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Effect of yogasanas on selected motor components of university handball players

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Abstract

The purpose of the present study was to investigate the effect of Yogasanas on Selected Motor Components of University Handball players. To achieve the purpose of the study thirty men players were selected from Different colleges under Karnatak University, Dharwad in the year of 2014-15. The Subjects age ranges from 18-24 years. The selected players were divided into two equal groups consists of 15 players namely experimental (Group-1) and control group (Group-2). The Group-1 underwent eight weeks of yogasanas training and Group-2 did not participate in any special training apart from their regular sports and games practices. The subjects were tested on selected criterion variables such as Muscular Strength and Balance. Pre-test was taken before The Programme and post-test was measured immediately after the eight week yogasanas training. Statistical technique 't' ratio was used to analyze the means of pre and post-test data of Group-1 and Group-2. The results of the present study have revealed that there was a significant difference among the Group-1 & Group-2 on selected variables.

Keywords: Yogasanas, muscular strength, balance, handball and university players

Introduction

Regular physical activity is one of the bases of a healthy lifestyle. It creates and maintains general well-being, physical and mental health, as well as promoting human performance in all areas of life. Like a sport is not purely physiological phenomenon but a complex interplay of the mind and body. It is now becoming more and more competitive and has also become a career with an emphasis on monetary gains and the desire to win at any cost. Therefore, it is important to find solutions to the changing sports scene today. A sport person needs several motor qualities basically speed, strength, agility, balance, co-ordination and endurance etc.. to achieve these in professional sports. The daily life of sports person calls for discipline in training, a balanced diet, a balanced life style and an inner focus and determination. Yoga is a holistic system teaching skills which many sports persons seek as control over mind and body, good breathing habits, relaxation under pressure, highly developed concentration skills and the ability to focus on the present scenario.

Yoga Benefits as an Exercise

Near-perfect fitness routine, hatha yoga provides the means for people of any age not only to get and stay in shape but also to develop balance, coordination, and a sense of centeredness. It renews, invigorates, and heals the body - stretching and toning the muscles, joints, and spine and directing blood and oxygen to the internal organs (including the glands and nerves). Yoga is distinctly different from other kinds of exercise. It generates motion without causing strain and imbalances in the body. When practiced correctly, hatha yoga has no such negative effects on either the inner or outer body. When done with dedication and purpose, hatha yoga can be a quite demanding, yet an immensely rewarding type of exercise. While not inherently aerobic, it involves almost every muscle in the body and challenges the body to work in a different and often more passive way. Since the limbs function as free weights, resistance is created by moving the body's center of gravity. This strengthening gives way to endurance as poses are held for longer periods of time. Unlike conventional forms of exercise, such as weight training, walking, biking or hiking, hatha yoga stresses quality of movement over quantity. A consistent hatha yoga practice can quiet the mind and refresh the body, bringing health, relaxation, and happiness. Yoga postures are the physical positions that coordinate breath with movement and with holding the position to stretch and strengthen different parts of the body.

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Asana practice is the ideal complement to other forms of exercise, especially running, cycling and strength training, as the postures systematically work all the major muscle groups, including the back, neck, and shoulders, deep abdominal, hip and buttocks muscles and even ankles, feet, wrists and hands. By their very nature, asanas affect major and minor muscle groups and organs as they simultaneously impart strength, increase Muscular strength and bring nourishment to internal organs. Although most poses are not aerobic in nature, they do in fact send oxygen to the cells in the body by way of conscious deep breathing and sustained stretching and contraction of different muscle groups. Whatever sport you choose to practice, yoga can enhance and complement your ability. Most sports build muscular strength and stamina, often in specific areas of the body.

Improved Strength Routine and consistent practice of the various yoga asanas has helped me build strength and improve lean muscle mass. Most notably with respect to several muscle groups under-utilized in my chosen athletic disciplines of swimming, cycling and running. These gains have enhanced core body stability and significantly impeded overuse injury by strengthening the supportive but otherwise under-developed muscles surrounding the more utilized muscles, creating a more balanced and optimally functional overall strength. ii. Balance As a swimmer, I have always been rather flexible. But my balance is historically horrible. But through a consistent yoga practice, my coordination and balance have improved immensely. Why is this important? Better balance and coordination means enhanced control over how I move my body, which in turn leads to better technique and form -- the brass ring every athlete spends a career refining, whether your focus is a swim stroke, golf swing, running stride, and jump shot or wrestling move. iii. Muscular strength Yoga invariably improves joint and muscular Muscular strength.

Yoga can help to check any imbalance in muscular development and will enable both your body and your mind to function more efficiently. If your body is flexible and supple you will be less prone to sports injuries, as your joints will be kept lubricated. Skiing demands mental alertness as well as good balance. Yoga asanas strengthen your muscles, release physical tension and improve your concentration and poise. Yoga makes your limbs balanced, strong and relaxed. Golfers may be prone to one-sided or uneven muscle development. Yoga asanas can strengthen weak areas and ease muscular tension. The standing poses improve balance and muscle Muscular strength. Gentle stretching exercises also ease stiffness in the legs and shoulders. Yoga asanas will also improve Muscular strength. Racket sports often involve intense physical effort. Yoga practice can help players to relax and replenish their energy after strenuous games. It also promotes calm, clear thinking, even in situations that call for fast reactions. Finally Yoga is more than just stretching and relaxation. Daily yoga practice includes a comprehensive system that builds strength, balance in the body and mind.

Methodology

For the purpose of the study was to find out the effect of yogasanas on muscular strength and Balance among

collegiate men Handball players. To achieve this purpose of study, thirty men players were selected as randomly. The age of the subjects range from 18-24 years. The selected subjects divided into two equal groups such as experimental (Group-1) and control group (Group-2). The experimental group underwent yogasanas training for alternate days in the morning 6am to 7am for total eight weeks. Group-2 acted as control group that did not participate in any special training apart from their regular sports and games practice. The following variables were selected as criterion variables (a) Muscular strength- it was measured by sit-up test. (b) Balance- it was measured by Stork stand Test. The data were collected at prior to and immediately after the training programme for the selected variables. The 't' test was used to analyse the significant differences if any in between the groups respectively. In all the cases 0.05 or 95% level was used to test this significance.

Selected Yogasanas

- Surya Namaskar
- Navasana
- Bakasanachaturanga
- Plank Pose
- Eagle pose
- Sirsasana
- Dandasana
- Mayurasana
- Tree pose
- Natarajasana
- Virabhadrasana

Selection of Variables

Sl. No	Variables	Test	Scoring System
1	Muscular strength	Sit ups test	Repetitions in 60 seconds.
2	Balance	Stork Stand Test	Seconds

Methodology

Sit-Ups Test: It was used to assess the muscular strength. The score of the test is the number of correctly executed sit-ups performed by the subjects in 60 seconds.

Stork Stand Test: It was used to measure both static balance. The score of the test is greater number of seconds counted between the time the heel is raised and the balance is lost on three trails with the preferred foot. Only the highest score is recorded.

Statistical procedure

The following statistical technique 't' ratio was calculated to find out the significance of the difference between the mean of the pre and post-test of the experimental group.

Analysis of the data

The significance of the difference among the means of experimental group was found out by pre and post-test. The data were analysed and dependent t test was used with 0.05 levels of confidence.

Analysis of 't'- ratio for the pre and post-tests of experimental and control group on muscular strength and balance

Variable	N	Groups	Mean		Mean difference	SD		Df	't'
			Pre	Post		Pre	Post		
Muscular strength	15	Experimental	21.48	24.67	3.19	1.68	1.41	14	8.57*
		Control	20.89	21.30		0.98	0.68		
Balance	15	Experimental	23.87	25.23	.15	5.72	5.52	14	4.98*
		Control	23.49	23.60		5.23	5.09		

Significance 0.05 level of confidence. (df of 14 is 2.14)

Muscular strength

The table shows that the mean values of pre and post-test of experimental group on Muscular strength were 21.48 and 24.67 respectively and SD of pre and post-test of experimental group 1.68 and 1.41 respectively. The obtained 't'ratio was 8.57* since the obtained calculated value was greater than table value of 2.14 for significance at 0.05 level with 14 degrees of freedom it was found to be statistically significant. And in the case of control group pre and post-test mean values on Muscular strength were 20.89 and 21.30 respectively and SD of pre and post-test of control group 0.98 and 0.68 respectively. The obtained calculated value was 1.87, since the obtained calculated value was less than table value of 2.14 for significance at 0.05 level with 14 degrees of freedom it was found to be statistically insignificant. The result of the study showed that there was a significant difference between both groups in Muscular strength. It may be concluded from the result of the study that experimental group improved in Muscular strength due to eight weeks of yogasanas training.

Balance

The mean values of pre and post-test of experimental group on Balance were 23.87 and 25.23 respectively and SD of pre and post-test of experimental group 5.72 and 5.52 respectively. The obtained 't'ratio was 4.98* since the obtained calculated value was greater than table value of 2.14 for significance at 0.05 level with 14 degrees of freedom it was found to be statistically significant. And in the case of control group pre and post-test mean values on Balance were 23.49 and 23.60 respectively and SD of pre and post-test of control group 5.23 and 5.09 respectively. The obtained calculated value was 1.09, since the obtained calculated value was less than table value of 2.14 for significance at 0.05 level with 14 degrees of freedom it was found to be statistically insignificant. The result of the study showed that there was a significant difference between both groups in Balance. It may be concluded from the result of the study that experimental group improved in Muscular strength due to six weeks of yogasanas programme.

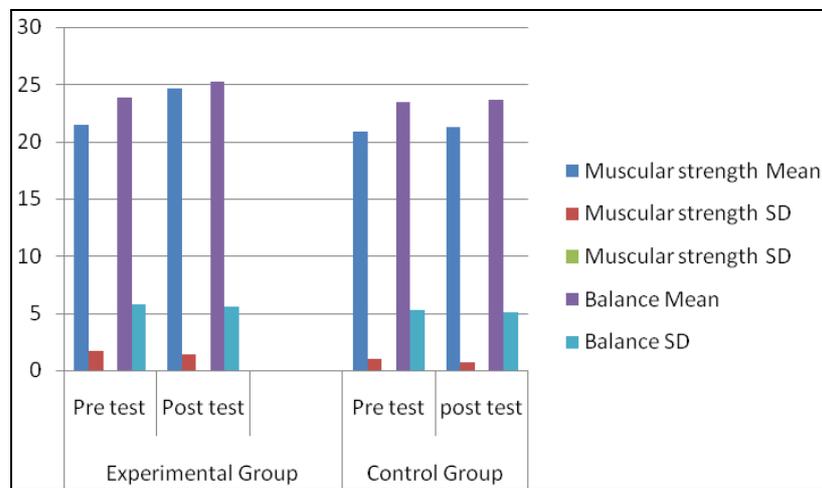


Fig 1: A graphical representation shows the mean and SD of Muscular Strength and balance among Experimental Group and Control group.

Findings

To find out the significant mean difference between pre and post test results for experimental and control group 't' test was administered. SPSS package version 21 was used for this study. The result of the study indicates that the experimental group namely Group-1 had significantly improved in the selected dependent variables namely muscular strength and Balance, when compared the means to the control group namely Group-2. It is also found that the improvement caused by yogasanas training when compared with the control group.

Conclusion

Finally I concluded that on the basis of results there was a significant difference between experimental and control group on selected variables like Muscular strength and Balance after the scheduled Training programme and improvement in favour of experimental group due to eight weeks of yogasanas training.

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