



Effects of Yoga Asana on Cricket Selected Motor Fitness

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Abstract

The Participation in physical activity such as sports inevitably generates a certain amount of body consciousness. However over indulgence and pre-occupation with bodily needs like heightened concern about diet, nutrition, injuries etc. coupled with a lesser concern about hard work and performance enhancement act as a major psychological block on the path to an athlete's progress towards excellence in sport. Yoga teaches the sports person to "grow beyond" and rise above bodily concern through a strict discipline of the mind. All forms of exercise are important for the body. The right amount of it keeps us in shape, improves longevity, and certainly keeps me sane if nobody else. Yoga is so much more than simple stretches, and it's certainly not just for flexible people who can already wrap their legs around their heads. Yoga is about creating balance, strength, flexibility and relaxation in the body through a series of postures, movements and breathing patterns. Numerous of research literature suggested that yogic asana improves physical fitness and controls competition pressure on physical and mental stress. The researcher has taken interest on district level cricket players, because in this modern world the lifestyle and food habits are changing day by day. Hence most of the cricket players are affected by health. To create awareness to the district level cricket players the researcher has selected this topic. The researcher selected yogic practices to identify the changes motor fitness among district level cricket players . Analyze the various changes take place in their physical and mental level before and after the training period.. Thirty male district level cricketers were selected with age from the range of 16 to 19 years and randomly divided into two equal groups. One group underwent through selected yogic asana practices along with their regular training and another group did not include yogic asana practice in their training schedule. Basic physical and physiological parameters along with some cricket specific motor fitness components were measured before and after four weeks of yogic practices. The basic physical appearances of two groups were merely similar and a low resting heart rate has been observed among cricketers. Four weeks of yogic practice significantly improved the muscle endurance, agility and balance. A positive effect has also been observed in the predicted O₂ max. The study revealed inclusion of yogic practice in training sessions for cricketers plays an important role to improve motor fitness which is a key factor of performance.

Keywords: Cricket, Motor fitness, Physical fitness, Yogic practice.

INTRODUCTION

Cricket is a one of the very popular team sport in all over the world and played at the internationally throughout the years. Cricket is played in three formats (T-20, one day and test). Different formats of cricket imply different physical and physiological demands. Competition pressure increases mental stress, irritability and intolerance which decrease the playing ability of the crickets. According to historical research, Yogic asana develops the physical, mental, emotional and spiritual aspects of an individual. Yogic practice encouraged the muscles, nervous system, endocrine glands and internal organs to function properly. Anxiety depending upon the degree is defined indifferent ways such as tension, panic, etcetera. Self confidence is being confident of one's own abilities. In other words, it is the Cricketer who realistically believes that he is capable of performing well. Gould,

Weiss & Weinberg, (1981) opine that the most consistent factor distinguishing highly successful from less successful athlete is 'confidence' This means that top athletes, regardless of the sport, consistently display a strong belief in themselves and their abilities. Preponderance of scientific evidence obtained from different investigations has revealed that apart from physical and physiological variables, techniques and tactics, high level performance of a sportsman is dependent upon his psychological makeup. Different psychic abilities play decisive roles in achieving top level performance in track and field athletics. Therefore superb psychological fitness and training of the "individual" are important factors, which help in achieving outstanding performance (Manicam, 2009) From this point of view, yogic practice may help to reduce training and competition stress which largely affects match performance. Cricket is a skill-oriented game and physical fitness also plays an important role because to execute a motor skill, physical fitness is required. There are numerous research works in world literature on the positive effect of yogic asana on different sports and sedentary populations but a few research works have been done on cricketers. There are hardly any data and yogic training scheduled available in the Indian context. Keeping in mind this gap in knowledge, this pilot study will focus on finding out a suitable yogic practice schedule that can improve cricket specific motor fitness and its effect on performance of regional cricketers.

METHODS

The Volunteers Thirty (30) male district level cricketers were purposively selected from a district training camp of Mathura as volunteer. A brochure has been provided to all the volunteers containing outlining of the training, purpose, procedures, and benefits and risks of the study. All the volunteers as well as the coach ready to follow the yogic training protocol, schedule and procedures. All the volunteers trained for more than four years and represented their districts and other good level competitions.

Training protocols

All the volunteers (n=30) were randomly categorized into two groups namely Experimental Group and Control Group. Fifteen (15) volunteers were randomly assigned for each group (EG; n=15, CG; n=15). As per the direction of yoga expert only selected yogic asana have been included in the practice scheduled for Experimental Group. A Yoga trainer from association has been engaged for Experimental Group to give effective and perfect practice of the selected asana. All the volunteers of Experimental Group practiced the yogic asana just before their practice session. The data were collected under normal environmental conditions in the morning (between 8:00 am to 9:00 am). No yogic asana were included in the practice scheduled of CG. Selected yogic asana for the cricketers of EG are presented in Table 1.

Table-1: Prescribed Asana For Experimental Group

Asana	Repetition	Rest Between Asana In Seconds	Frequency/Week
Sun Salutation	4	1 Minutes	30min/5days
Uttanasana	4	15 Sec	
Ardha Charasana	4	15 Sec	
Vrikshasana		15 Sec	
Kakaasana	4	15 Sec	

DATA COLLECTION PROCEDURES

All the volunteers underwent some cricket specific motor fitness tests along with some basic physical and physiological measurements. The volunteers did not take any medicines or other drugs during the training period. All the volunteers were free from any cardiovascular disease as was confirmed from the ECG reports. The heart rate of the cricketers was monitored at resting condition in the supine position to evaluate resting heart rate. Selected cricket specific motor fitness variables along with RHR were measured before and after four weeks of training. The list of measuring parameters and name of test are shown in table 2.

Table-2: Measuring parameters of the cricketers

Measuring Variables	Name of the test
Muscular endurance	Sit-ups
Speed	50 meter dash
agility	Shuttle run
Cardiovascular endurance	Queens college step up
test Balance	Balance Beam test

Statistical procedures

Descriptive statistics such as mean, standard deviation were calculated. Data were analysed separately for EG and CG. The hypotheses of normality and homogeneity of the variance were analysed via Anderson-Darling test. Parametric analysis was performed because majority of the data were normally distributed. To reveal the differences between pre and post-test mean of CG & EG the paired sample t-test was performed. Statistically significant level was considered as $\alpha \leq 0.05$ level.

RESULTS

Muscle Strength Endurance

Graphical representation of abdominal muscle endurance has been presented in figure1.

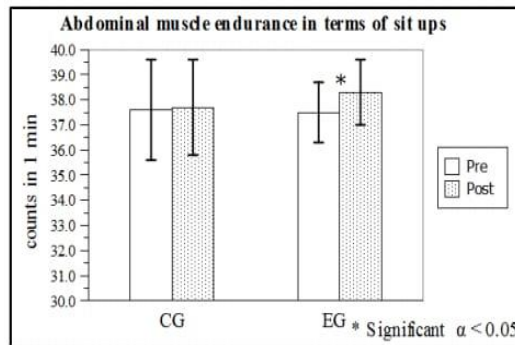


Fig-2: Comparison of pre- post abdominal muscle endurance of two groups

Fig- 1: Comparison of Pre -Post abdominal muscle endurance of two groups

A statistically significant difference has been observed in paired samples t- test between pre and posttest of EG. In the comparison mean difference has been found 0.87 and 'p' value has been found 0.048. No significant difference has been observed in CG, between the pre and post-test means at 0.05 levels.

Speed

Effects of yogic training on speed has been displayed by box plot in the figure2.

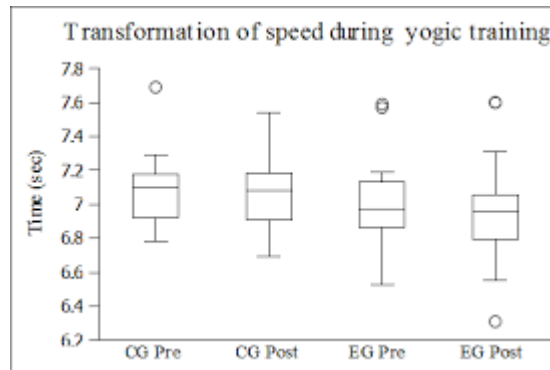


Fig-2: Transformation of speed of CG and EG group volunteers

No significant difference has been observed in pre-test post-test comparisons of CG and EG.

Agility

Agility of group volunteers in figure 4.

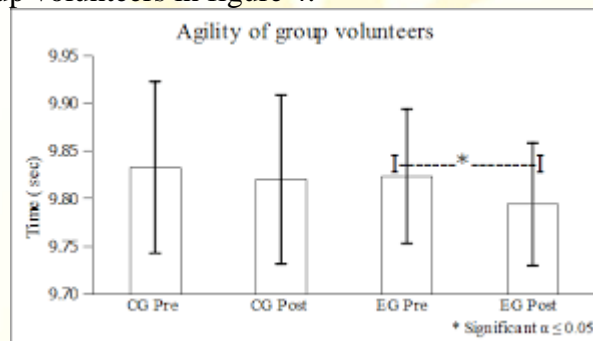


Fig-3: Graphical representation of agility of group volunteers.

A statistical significant difference has been observed in agility between pre and post-test of EG. The mean difference has been found 0.03 seconds lower than pre-test and 'p' value has been found 0.002. No significant difference has been observed between the pre and post-test in CG but a decline mean value (0.01 sec lower than pre-test) has been observed in post-test.

Balance

Whole body balance ability of the group volunteers has been tested through stork stand test. The obtained value from the test displayed in the figure 6.

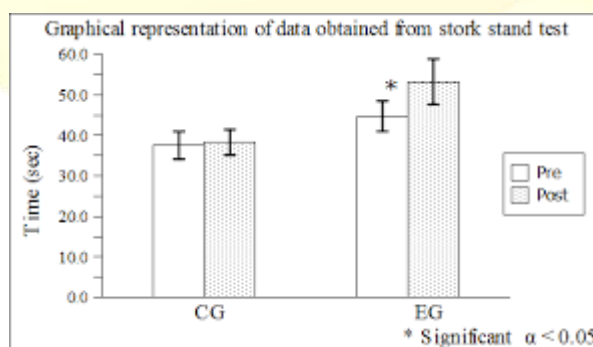


Fig-6: Whole body balance ability of the cricketers before and after the experiment.

A statistical significant improvement has been observed in paired samples t- test between pre and posttest of EG. In the comparison mean difference has been found 8.53 sec and 'p'

value has been found 0.03. No significant difference has been observed in CG, between the pre and post-test means at 0.05 level.

DISCUSSION

According to the basic physical characteristics of the cricketers, both groups are merely same. The cricket specific motor fitness is also similar observed in pre-test data. That may come from same type of physical activity for a prolonged time. This similarity turns the cricketers into a homogeneous group. Abdominal muscle endurance of EG cricketers slightly increased might be due to continuous practice of sun salutation, kakasana and chakrasana. Due to yogic practice, no transformation has been found in speed but an improvement has been found in agility. Yogic asana, specially Sun salutation improves the balance ability of EG cricketers which is an important factor of performance in cricket.

CONCLUSIONS

The study concluded that short term yogic practice may significantly improve cricket selected motor fitness components specially muscle endurance, agility, balance. A little improvement has been observed among cricketers though the change was not enough to determine. The Control Group cricketers of the study not actually controlled by the researcher because they followed their daily training. Although the Experimental Group cricketers gone through the same training schedule after yogic practice. So, in that case statistically significant difference may be a little because of the effect of daily physical training taxes on yogic practice. Four weeks of yogic practice is not good enough to determine any concrete decision. This study revealed that the inclusion of yogic practice in the training session of cricket may effect to improve motor fitness which enhances skill execution ability. Further studies are required to establish the right combination of repetition and duration of practice.

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