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Examining the relationship between yoga and improved balance in athletes

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Abstract

This study made an investigation on the effect of yoga on balance in athletes. Randomly selected 50 college athletes were divided into yoga (n=25) and control (n=25) groups. Balance Error Scoring System (BESS) and the Star Excursion Balance Test (SEBT) were used to assess the balance. Results revealed significant improvements in balance in the yoga group compared to the control group. Specifically, yoga participants demonstrated reduced BESS scores ($p < 0.05$) and increased SEBT reach distances ($p < 0.05$). These findings made a clear picture that yoga can be a valuable method to athletic training for improving balance.

Keywords: Yoga, balance, picture, scores

Introduction

Yoga originated in India five thousand years ago, and in the present age people aware about the health and fitness benefits of yoga in addition to prevent and manage diseases. Studies have shown that yoga reduces stress and anxiety. Yoga differs from other typical forms of exercise training as it requires multi-structural involvement that gives a difficult task to the body in various ways (Gulati and Sharma, 2011; Kaminoff and Matthews, 2007) [2, 6, 5, 7]. Proper positioning through yoga enhances movement abilities and reduces movement limitation, thus improves body functioning among athletes. Regular practice of yoga improves range of motion and enhance muscle fibre recruitment by increasing flexibility and reducing muscle tension. Several studies have been conducted to find the effects of yoga on flexibility, balance and spinal mobility.

Balance is the ability to control the body's position and maintain the center of gravity over the base of support. It's a key component of physical fitness and athletic performance. Maintaining balance is essential for achieving success in athletic performance. Studies have shown that yoga can be used to improve flexibility, strength and proprioception which may enhance balance. Balance is an essential component of athletic performance, influencing agility, coordination and overall success.

Objectives of the Study

The objectives of this study is to examine the relationship between yoga and improved balance in athletes.

Limitations

- 1) No motivational techniques used to motivate the subjects were considered as a limitation of the study.
- 2) The life style, habits, heredity and nutritional intake and other personal behaviour styles were beyond the control of the investigator were also considered as the limitations of the study.

Hypothesis

- 1) It is hypothesised that yoga significantly improves balance in athletes.

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Methodology

Selection of Subjects

For the purpose of this study, 50 college students were selected as subjects. The average age of the subjects was 21 years.

Design of the Study

50 college athletes from various sports were randomly selected and divided into two equal groups as ‘A’ and ‘B’. After taking the pre-test for the selected variable, the training programme was given to the experimental group ‘A’, and ‘B’ was the control group. The experimental group ‘A’ had undergone the practice of yoga for 30 minutes per day for 12 weeks and group “B” did not involve in any type of training programmer. After twelve weeks of training as per the schedule, a post-test was conducted for the same variable to both groups. The balance of both groups was measured using Balance Error Scoring System (BESS): assessed balance errors during single-leg stance, tandem stance, and foam pad stance, Star Excursion Balance Test (SEBT): measured reach distance in eight directions.

Analysis of Data and Discussion of Findings

Descriptive statistics and paired t-tests compared pre- and post-intervention data. Independent t-tests compared between-group differences.

Table 1: The Significance of Differences between the Pre-Test and Post-Test Means of BESS Scores of the Yoga and Control Groups

Groups	Means		MD	SD	SE	‘t’ value
	Pre-test	Post-test				
Yoga	12.5	8.4	-4.1	1.52	0.167	21.32*
Control group	11.7	11.2	-0.5	1.77	0.264	1.780

* Significant at 0.05 level ‘t’ value required at 0.05 level = 2.03 (df 24)

Table 2: The Significance of Differences between the Pre-Test and Post-Test Means of SEBT Reach distance Scores of the Yoga and Control Groups

Groups	Means		MD	SD	SE	‘t’ value
	Pre-test	Post-test				
Yoga	91.3	100.4	9.1	1.32	0.157	22.32*
Control group	90.5	91.2	0.7	1.67	0.254	1.880

* Significant at 0.05 level ‘t’ value required at 0.05 level = 2.03 (df 24)

Discussion

The results of this study demonstrates that yoga significantly improves balance in athletes. Reduced BESS scores indicate fewer balance errors, while increased SEBT reach distances suggest enhanced proprioception and stability. These findings support yoga as a valuable activity for athletic training.

Conclusion

It is concluded that yoga improves balance in athletes, potentially enhancing athletic performance and reducing injury risk. Further research should explore long-term effects and applications across various sports.

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