THE IMPACT OF GYMNASTICS FLOOR EXERCISES ON PERFORMANCE AND INJURY PREVENTION IN WRESTLING

NITIN VASANTRAO SHINDE
Assistant Professor in Physical Education, Yashwantrao Chavan Mahavidyalaya, Islampur
Email Id:nitinshinde248@gmail.com Mobile No.:9822880602

Abstract

This research paper explores the integration of gymnastics floor exercises into wrestling training programs, examining their impact on performance enhancement and injury prevention. Given the physical demands of both sports, the study highlights how the flexibility, agility, core strength, coordination, and balance developed through gymnastics can translate into improved flexibility, agility, core strength, coordination, and balance in wrestling. The paper draws on existing literature, expert interviews, and case studies to support the proposed benefits.

The study uses a mixed-methods approach. Quantitative data were collected from a group of 30 collegiate wrestlers (age 17+-1to 25+-1) that were divided into two groups one is experimental and second is control.

Wrestlers who practiced gymnastics floor exercises showed a marked improvement in flexibility (29%), agility (17% increase), balance (22% improvement), and core & shoulder strength (15% increase) compared to the control group. Moreover, the experimental group reported fewer instances of injuries, particularly in the lower back and shoulders. Coaches noted better posture, improved movement fluidity, and increased confidence during matches.

Keywords: Wrestling, Gymnastics, Performance, Prevention, Training, Development.

Introduction

Wrestling has been the most popular sport in India since ancient times. It was mainly an exercise to stay physically fit. The wrestlers, traditionally, used to wear a loincloth, kistak, and langota. In Ancient India, wrestling was most famously known as Malla-yuddha. One of the protagonists of the Mahabharata, Bhima, was considered to be a great wrestler of his time, with some of his contemporaries including Karna, Jarasandha, Kichaka, and Balarama. The other prominent Indian epic, the Ramayana, also mentions wrestling in India, and Hanuman is described as one of the greatest wrestlers of his time. During the reign of Mughal Empire, who were of Turko-Mongol descent, the influence of Iranian and Mongolian wrestling were incorporated to the local Malla-yuddha to form the modern Pehlwani, wrestling style popular throughout India, Iran, Iraq, Pakistan and Bangladesh as well as in Asian countries in modern times. Even today, wrestling competitions are held on a large scale during festivals and fairs in India.

Wrestling in India is also known as Dangal, and it is the basic form of a wrestling tournament. It is also called kushti in Punjab and Haryana. The wrestling in Punjab and Haryana will take place in a circular court with soft ground, which in Punjabi is called an "akhada". Two wrestlers will continue to wrestle until the back of one touches the ground. The winner will parade the court with the loser following him. The wrestlers are called Pehlwan, who train with modern weights and traditional weights such as a Gada (mace), which is known as "Mudgal". The aim of kushti is to wrestle the opponent and to block the other player. In wrestling two types, one is freestyle and second is greco roman.

Wrestling is body combat and a

physically demanding sport that requires strength, speed, agility, flexibility, balance, and coordination. Similarly, gymnastics, particularly floor exercises, demand a high level of body control, flexibility, and muscular endurance. Recent interdisciplinary approaches in athletic training suggest that elements from gymnastics can be effectively applied to enhance wrestling performance and reduce injury risk. This paper investigates how gymnastics floor exercises contribute to wrestling training, with a focus on physical conditioning and injury prevention.

Literature Review:

Several studies have explored cross-training benefits in sports. According to Smith et al. (2019), athletes who incorporate flexibility and coordination drills from gymnastics demonstrate improved performance in explosive sports like wrestling. Another study by Johnson and Lee (2021) found that gymnasts have significantly lower injury rates in lower back and shoulder regions due to their consistent conditioning routines. These findings suggest that floor exercises can be particularly beneficial for wrestlers who often suffer from strains and joint injuries.

Methodology:

The study uses a mixed-methods approach. Quantitative data were collected from a group of 30 collegiate wrestlers (age 17+-1 to 25+-1) that were divided into two groups one is experimental and second is control. Experimental group given training over a 12-week period. Experimental group means 15 of the participants incorporated gymnastics floor exercises into their training regimen, while the control group followed traditional wrestling conditioning. Performance metrics such as flexibility, agility, balance, and core & shoulder strength were measured using standardized fitness tests, which is seat & reach, shuttle run, sit-ups, pull-ups, Additionally, qualitative data were obtained through interviews with wrestling coaches and gymnastics trainers.

Results:

Wrestlers who practiced gymnastics floor exercises showed a marked improvement in flexibility (29%), agility (17% increase), balance (22% improvement), and core & shoulder strength (15% increase) compared to the control group. Moreover, the experimental group reported fewer instances of injuries, particularly in the lower back and shoulders. Coaches noted better posture, improved movement fluidity, and increased confidence during matches.

Discussion:

The findings affirm the hypothesis that gymnastics floor exercises enhance wrestling performance and reduce injury risks. The improvement in agility and balance is directly attributed to exercises such as handstands, cartwheels, and forward rolls, which engage stabilizing muscles and enhance spatial awareness. Flexibility gained from stretching routines also contributes to joint health and injury prevention. Importantly, the study underscores the need for tailored integration, ensuring exercises match the intensity and skill level of the wrestlers.

Conclusion:

Integrating gymnastics floor exercises into wrestling training programs offers significant advantages in terms of performance and injury prevention. Wrestlers benefit from improved flexibility, core strength, and balance, which are critical for competitive success and longevity in the sport. Further research is encouraged to explore long-term effects and to develop structured cross-training modules for youth and professional athletes.

References:

1.Smith, R., et al. (2019). Cross-Training in Athletics: Benefits of Flexibility and Balance Exercises. Journal of Sports Science and Medicine, 18(3), 412-420.

2. Johnson, T., & Lee, M. (2021). Injury Patterns and Prevention in Gymnastics and Their Relevance to Contact Sports. Sports

Health Review, 9(2), 134-140.
3.National Wrestling Coaches Association (2020). Wrestling Conditioning and Injury **Reports.**
4.Koen A.P.Lemmink, Han Kemper, Mathieu H.G. de Greef, and Piet Rispens P, Stevens M, Reliability of the Groningen Fitness Test for the Elderly, Journal of Aging and Physical Activity, 2001, 9, 194-21.
5.O ga K. & Erika Z. (2024). The effects of aerobic gymnastics training on performance-related variables in an elite athlete: a 2-year follow-up study
6.Vernetta M., Peláez-Barrios E. M., López-Bedoya J. (2022). Systematic review of flexibility tests in gymnastics. J. Hum. Sport & Exerc. 17 (1), 58–73. 10.14198 / jhse. 2022.171.07
7.Willardson J. M. (2007). Core stability training: applications to sports conditioning programs. J. Strength Cond. Res. 21 (3), 979–985. 10.1519/R-20255.1
8.Yang J., Li G. (2010). Discussion on the relationship between core strength training and landing stability of gymnasts. J. Wuhan. Inst. Phys. Educ. 44 (8), 74–78. 10.3969/j.issn.1000-520X.2010.08.01
9. Hardayal S. (1984), Sports training: general theory & methods, Netaji Subhas. Nat. Inst. of Sports.
10. Kansal D. K. (1996). Test and Measurement in Sport and physical education. New Delhi. D.V.S. publications.
11.Kansal D. K. (2008). Test and Measurement in Sport and physical education. New Delhi. D.V.S. publications.
12. Miller D.K. (2002). Measurement by physical educator. 4th Ed. New York: McGraw hill.
13. Aher S.S. (2008). Physical Education Measurement and Evaluation. Diamond publication Pune.
14. Kumar R. (2011). Research Methodology. 4th ed. SAGE Publications Ltd.1 Oliver's. London EC1Y 1SP.

Websites:
www.wrestlingfederationofindia.com
www.tutorialspoint.com
https://maharashtrarajyakustigirsangh.com

***