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IMPACT OF YOGIC AND PLYOMETRIC TRAINING ON SELECTED PHYSICAL VARIABLES AMONG COLLEGE MEN CRICKET PLAYERS

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Abstract
Cricket is a highly popularized game requires lots of strength, endurance, speed, power and flexibility on the same to me it is highly its need of cool and calm physiological attributes to grab the opportunity while it is coming on their way. The present research examines how yoga and plyometric exercise affects a few physical characteristics of male collegiate cricket players. Forty-five (45) individuals were divided into three groups at random: 15 for yogic classroom instruction, 15 for plyometric exercise, and 15 for control. The training course ran for eight weeks. Before and after training, physiological parameters such as the heart rate, blood pressure, maximum oxygen intake, and lactate tolerance were assessed. The yogic group and plyometric training group had shown significant improvement in VO2 max and lactate threshold with the slight variation between the two where the plyometric training is little bit more significant than yogic training group The specific yogic exercises and the plyometric training were implemented group wish and the enumerated quantitative dates collected in a systematic manner was communized calculated and analyzed thoroughly with the help of Sheffe's test 'F' ratio and ANCOVA and compared with 0.05 levels of freedom as the initial level, and then suggested that both yogic and plyometric training can be affective in enhancing physiological fitness in college men cricket players.

Key Words: Yogic, Plyometric Training, Endurance, Flexibility

1. INTRODUCTION

Aseer Rufus. A. (2016) [1] Cricket is an intensely physical activity that calls for a high level of muscular endurance and plyometric training have been shown to improve physical fitness in various populations especially the cricket men players. [2] Aseer Rufus. A. (2016) Yoga translates as "yoke," "unite," "bind," "link," "connect," or "merge." Yoga combines mental and physical health in the same way that yoke joins two bulls. Yoga is a state of oneness with God and the union of the inner being with him. Only through mastery of the sense organs, constant practice, and disengagement is it achievable. Brown GA, Rax MW [3] In accordance to the ancient Sage Patanjali, yoga is the process of removing the sensory systems from their material possessions and exercising control over them.
In 1975, former Olympic sprinter Fred Wilt coined the word "gymnastics." "Plyometrics" itself comes from the Greek terms "plio" and "metric," which translate to "extra" and "quantify," respectively. Up until now, the majority of coaches thought it hurt rather than benefited performance. This might be as a result of their inability to use it to learning. Because it significantly increases speed and combustibility, plyometric has been increasingly popular among

trainers over the years. Activities that assist close the gap between speed and power are referred to as plyometric. It describes human movement that is instantly and quickly followed by a concentric contraction of the muscles.

Shukla [4] Enhancing quickness through strength is the primary goal of plyometric exercise. Muscle contractions that are explosive are caused by the white fibre, also known as the fast twitch muscle. Over the past many years, plyometric training has experienced a significant transformation. The reader will be guided into the next phase of plyometric exercises by novel concepts and methods. Athletes can be trained in novel ways by an instructor or trainer who is aware of the possibilities and possibilities presented by plyometric. In the 1980s, coaches of weightlifting, volleyball, and other sports started incorporating plyometric exercises and routines into their exercise regimens. If there was a downside to this zeal, it was the inexperience of American coaches and athletes in plyometric administration and the mistaken notion that more must be stronger.

In essence, cricket is a game of bat and ball in which two teams of eleven players compete. It originated in England in the 16th century and is among the oldest sports in the world. Depending on the field, "training" can signify several things. The term "training" is typically used in sports to refer to engaging in physical activity. Training, in its strictest definition, is physical activity intended to enhance performance. Creating an exercise regimen to prepare an athlete for a certain event is known as training. Both the growing skill and energy capacity are taken into account.

Physical fitness and cricket performance

Kapil Dev began practicing at an early age and is adamant that his success in every facet of the game of bowling has been largely attributed to his total physical health.

He argues that his off-season physical conditioning allowed him to bowl for extended periods of time without becoming tired or losing focus. Kapil only recently changed his retirement plan after starting his test career in 1978 [5]. An absolutely outstanding achievement!

He would get in for vigorous stretching, jogging, and jumping exercises even as a youngster. To be able to sustain a high over count, bowlers need to have both powerful agility and power in addition to strong muscle endurance. Inadequate muscle strength and conditioning will lead to imprecise bowling and increased injury risk, particularly for high-speed bowlers. It also gives batsmen more time to settle down in the wicket and score more runs. Every participant will bat and field during the game at some point. These are goals that should guide the creation of a cricket training program.

2. RELATED WORKS

The earliest self-development science that is known to exist is yoga. Yogic activities are limited to low temperatures and few movements. Additionally, by influencing the automatic nervous system, yoga activities guarantee better nourishment and food utilization in addition to appropriate relaxation because they are controlled voluntarily by the individual. The term "aerobic exercise" describes vigorous physical activity requiring a lot of oxygen. It entails the body moving rhythmically over distance or against gravity, as in swimming, jogging, running, dancing, and some calisthenics [6]. Aerobic exercise has a direct impact on the body's physiological functions.

Football or "total football" refers to the application of skill development, tactical improvement, and enhancement of all physical aspects of the essential motor components that are intimately connected and contribute to the game's success [7]. Sports scientists are attempting to increase football players' cognitive capacities in addition to enhancing their technique, physiology, and most efficient body. Patience, speed, agility, maximal leg strength, upper frame strength, leg energy, and muscular endurance are all demonstrated in the official football literature adaptability; Reaction timing and coordination are critical preconditions for successful overall soccer play.

The vertical leap test is a crucial physiological element of cricket skills for different positions since it measures lower body strength and explosive force. The static vertical jump and the countermovement vertical jump are two field-based techniques that are useful for assessing lower body strength and power [8]. The one-repetition maximum of a bench press was used to determine the positive correlation between superior batting performance and upper body strength. The fact that upper strength by itself is not a reliable indicator of total batting success was also recognized. There isn't much information on how speed and fitness relate to cricket performance. Using the 40-meter sprint test, speed was compared amongst bowlers and batsmen to ascertain who is the fastest.

n the majority of Commonwealth nations, cricket is a popular team sport. It used to only be played at a certain season (winter in Asian countries, summer in Western ones). But during the past few decades, its popularity has grown significantly, and it is now performed all year round. The cricket players have more rigorous schedules that require them to practice and train for longer periods of time [9]. One of the potential causes of the rising injury rate could be

the increased workload. Research in this area is therefore necessary to prevent sports-specific injuries, improve cricket players' performance, fortify the training regimen, and identify game skill.

Given the vast array of human body types, it is now widely accepted that certain sports are better suited for people with particular body types than others. It is commonly known that certain physical traits or anthropometric profiles reveal whether a player would be fit to compete at the top level in a particular sport [10]. These morphological and anthropometric characteristics are the most accurate markers of an athlete's nutritional state and physical development for peak performance. There are studies on cricket players' anthropometric characteristics and performance evaluations. Regarding the female cricket players, there aren't many references accessible. Therefore, the goal of the current study is to examine the physicochemical profile of female cricket players from the Indian states of Maharashtra and Punjab as well as look for any relationships between performance tests and a few chosen anthropometric characteristics.

The way an athlete performs in team games is influenced by a variety of factors. The same is true for human body composition and physical fitness, which influence team sport performance at both the professional and elite levels. Furthermore, physiological and physical well-being factors [11]—which are necessary for sports excellence—are also involved in the success of team sports. In actuality, candidates for sports and team games are influenced by a combination of physical fitness factors linked to health and abilities. In contrast, a greater degree of collective and cooperative fitness orgasm is required for the majority of team game sports performance demands. Other requirements include precise, correct, and fine motor abilities, tactical attributes, playing style, seasonal time, and individual and team morale, respectively.

3. METHODS AND MATERIALS

The testing procedures for outcome measures

The day before the test, all subjects were told not to engage in any strenuous exercise. Each of the performance tests listed below was run through three consecutive trials, and the final score was calculated by averaging the measured variables:

1. Core Muscle Strength Assessment:

The athletes positioned themselves in a pike posture, with their bodies in a straight line, their elbows beneath their shoulders, their arms with their shoulders apart on the ground, their toes on the ground, and their buttocks neutral. If the hips did not line up or if any portion of the body other than the elbow contacted the ground [12], the test was stopped. It took only a few seconds to measure.

2. Multistage Fitness Assessment:

The test required the individual to run across two lines that were spaced 20 meters apart and 66 feet apart. In order to calculate the individuals' aerobic fitness based on the amount of laps they completed, pre-recorded sirens were played, and they had to accelerate with each beep.

3. Push-Up Assessment:

The subjects touched the floor with both hands and toes while performing the push-up. During the elongated phase, the subjects lowered themselves until their torso was 5 cm off the ground, and then raised themselves back up until their elbows were completely extended. The entire amount of push-ups performed correctly was tallied. If the subjects were unable to maintain a full range of motion or a neutral hip alignment, the test was terminated.

4. Lateral Cone Jump Assessment:

The individual stood on one side of two cones that had a wire or tape secured across them. In order to negotiate the bar and landing on the other side, the subjects had to jump. The subject's foot leaving the ground marked the beginning of the period, and the number of horizontal jumps completed in 30 seconds was tallied. The total amount of lateral jumps performed in 30 seconds was counted, and the test was halted whenever the subject's feet reached the tape boundary or slammed on the hurdle.

5. Stationary Vertical Jump Assessment:

The person was standing next to the tape measure, which was fixed to the wall. They were instructed to use their tattooed middle fingertip to touch the highest spot on the wall. This point was determined to be the subject's standing height. After that, the participant used their legs and arms to help them jump vertically as high as they could and used their tattooed middle fingertip to mark the wall. The final score was determined by subtracting the two points.

Participants: Forty five (45) college men cricket players were between the age group of 18-25 yrs with the average height of 160-165cm and weight 65.5 kg -75kg had participated in this study.

Design: Participants were randomized to one of three groups: control (15), plyometric training (15), or yoga training (15).
Exercise programs: **Charles A** The yogic training program consists of Asanas, Pranayama and Meditation .While the plyometric training program included exercise such as box jumps, sit and reach and jump squats. This training program lasted 8 weeks with 4 sessions per week.
Measurement: Physical variables including Flexibility, Muscular Endurance.
Statistical analysis [13]: Dates were analyzed using SPSS Software. Descriptive statistics for every variable, the mean and standard deviations were computed. The group differences were compared using ANCOVA [14], and Shiffe's test was employed for pairwise comparisons. The significance level was established at the 0.05 level of conviction [15].

Table-1 Covariance Analysis of the Spiritual Group, Plyometric Training Company, and Control Group Means for the Pre, Post, and Adjusted Post Tests on Flexibility (Marks in Centimeters)
Table-2

Test	Yogic Group	Plyometric Training Group	Control Group	Sour e of Variance	Sum of Squares	D f	Means Squares	F ratio
Pre Test Mean	40.10	40.43	39.80	B G	2.94	2	1.47	0.15
				W G	400.55	42	9.53	
Post Test Mean	45.74	46.58	40.08	B G	375.76	2	187.88	**17.15***
				W G	460.03	42	10.95	
Adjusted Post Test Mean	45.74	46.61	40.05	B G	379.30	2	189.65	**17.04***
				W G	456.32	41	11.13	

The Scheffe's Test for the Difference between Paired Means on Flexibility (Scores in Seconds)

Means			Mean Difference	Required CI
YOGIC class	**Plyometric Training class**	**Control class**		
45.74	46.61	---	**0.87**	3.86
45.74	---	40.05	**5.69***	
---	46.61	40.05	**6.56***	

Figure-1 Bar Diagram Displaying the Yogic Group, Plyometric Exercise Group, and Control Group Mean Values for the Pre, Post, and Adjusted Post Tests on Flexibility

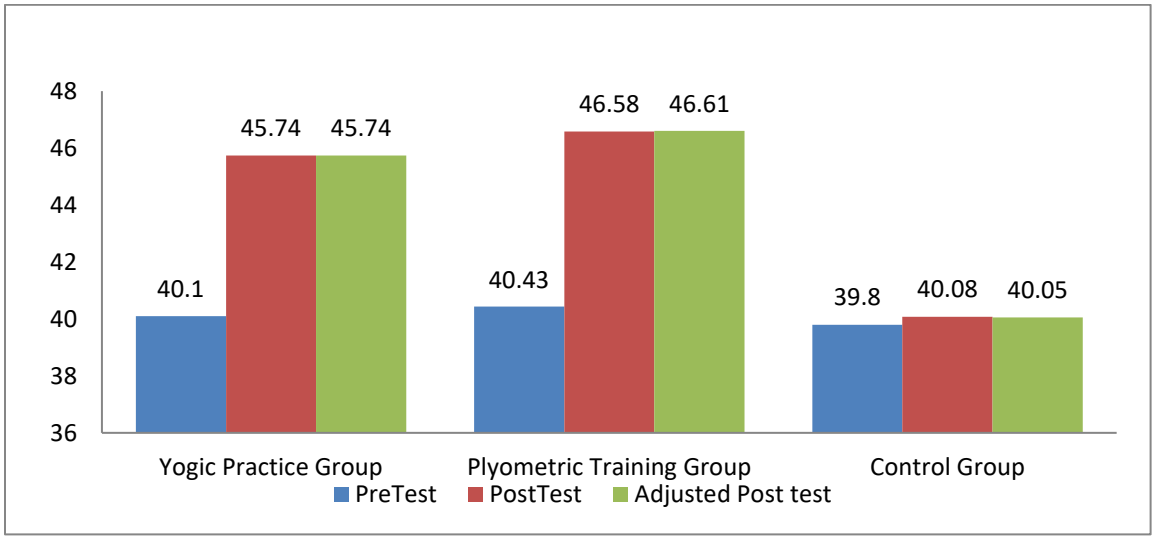


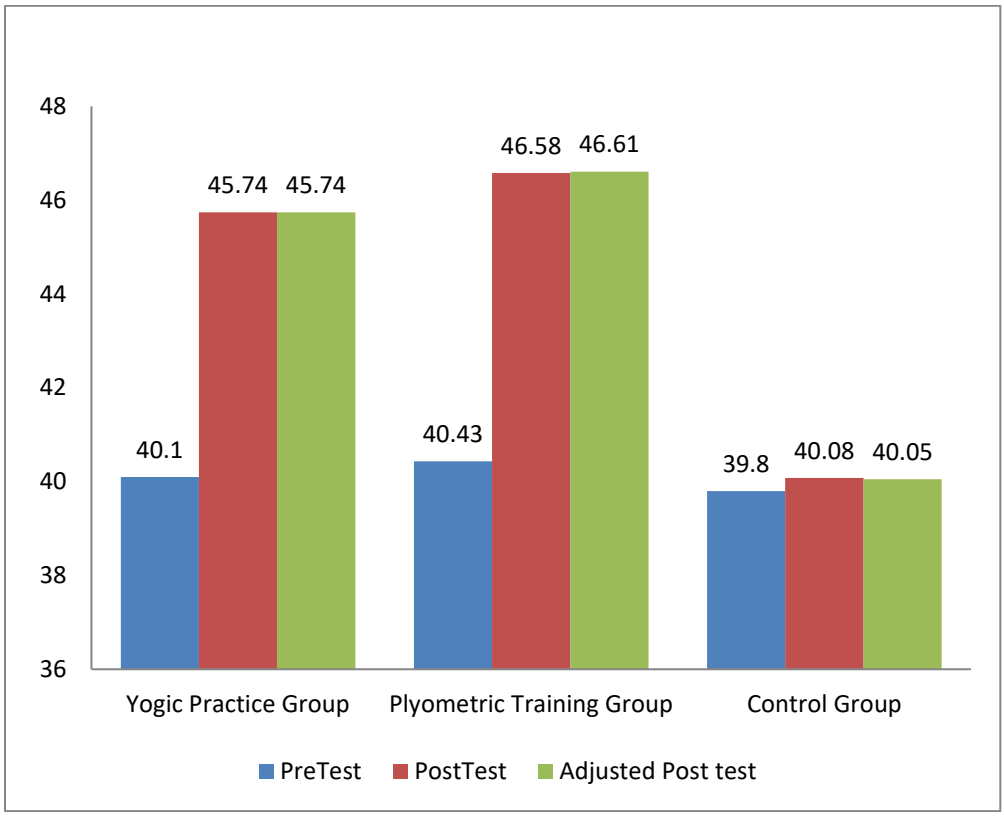
Table-3 Analysis of Covariance for the Pre, Post and Adjusted Post Test Means Values for YOGIC Group, Plyometric Training Group and Control Group on Muscular Endurance
(Scores in Numbers)

Test	Yogic Practice Group	Plyometric Trainings Group	Control Group	Sour e of Variance	Sum of Squares	D f	Means Squares	F ratio
Pre Test Mean	31.06	29.80	29.26	B G	25.64	2	12.82	1.24
				W G	434.26	42	10.34	
Post Test Mean	40.73	42.06	30.40	B G	1223.33	2	611.66	**119.23***
				W G	215.46	42	5.13	
Adjusted Post Test Mean	40.65	42.08	30.45	B G	1177.85	2	588.92	**113.37***
				W G	212.97	41	5.19	

Table-4 The Scheffe's Test for the Difference between Paired Means on Muscular Endurance (Scores in Numbers)

Means			**Mean Difference**	**Required CI**
YOGIC Group	**Plyometric Training Group**	**Control Group**		
40.65	42.08	---	**1.43**	2.63
40.65	---	30.45	**10.23***	
---	42.08	30.45	**11.63***	

Figure -2 Bar Diagram Showing the Pre, Post and Adjusted Post Test Mean Values of Yogic Group, Plyometric Training Group and Control Group on Muscular Endurance



DISCUSSION ON FINDINGS

The findings of this study showed significant improvement in Muscular Endurance and Flexibility threshold for both yogic and plyometric training group. These findings imply that college men's cricket players can improve their physiological fitness with yoga and strength training.

CONCLUSION

The following findings were reached in light of the study's limitations and findings:

College cricket players' toughness and flexibility were positively impacted by plyometric training and yoga.

College cricket players' suppleness and strength improved more in the experimental populations than in the control group.

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