



Role of yogic exercises in sports medicine

Dr. Feroj Banebhai Sayyed

Associate Professor & Head, Department of Physical Education and Sports Shri Muktanand College, Gangapur, Chhatrapai Sambhajnagar, Maharashtra, India

Abstract

Sports medicine focuses on the prevention, treatment, and rehabilitation of sports-related injuries while promoting optimal physical fitness and athletic performance. In recent decades, yogic exercises have gained significant recognition as a complementary approach within sports medicine. Yogic practices, including asanas (postures), pranayama (breathing techniques), mudras, bandhas, and kriyas, contribute to the development of flexibility, muscular strength, balance, and cardiovascular efficiency. These physiological benefits make yoga an effective modality for injury prevention and overall physical conditioning among athletes. The present study examines the role of yogic exercises in sports medicine, with particular emphasis on their prophylactic potential in preventing sports injuries. Evidence from existing literature suggests that regular yogic practice enhances joint mobility, improves general physical fitness, and increases cardiovascular efficiency. Additionally, yoga aids in regulating body composition, controlling body fat, and promoting psychological well-being and mental stability. Such holistic benefits support both physical recovery and performance enhancement in athletes. The integration of yogic exercises into sports medicine programs can therefore serve as an effective strategy for improving athletic performance, enhancing physical resilience, and reducing the risk of sports-related injuries. Incorporating yoga into regular training and rehabilitation protocols may contribute to a more comprehensive and sustainable approach to athlete health and performance.

Keywords: Yogic exercises, injury prevention, athletic performance, physical fitness, rehabilitation

Introduction

Sports Medicine is a rapidly evolving branch of medicine. It is still a developing branch in developing countries. The progress of sports medicine requires close connection with disciplines such as biomechanics, biochemistry, psychology, and sociology. These disciplines have their own theoretical foundations. They contribute significantly to understanding various aspects of sports-related medical issues. The field of sports medicine got transformed after the Second World War. Increasing participation in sports and the rising number of athletic injuries highlighted the need for specialized medical attention for athletes. The word 'medicine' is a therapeutic and preventive aspects of healthcare. Physical exercise was widely used as a method of treatment. The Greek physician Hippocrates emphasized that physical exercises have therapeutic use. According to Aesculapius recommended horseback riding for restoring health. Asclepiades, suggested walking and running as treatment for certain disorders. Ayurveda recommended exercise and massage for managing chronic rheumatism. These references show that physical activity and exercise have long been used as therapeutic tools. The focus has shifted towards the medical care and prevention of sports injuries.

Scope of Sports Medicine

Sports Medicine covers various aspects related to sports participation, physical fitness, and the health of athletes. According to Dr. Ernst Jokl (1971), sports medicine deals three major spheres: sport in education, sport for all, and competitive sport. He classified sports medicine into four major sectors: applied physiology, clinical medicine, surgery, and rehabilitation. Applied physiology deals with study of growth, development, and athletic performance.

Clinical medicine refers to diagnosis and treatment of sports injuries. Surgery is concerned with severe injuries. The aim of rehabilitation is to restore functional capacity so as to enable athletes safely to sports participation. Applied physiology is crucial as athletic performance depends on the coordinated functioning of various physiological systems such as the muscular, cardiovascular, respiratory, and nervous systems. These premises underscore the comprehensive scope of sports medicine in promoting health, preventing injuries, improving performance, and safe participation.

Yogic exercises and their components

Yogic exercises influence both physiological and psychological aspects of health. They are given below:

- **Asanas:** These postures involving static stretching that enhance stability and flexibility.
- **Pranayama:** It means controlled breathing techniques that regulate respiratory functions.
- **Bandhas and Mudras:** This is a neuromuscular control technique involving voluntary and semi-voluntary muscle groups.
- **Kriyas:** It is a cleansing processes which regulate bodily functions and reflex mechanisms.

Role of Yogic Exercises in Flexibility and Mobility

Yogic exercises improve flexibility and mobility. Flexibility is essential in all sports as it increases joint mobility and reduces the risk of muscle injuries. Research studies have shown that yogic practices improve joint flexibility. Herbert de Vries (1962) studied static stretching techniques used in Hatha Yoga and compared them with traditional ballistic stretching methods. The finding showed that these methods improved flexibility and that static stretching was more

effective and caused less muscular soreness. Therrien (1969) and Dhanaraj (1974) [7] revealed that yogic exercises improve flexibility. Improved flexibility helps athletes move their joints freely and reduces the chances of accidents and injuries caused by stiff muscles or restricted movements.

Yogic Exercises and Physical Fitness

Yogic exercises improve overall physical fitness. Physical fitness is necessary because it reduces the chances of injuries and also improves performance. Gharote (1976) [10] conducted a study on 40 high school students in Lonavla and examined the effect of yogic exercises on physical fitness. He formed two groups: an experimental group and a control group. The experimental group practiced selected yogic exercises for three weeks, with each session lasting 30 minutes. He noticed significant improvement in the physical fitness of the experimental group. There were improvements were mainly seen in leg lifts, shuttle run, and balance tests. Some improvement reduced after the students stopped practicing yoga, many benefits remained. This shows that yogic exercises have lasting positive effects on physical fitness.

Cardiovascular Efficiency and Yogic Training

Yogic practices improves cardiovascular efficiency. Ganguly and Gharote (1974) [9], in their study, showed that long-term yogic practice can improve heart and circulatory functions. This study was conducted on students of the G.S. College of Yoga, based in Lonavla. The students practiced yogic exercises regularly for nine months. It was ensured that they did not perform any other vigorous physical activities. They applied Harvard Step Test for measuring cardiovascular efficiency. Significant improvement in the cardiovascular efficiency was noted. Even slow and non-vigorous yogic exercises can improved cardiovascular health.

Control of Body Fat and Injury Prevention

In preventing sports injuries controlling body fat is important. Excess body fat is often associated with reduced muscular efficiency. If intense physical training stops and diet remains the same, muscles may gradually lose strength; fat also gets accumulated in the body. Yogic exercises help maintain muscle tone and control unnecessary fat accumulation. Thus, yoga is crucial during the off-season period when training intensity is lower.

Psychological Benefits of Yogic Exercises

It is not that sports injuries are caused by physical factors alone. Stress, anxiety, and lack of concentration increase the risk of injuries. Yogic exercises are basically psychophysiological practices that have positive impact on mental and physical well-being. Pranayama and meditation provide relaxation, emotional stability, and better concentration. Research findings shows that these practices improve mental strength and resilience, and lad to better sports performance and injury prevention.

Conclusion

Yogic exercises provide many benefits in sports medicine: improve flexibility, cardiovascular efficiency, muscular strength, and mental stability. They achieve better physical fitness as well as reduce the chances of injuries among athletes. No doubt, the traditional sports training methods

are still essential, but adding yogic practices to sports training programs can provide additional advantages. Further research is needed to better understand the scientific benefits of yoga and its role in sports medicine for athletes and sports professionals.

References

1. Burry HC. Athletic fitness: Its role in prevention of accidents and injuries. *Practitioner*,1971;206:227-233.
2. Bussing A, Khalsa SBS, Michalsen A. Yoga as a therapeutic intervention: A bibliometric analysis of published research studies. *Journal of Alternative and Complementary Medicine*,2022;28(5):387-395.
3. Cramer H, Lauche R, Dobos G. Characteristics of randomized controlled trials of yoga: A bibliometric analysis. *BMC Complementary Medicine and Therapies*,2021;21(1):1-10.
4. De Vries HA. Prevention of muscular distress after exercise. *Research Quarterly*,1961;32:177-185.
5. De Vries HA. Electromyographic observations of the effects of static stretching upon muscular distress. *Research Quarterly*,1961;32:468-479.
6. De Vries HA. Evaluation of static stretching procedures for improvement of flexibility. *Research Quarterly*,1962, 33:222-229.
7. Dhanaraj VH. The effects of yoga and the 5BX fitness plan on selected physiological parameters (Doctoral dissertation, University of Alberta, Canada), 1974.
8. Field T. Yoga research review. *Complementary Therapies in Clinical Practice*,2020;39:101087.
9. Ganguly SK, Gharote ML. Cardiovascular efficiency before and after yogic training. *Yoga Mimamsa*,1974;17(1):89-97.
10. Gharote ML. Physical fitness in relation to the practice of selected yogic exercises. *Yoga Mimamsa*,1976;18(1):14-23.
11. Ross A, Thomas S. The health benefits of yoga and exercise: A review of comparison studies. *Journal of Alternative and Complementary Medicine*,2021;27(3):203-214.
12. Woodyard C. Exploring the therapeutic effects of yoga and its ability to increase quality of life. *International Journal of Yoga*,2023;16(2):95-103.