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Effect of 12-week yogic practices on flexibility and balance of women cricketers: An experimental study

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Abstract

The purpose of present study was to assess the effect of 12-week yogic practices on flexibility and Balance of women cricketers. The present study was conducted on 120 women Cricketers of Northern region of India. Keeping in view the objectives, the players were categorized into two main groups: Group A: Experimental group (N₁=60) and Group B: Control group (N₂=60). The age of subjects ranged between 18 to 25 years. The purposive sampling technique was used to attain the objectives of the study. All the subjects, after having been informed about the objective and protocol of the study, gave their consent and volunteered to participate in this study. The difference in the mean of each group for selected variable was tested by "t" test. The level of significance was set at 0.05. Analysis of data revealed that with regard to flexibility the "t" value in case of experimental group was 9.0311* and for control group it was 0.9594. The "t" value in case of experimental group 9.0311* as shown in the table above was found statistically significant ($P < .05$). It is evident that women cricketer with regards Balance the "t" -value in case of experimental group was 5.3769* and for control group it was 1.7840. The "t" value in case of experimental group 5.3769* as shown in the table above was found statistically significant ($P < .05$).

Keywords: Flexibility, balance, yogic practice and women cricketers

Introduction

Cricket is the most popular sport in commonwealth countries and one of the most popular sports in the world. The performance of cricketers is enhancing day by day, old records are broken and new records are forming; scores are reaching new heights, it is due to high intensity training of the players which help them to perform well. A modern day cricketer, who spends hours on the field and the one who is also involved in the off-field activities such as brand endorsements, campaigns and other activities, needs to keep a sharp eye on his physical as well as mental health. And other activities, needs to keep a sharp eye on his physical as well as mental health. Among the various fitness activities and drills, it is crucial for cricketers around the globe to sign up for Yoga as it not only helps keeping a track of his mental and physical health, but also helps improving reflections and overall strengthening of the body. It is a known fact that a strong and well-maintained body is less prone to injuries, and all cricketers must vie for it. With a powerful tool such as Yoga, cricketers can work their entire body, stretch, strengthen, and recover quickly as compared to the other ways. In a gymnasium, a cricketer can work out on only few specific parts of his body, but combining it with Yoga can do wonders for cricketers who are some or the other way busy all around the year.

Yoga and cricket make a powerful combination. Yoga, across the world, is seen as a one-stop shop for body-mind-spirit wellness. It is no more an ancient Indian practice but a global phenomenon, touching varied fields like sports. Most warm-up exercises that cricketers do nowadays are yoga postures. Back in the seventies and eighties, cricketers were not very conscious about their fitness. It also illustrates the various advantages of yoga postures in making a sportsperson's body much more flexible and agile. For a cricketer, yoga helps in keeping track of his mental and physical health, apart from improving reflexes and strengthening the body. Yoga-related exercises focus on core muscle stability benefitting the sports person holistically.

After all Bhagvad Geeta States that Yoga is "Yogah karmasu kaushalam" Spiritual experience & bliss is the final aim of Yoga, however, the journey of it deals with Holistic health & fitness of individuals and the players.

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It is not only improving the tone of the big muscles but also corrects the reflex mechanisms of the body. This is supported by above aphorism of Gita. It develops correct skills. WINNING can be a final aspiration of the game, however, the process is concerned with players & the cricket lovers. In cricket also there is need of connecting bat & ball through the sharp mind. Yoga definitely increases concentration power and better focusing. Asanas not only help to prevent the body from major injuries but are also helpful to heal injuries faster. They have unique characteristics of isometric and isotonic coordination of muscles bones & joints due to which they are well trained. Hence yogis gain the lot of suppleness, stability & stamina. This promoted us to undertake this study with the aim to determine the effect of the effect of 12-week yogic practices on flexibility and balance of women cricketers of northern region of India.

Materials and methods

Samples

The present study was conducted on 120 women Cricketers of northern region of India. Keeping in view the objectives, the players were categorized into two main groups: Group A: Experimental group (N₁=60) and Group B: Control group (N₂=60). The age of subjects ranged between 18 to 25 years. The purposive sampling technique was used to attain the

objectives of the study. All the subjects, after having been informed about the objective and protocol of the study, gave their consent and volunteered to participate in this study

Selection of variables

A feasibility analysis as to which of the variables/skills could be taken up for the investigation, keeping in view the availability of tools, adequacy to the subjects and the legitimate time that could be devoted for tests and to keep the entire study unitary and integrated was made in consultation with experts. With the above criteria's in mind, the following variables were selected for the present study.

Table 1: Selection of variables

Variables	Tests	Criterion Measure
Flexibility	Sit and Reach Flexibility Test	recorded to the nearest centimeter
Balance	Stork Balance Stand Test	Recorded to the nearest 1/100th Second

The subjects were under goes to a 12-week yogic Asanas training programme. The training was consisting of a variety of yogic Asanas:

Yogic Practices Training Programme

Week	Yogasana positions	Intensity	Repetition	Set	Frequency Per Week	Each Asana	Rest in between asanas
1-3	Standing Postures	50%	12 times	4	3 days	2 minute	45 Seconds
4-6	Balancing Postures	60%	10 times	4	3 days	2 minute	45 Seconds
7-9	Arm-Balancing Postures	70%	8 times	4	3 days	2 minute	45 Seconds
10-11	Inverted Postures	80%	6 times	4	3 days	2 minute	45 Seconds
12	Backward-Bending Postures	85%	6 times	4	3 days	2 minute	45 Seconds

(RM –Repetition Maximum)

Statistical analysis

SPSS statistical software (version 16.0) was used to analyze. Student's t-test for independent data was used to assess the between-group differences and for dependent data to assess the Post-Pre differences. To test the hypothesis, the level of significance was set at 0.05.

Results

The results of effect of 12-week yogic practices on flexibility and Balance of women cricketers of Northern region of India are presented in the following tables.

Table 2: Significance of Differences between Pre-Test and Post-Test Means of Experimental Group and the Control Group with regard to Flexibility.

Group	Number	Mean	S.D.	SEM	t-Value
Experiment (Pre-test)	60	4.82	1.77	0.23	9.0311* 0.9594
Experimental (Post-test)	60	7.83	2.27	0.29	
Control (Pre-test)	60	4.50	1.85	0.24	
Control (Post-test)	60	4.83	1.8	0.25	

*Significant at 0.05 level

Table-2 presents the results of experimental group and the control group with regard to the variable Flexibility. The descriptive statistics shows the Mean and SD values of

Flexibility of pre-test and post-test of experimental group was 4.82±1.77 and 7.83±2.27 respectively, whereas the Mean and SD values of Flexibility of pre-test and post-test of control

group was 4.50 ± 1.85 and 4.83 ± 1.86 . The “t” value in case of experimental group was 9.0311^* and for control group it was 0.9594 . The „t”-value in case of experimental group 9.0311^* as shown in the table above was found statistically significant

($P < .05$). As per the study the above remark can be given at 95% confidence. The graphical representation of responses has been exhibited in figure-1.

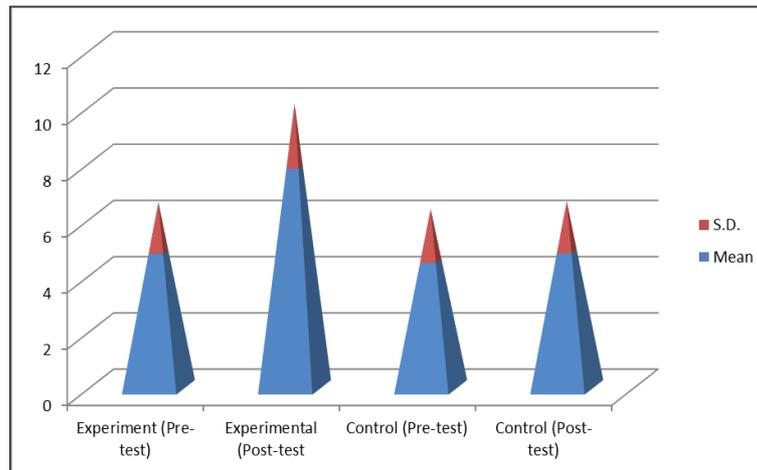


Fig 1: Mean, and Standard Deviation (SD) of Flexibility of Experimental and Control Group.

Table 3: Significance of Differences between Pre-Test and Post-Test Means of Experimental Group and the Control Group with regard to Balance.

Group	Number	Mean	S.D.	SEM	t-Value
Experiment (Pre-test)	60	2.697	0.432	0.056	5.3769*
Experimental (Post-test)	60	2.920	0.320	0.041	
Control (Pre-test)	60	5.28	1.72	0.22	1.7840
Control (Post-test)	60	5.88	1.87	0.24	

*Significant at 0.05 level

Table-3 presents the results of experimental group and the control group with regard to the variable Balance. The descriptive statistics shows the Mean and SD values of Balance of pre-test and post-test of experimental group was 2.697 ± 0.432 and 2.920 ± 0.320 respectively, whereas the Mean and SD values of Balance of pre-test and post-test of control group was 5.28 ± 1.72 and 5.88 ± 1.87 . The “t” value in case of

experimental group was 5.3769^* and for control group it was 1.7840 . The „t”-value in case of experimental group 5.3769^* as shown in the table above was found statistically significant ($P < .05$). As per the study the above remark can be given at 95% confidence. The graphical representation of responses has been exhibited in figure-2.

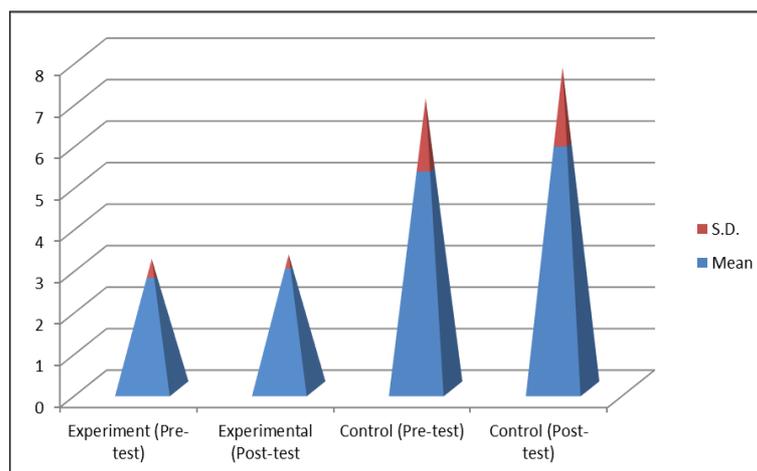


Fig 2: Mean, and Standard Deviation (SD) of Balance of Experimental and Control Group

Discussion

It is also evident from the findings of table-2 and 3 with regard Flexibility and Balance of women Cricketers of Northern region of India. When compared the mean values of both the groups, it has been found that experimental group have significantly better Flexibility and Balance of women Cricketers of Northern region of India after the yoga practices.

Yoga asanas are psychophysical practices to culture body and mind. Yoga practices are known to significantly improve health status, and reduce stress and anxiety. Meditative asanas or poses establish such physiological conditions in the body that the mind ceases to be disturbed by any stimuli received from the body and selectively increases the respiratory sensation. Meditative Asanas also help balancing and harmonising the basic structure of the human mind, which

makes them therapeutically useful. Yoga training increases the frequency and duration of inhibitory neural impulses by activating pulmonary stretch receptors during the above tidal volume inhalation which bring about withdrawal of the sympathetic tone in skeletal muscle blood vessels. Madanmohan *et al.* reported a significant increase in maximal work output and a significant increase in oxygen consumption per unit work after yoga training.

These findings contrary the assertion of Woody (2008) they concluded that there was no significant evidence to prove that an increase in flexibility will increase cardio respiratory endurance. This study is in strong consonance with the findings of "Bharshankar", "Murugesan". Similar trends have been reported by Schroeder and O'Connor's (2005) they concluded that an eight week yoga program for college-aged women may promote improvements in muscular endurance and hamstring flexibility but not cardio respiratory endurance.)"

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