

Comparative Effects of Traditional Warming up And Suryanamaskar as Warming up on Explosive Power of Volleyball Players

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Abstract:

Purpose: The purpose of the study was to find out the effect of traditional warming up and suryanamaskar as warming up on explosive performance of volleyball players. It was hypothesized that the traditional warming up and suryanamaskar as warming up on explosive performance components of volleyball players. **Methods:** The experimental study was conducted for thirty college level men volleyball players from Ramakrishna institutions were selected randomly and divided into two groups namely traditional sports specific warming up group and suryanamaskar warming up group. To achieve the purpose of the study upper body explosive power and lower body explosive power were selected as criterion variables. Both the groups performed with their respective method of warming up for 25 -30 minutes in before their regular volleyball practice sessions for the period of eight weeks in alternative days, each session consists of 90 minutes including warming up and cooling down processes. The suryanamaskar practice should be dynamic in pace. The data was collected before and after the eight weeks of training program considered as pre and post-test performances. The data was analyzed by using paired *t* - ratio for testing the significance difference between the groups. **Conclusions:** The traditional warming up group and suryanamaskar warming up training group improved the upper body and lower body explosive power. Further it was also concluded that the suryanamaskar practice is more effective to improve the upper body and lower body explosive power than the traditional form of warming up.

Key Words: surya namaskar, traditional warmup, volleyballplayers, leg explosive power

Introduction

Participating in some sort of a warm-up before engaging in physical activity is taken into account a suitable and valid practice (McArdle, Katch & Katch, 2001). Nonetheless, the subject has been debated among those within the sport and physical education field for variety of years. Some professionals believe warm-up is important to physical activity, while others believe warm-up isn't necessary. However, there are numerous physiological advantages accompany a warm-up that's difficult to refute. Three sorts of warm-ups frequently utilized are: passive, general, and sport-specific. The sport-specific warm-up not only increases neural activity but assists in recruiting additional motor units and therefore the speed of contraction/relaxation of every muscle cell (Foss & Keteyian, 1998).

Suryanamaskar application and flexibility make it one among the foremost useful and complete methods to cause health and vigor while at an equivalent time preparing an adept for the deeper processes of yoga. it's supported three elements: rhythm, energy, and form. the

shape is clear within the twelve postures which are always performed within the same sequence. Such steady and continuous performance of postures which are coordinated with the breath activates the subtle energy called prana. This steady and rhythmic flow reflects the rhythm of the universe, like biorhythms of the body, which were expressed within the past by the science of the twelve zodiac phases. The rhythmic superimposition of the shape and energy of suryanamaskar on our psychosomatic organism may be a transforming force since it activates the psychic body during a completely different way than what any modern sport or game can do.

The benefits of a suryanamaskar practice are so wonderful then many who for example, within the late 1940s, Shrimant Bhavanrao Pant Pratinidhi (1868- 1951; Raja of Aundh 1909-1947) made suryanamaskar a compulsory a part of the physical educational program in his kingdom's schools. He helped to popularize suryanamaskar as an easy workout for the all-round development of a private. Suryanamaskar practice may be a unique system that mixes vigorous physical activity with mental exercises and astrological healing. One round of suryanamaskar is far better than every week of workout at a gym. Suryanamaskar improves breathing capacity and fills one with a sense of endurance and exploration.

Volleyball may be a very explosive sport that needs unique strengths. Participating in some sort of a warm-up before engaging in physical activity is taken into account a suitable and valid practice. A general warm-up consists of broader exercises like calisthenics and aerobics, which increase core blood heat and prepare the body for physical activity. Although general and sport-specific warm-ups have similar physiological benefits, like increasing enzymatic activity, core blood heat, and facilitating blood flow to the working muscles.

Purpose

The purpose of the study was to find out the effect of traditional warming up and suryanamaskar as warming up on explosive performance of volleyball players. It was hypothesized that the traditional warming up and suryanamaskar as warming up on explosive performance components of volleyball players.

Hypothesis

It was hypothesized that the traditional warming up and suryanamaskar warming up would improve the explosive performance of volleyball players. It was also hypothesized that there would be significant difference in improvement on explosive power between traditional warming up and suryanamaskar warming up groups.

Methods

The experimental study was conducted for thirty college level men volleyball players from Ramakrishna institutions were selected randomly and divided into two groups namely traditional sports specific warming up group and suryanamaskar warming up group. To achieve the purpose of the study upper body explosive power and lower body explosive power were selected as criterion variables.

Both the groups performed with their respective method of warming up for 25 -30 minutes in before their regular volleyball practice sessions for the period of eight weeks in alternative days, each session consists of 90 minutes including warming up and cooling down

processes. The suryanamaskar practice should be dynamic in pace. The data was collected before and after the eight weeks of training program considered as pre and post-test performances. The data was analyzed by using paired t - ratio for testing the significance difference between the groups.

Data Analysis and results of the study

Table – 1

Computation of t ratio of pre and post-test means of traditional warming up group on explosive power of Volleyball players

Variables	Pre-test mean	Post-test mean	Mean Diff.	SEM	't'-ratio
Upper body explosive power	5.04	5.16	0.79	0.11	7.05*
Lower body explosive power	44.13	46.60	2.47	0.42	5.82*

***Significant at 0.05 level of confidence (1 and 14) 2.145**

Table 1 reveals that the computation of 't' ratios of traditional warming up group on selected explosive power. The obtained 't' ratios on upper body explosive power and lower body explosive power were 7.05 and 5.82 respectively. Since these values were found to be higher than the required table value of 2.145 for the degrees of freedom 1 and 14, it was significant at 0.05 level of confidence.

Table – 2

Computation of t ratio of pre and post-test means of suryanamaskar warming up group on explosive power of Volleyball players

Variables	Pre-test mean	Post-test mean	Mean Diff.	SEM	't'-ratio
Upper body explosive power	5.04	5.62	0.58	2.87	4.83*
Lower body explosive power	44.33	47.20	2.87	0.45	6.43*

***Significant at 0.05 level of confidence (1 and 14) 2.145**

Table 2 reveals that the computation of 't' ratios of suryanamaskar warming up group on selected explosive power. The obtained 't' ratios on upper body explosive power and lower body explosive power were 4.83 and 6.43 respectively. Since these values were found to be higher than the required table value of 2.145 for the degrees of freedom 1 and 14, it was significant at 0.05 level of confidence. From these results it was inferred that, eight weeks of traditional warming and suryanaskar warming up had produced a significant improvement on selected physical and physiological variables.

Table – 3

Computation of t ratio between pre-test means of warming up group and suryanamaskar warming up group on explosive power of Volleyball players

Variables	Pre-test mean	pre-test mean	Mean Diff.	SEM	't'-ratio
Upper body explosive power	5.04	5.04	0.12	0.15	0.80
Lower body explosive power	44.13	44.33	0.20	1.07	0.19

***Significant at 0.05 level of confidence (1 and 14) 2.145**

Table 3 reveals that the computation of ‘t’ ratios of pre test means of traditional and suryanamaskar warming up group on explosive power of Volleyball players. The obtained ‘t’ ratios on upper body explosive power and lower body explosive power were 0.80 and 0.19 respectively. Since these values were found to be less than the required table value of 2.145 for the degrees of freedom 1 and 14, it was not significant at 0.05 level of confidence.

Table – 4

Computation of t ratio between post test means of warming up group and suryanamaskar warming up group on selected physical and physiological variables

Variables	Pre-test mean	Post-test mean	Mean Diff.	SEM	‘t’-ratio
Upper body explosive power	5.16	5.62	0.32	0.25	1.30
Lower body explosive power	46.60	47.20	0.60	1.01	0.59

***Significant at 0.05 level of confidence (1 and 14) 2.145**

Table 4 reveals that the computation of ‘t’ ratios of post test means of traditional and suryanamaskar warming up group on selected physical and physiological variables. The obtained ‘t’ ratios on upper body explosive power and lower body explosive power were 1.03 and 0.19 respectively. Since these values were found to be less than the required table value of 0.59 for the degrees of freedom 1 and 14, it was not significant at 0.05 level of confidence.

The mean values of pre test and post test of traditional and suryanamaskar training group are presented in the diagrams.

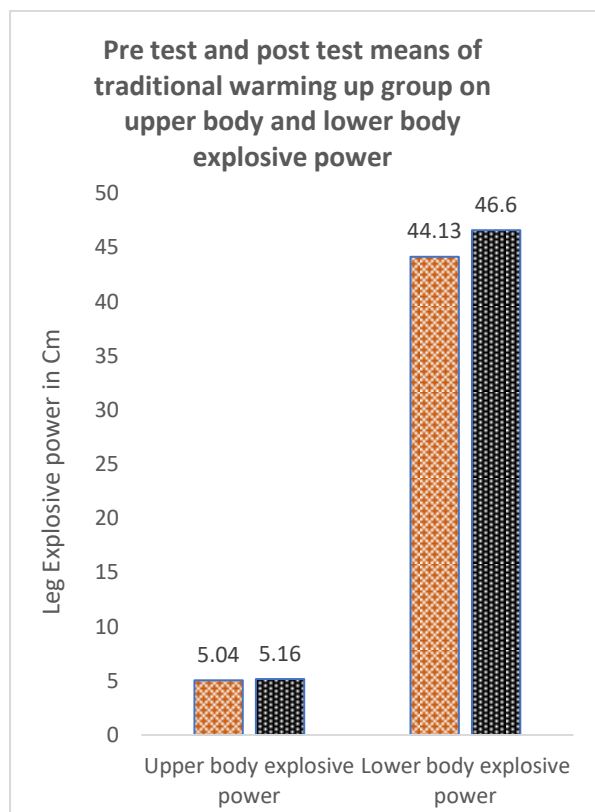


Diagram – 1

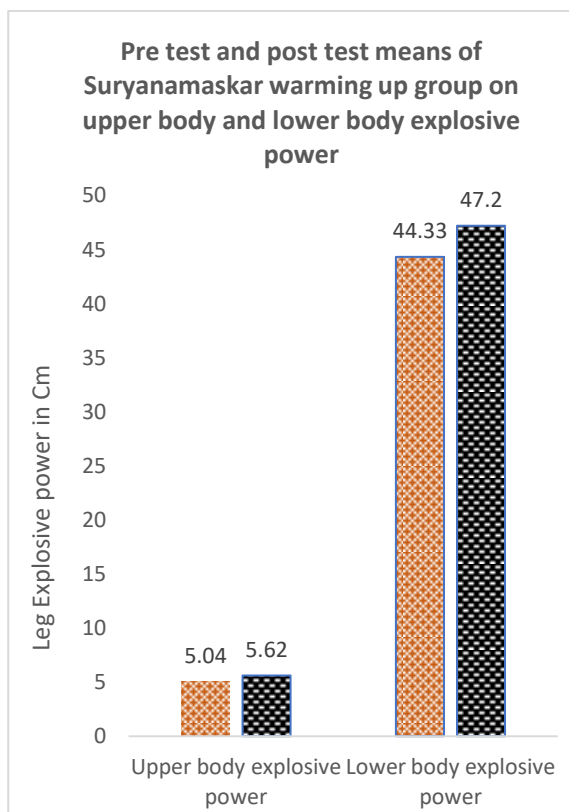


Diagram – 2

Discussion

Suryanamaskar stimulates every large muscle group in the body. It stretches up to 97% of the body muscles and improves general physical fitness by strengthening the muscles (Gauri Shankar, 2011, Rajani Dalvi, 2012). Chaturanga Dandasana, yoga plank or push up, which is one of the 12 postures of suryanamaskar, is excellent for core control (Cheryl Fenner Brown, 2011).

From the results of the study, the traditional warming up group improved 2.38 % on upper body explosive power and 5.59% on lower body explosive power from the baseline of the test to the post-test. Further, from the results of the study, the suryanamaskar training group improved 11.49 % on upper body explosive power and 6.47% on lower body explosive power from the baseline of the test to the post-test.

When comparing the effect of both training methods there is no significant difference in their effects. Further, it was inferred that both the training methods were improved similarly. Some research studies advocate a rapid method of suryanamaskar performing multiple rounds in a fast manner similar to physical exercise (Saravanan E and Pajanivel, 2019). It has been suggested that suryanamaskar at different speeds provides different benefits and that when it is done rapidly it warms up the body and acts as a cardiotonic, whereas when done slowly it strengthens and tones the musculature and enhances the functioning of internal organs (Sun Salutation, 2010). Furthermore, insufficient research exists on the effects of fast suryanamaskar on physical performance parameters which may closely related to the actual demands of the game.

Since the effects of the training were showed better for suryanamaskar training. The effects may rely on the recent studies as that pre-exercise dynamic stretching increases maximal force production, jump height and speed, therefore, the inclusion of dynamic stretching as part of a pre-exercise warm-up routine has been commonplace in a multitude of sports (Saravanan E and Pajanivel, 2019). Further, there are a number of reports on the effect of yoga training on physiological and motor functions; scientific literature is deficient on the physiological effects of suryanamaskar that is an integral part of modern yoga training. Suryanamaskar consists of a sequence of 12 yoga postures, each posture counteracting the preceding one producing a balance between flexion and extension, performed with synchronized breathing and aerobic activity (Pratima M.Bhutkar, 2008; Gauri Shankar, 2011).

Conclusions

Within the limitations of the study, the following conclusions were drawn as the traditional warming up a group and the suryanamaskar warming up training group improved the upper body and lower body explosive power. Further, it was also concluded that the Surya namaskar practice is more effective to improve the upper body and lower body explosive power than the traditional form of warming up.

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