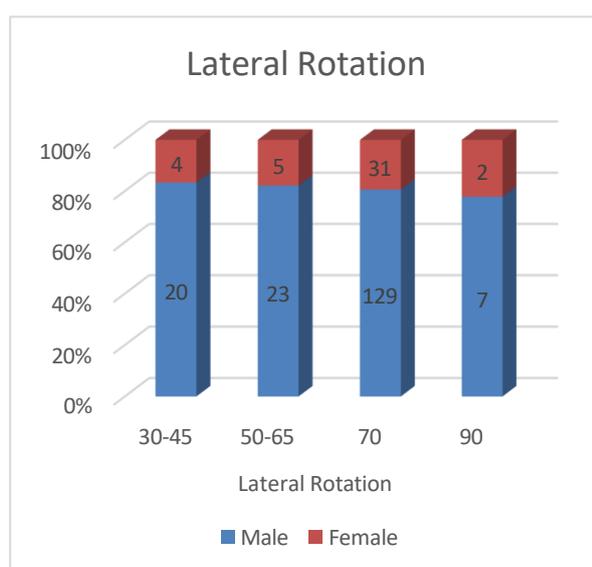
Graph 11



Graph 12



Graph 13.



Graph 14.

Graph 1. shows gender distribution among the participants involved in the study. There was total 227 participants involved in the study out of which 183 were males and 44 were female participants.

Graph 2. Interprets the severity of neck disability in which out of 227, 159 males and 37 females were with minimal disability, 21 males and 6 females with moderate disability, 3 males and 1 female with severe disability were observed.

Graph 3. Shows the severity of shoulder pain in individuals among which 138 males and 36 females show no symptoms of pain or difficulty in daily living. Whereas 36 males and 6 females show minimal pain and 9 males and 2 females presents with moderate pain.

Graph 4. Explains the pain free range of motion of shoulder where x-axis shows the range of motion in degrees and y-axis shows the score. In this graph 161 males and 37 females are pain free through the joint range of motion. 5 males and 2 females have minimal restriction and pain throughout the joint range of motion. Whereas 17 males and 5 females have moderate pain and restriction through the joint motion

The graphs 3 and 4 interprets that less the score severe the disability and more the score minimal or no disability.

Graph 5. Shows the in general individuals affected because of pain either shoulder or neck where between the range of 0-0.9 total 111 male and 25 female are affected in between the range 1-2.9 50 male and 10 females are affected between the range of 3-4.9 12 male and 7 female are affected, between the range 5-7.9 total 10 male and 2 females are affected.

Graph 6,7,8,9,10 shows the flexion, extension, abduction, internal rotation and external rotation affected in the shoulder joint.

Graph 6. Flexion ranges between 90-130 degree total 25 males and 6 females are affected and range 140-180 degree total 159 males and 38 females are affected.

Graph 7. Extension is affected range from 20-35 degree total 8 males and 2 females are

affected from range 40-50 degree 17 males and 5 females are affected and range 55-60 degree 158 males and 37 females are affected

Graph 8. abduction affected range 90-120 degree total 23 males and 4 females are affected from range 130-150 degree total 3 males and 2 females are affected from range 165-180 degree 157 males and 38 females are affected.

In graph 9 internal rotation is explained where starting from range 30-60 degree total 17 male and 4 females are affected in range 70-82 degree 42 males and 13 females are affected. Ranges 85-90 degree total 124 males and 27 females are affected

In graph 10 explains that from range 30-60 degree total 12 males and 2 females are affected from range 70-82 degree shows that total 68 males and 21 females are affected and lastly from range 85-90 degree shows that total 103 males and 21 females are affected

Graph 11,12,13,14 neck flexion, extension, lateral rotation and lateral flexion.

Graph 11 shows the neck flexion between the ranges of 10-30 degree 37 males and 8 females are affected from the ranges between 32-38 degrees 8 males and 3 females are affected and from ranges 40-65 degrees 134 males and 31 females are affected.

Graph 12. Shows neck extension between the ranges of from 10-45 degrees 36 males and 10 females are affected from the range 50-55 degree 142 males and 32 females are affected and at 70-degree 1 male and 0 female

Graph 13 shows lateral rotation between the ranges of 30-45 degree 20 males and 4 females are affected from ranges 50-65 degree 23 males and 5 females are affected, at the range of 70 degree 129 males and 31 females are affected and at 90 degree 7 males and 2 females are affected.

Graph 14 shows lateral flexion ranges from 5-18 degree 33 males and 6 females are affected between the range 20-22 degree 144 males and 36 females are affected and at last at 30 degree 2 males and females.

DISCUSSION

The current study was conducted to evaluate the percentage of shoulder and neck pain among gym going population users using established assessment tools, including the Neck Disability Index (NDI), Reading Shoulder Unit Questionnaire, Visual Analog Scale (VAS), and goniometry for range of motion (ROM) assessment

The current study found that the common symptom noted was neck disability. In regard to shoulder pain, the current study found that, the majority of participants indicated little difficulty or no symptoms while performing daily activities. The ROM testing also found that nearly all participants demonstrated full or near full ROM without pain in the shoulder joints, and neck joints. ROM was more commonly restricted in shoulder flexion and abduction, and neck flexion and lateral flexion.

Previous study was conducted, with fitness instructors, the prevalence of recent pain was much less than would expect based on the significant cumulative exposure to repetitive movement in fitness instructors compared to the present sample, where instructors have demonstrated movement patterns based on demonstrating exercises for limited periods of time.⁽¹⁰⁾ Another study was conducted which suggested that neck pain associated with gym use tends to be reported functional difficulty and it could worsen if the root causes persist, including repetitive injury, not lifting and exercising with proper posture, and not allowing enough time to recovery.⁽¹¹⁾ Nonetheless, the results support previous work that demonstrated musculoskeletal pain focused in the cervical and shoulder area remains an ongoing challenge for gym attendees, this would suggest that exercise-related neck and shoulder pain may be more a function of training intensity, techniques, or recovery techniques, as presented in previous research focused on hazards employed in occupational and recreational physical activity.⁽¹²⁾ The previous research conducted on recreational athletes, who have shown that shoulder dysfunction may be common,

but severely impaired performance is less common most likely due to participant age and fitness level.⁽⁵⁾

Overall, this study provides important contributes to a relatively limited literature regarding gym-going adults and trainers, showing that while serious injuries are uncommon, musculoskeletal tension is frequent.

CONCLUSION

Minimal to mild neck and shoulder discomfort was seen among gym going individuals with early signs of musculoskeletal pain were observed.

Declaration by Authors

Ethical Approval: Approved

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REFERENCES

1. Caspersen CJ, Powell KE, Christenson GM. Physical activity, exercise, and physical fitness: definitions and distinctions for health-related research. *Public Health Rep.* 1985;100(2):126–31.
2. Kisner C, Colby LA, Borstad J. *Therapeutic exercise: foundations and techniques.* Fa Davis; 2017 Oct 18.
3. George SA, Abraham AT. A Review on Musculoskeletal Pain and Injuries among Fitness Instructors. *Int J Health Sci Res.* 2022 Jun;7(2):150-6.
4. Muonwe C, Nwobi SC, Alumona CJ, Okeke C, Nwanne CA. Prevalence and Pattern of Musculoskeletal Injuries among Recreational Weightlifters in Nnewi, Nigeria. *Int J Sports Exerc Med.* 2021; 7:202.
5. Bernstorff MA, Schumann N, Finke A, Schildhauer TA, Königshausen M. Popular

- Gym Fitness Sport: An Analysis of 1387 Recreational Athletes Regarding Prone to Pain Exercises and the Corresponding Localisations. Sports. 2023 Dec 29;12(1):12.
6. Magee, David J. (2002). Orthopedic physical assessment. Philadelphia: Saunders,
 7. Ariens GA, Van Mechelen W, Bongers PM, Bouter LM, Van Der Wal G. Physical risk factors for neck pain. Scandinavian journal of work, environment & health. 2000 Feb 1:7-19.
 8. Miranda H, Viikari-Juntura E, Martikainen R, Takala EP, Riihimäki H. A prospective study of work-related factors and physical exercise as predictors of shoulder pain. Occupational and environmental medicine. 2001 Aug 1;58(8):528-34.
 9. Mitchell C, Adebajo A, Hay E, Carr A. Shoulder pain: diagnosis and management in primary care. Bmj. 2005 Nov 10;331(7525):1124-8.
 10. Shinde N, Sahasrabuddhe P. Prevalence of musculoskeletal pain and injuries in gym instructors. Int J Health Sci Res. 2021;11(2021):62-7.
 11. Ahmed S, Rashid M, Sarkar AS, Islam MJ, Akter R, Rahman M, Islam S, Sheel D, Polash SA, Akter M, Afride S. Fitness trainers' educational qualification and experience and its association with their trainees' musculoskeletal pain: A cross-sectional study. Sports. 2022 Aug 29;10(9):129.
 12. Misal S, Eden Mehdiabadi AJ. High Prevalence and Impact of Shoulder Pain Among Gym Instructors: A Study on Work-Related Musculoskeletal Disorders. National Editorial Board. 2024 Oct;18(4):113.
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