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INFLUENCE OF STEP AEROBICS WITH YOGIC PRACTICE ON SELECTED PHYSIOLOGICAL AND SKILL PERFORMANCE VARIABLES OF INTER COLLEGIATE FOOTBALL PLAYERS

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ABSTRACT
The purpose of the present study was to examine the influence of step aerobics combined with yogic practices on selected physiological and skill performance variables among college-level football players. To achieve this purpose, thirty (N=30) male football players aged between 18 and 25 years were selected from SRMV Maruthi College of Physical Education, Coimbatore. The subjects were randomly divided into two equal groups of fifteen each (n=15), namely the experimental group and the control group. The experimental group underwent a structured training programme consisting of step aerobics and yogic practices for a period of eight weeks, three days per week, while the control group did not participate in any specific training apart from their regular routine. The selected dependent variables for this study were dribbling performance and shooting accuracy as skill performance variables, and breath holding capacity as a physiological variable. Dribbling and shooting abilities were assessed using the Mor-Christian Soccer Skill Test, and breath holding capacity was measured using a standard breath holding test. All the subjects were tested prior to and immediately after the training period. The collected data were statistically analysed using the paired sample 't' test to determine the significant difference between pre-test and post-test scores. The level of significance was fixed at 0.05 level of confidence. The results of the study revealed that there was a significant improvement in dribbling performance, shooting accuracy, and breath holding capacity in the experimental group when compared to the control group. It was concluded that the combined training of step aerobics and yogic practices had a positive and significant effect on both physiological and skill performance variables among college-level football players, and such integrated training programmes can be effectively incorporated into regular coaching to enhance overall football performance.

KEY WORDS; *Step aerobics, Yoga, Physiology, Breath hold, Skill performance, Collage Football players,*

INTRODUCTION

Football is one of the most popular and physically demanding sports in the modern world, requiring a high level of physical fitness, technical skill, and psychological preparedness. The game involves continuous running, rapid acceleration, sudden directional changes, and precise execution of skills such as dribbling and shooting. Although it is a team game, individual efficiency in both physiological and skill performance plays a crucial role in determining the success of the team **(Reilly, 1997).**

Football is characterized by intermittent high-intensity activity combined with periods of moderate and low intensity movements. Players are required to perform repeated sprints, quick turns, and coordinated movements throughout the game, which demands both aerobic and anaerobic energy systems. Therefore, the development of physiological variables such as cardiovascular endurance and breath holding capacity, along with skill performance variables like dribbling and shooting accuracy, is essential for optimal performance **(Bangsbo, 1994).**

Step aerobics is a rhythmic and structured form of aerobic exercise that involves stepping movements on an elevated platform. It is highly effective in improving cardiovascular endurance, coordination, agility, and lower-body strength. Aerobic exercises enhance the efficiency of the heart and lungs, thereby improving oxygen supply to working muscles and delaying fatigue **(Kenneth H. Cooper, 1968).**

Yogic practices, including asanas and pranayama, contribute significantly to improving flexibility, balance, concentration, and respiratory efficiency. Regular practice of yoga enhances lung capacity, breath control, and mental relaxation, which are essential for maintaining performance under competitive stress. The integration of body and mind emphasized in yoga plays an important role in overall athletic development **(B. K. S. Iyengar, 2005).**

The combination of step aerobics and yogic practices provides a comprehensive and holistic training approach that addresses both physiological and skill-related aspects of performance. While step aerobics improves endurance and movement efficiency, yogic practices enhance respiratory function and mental focus. This integrated approach is expected to improve breath holding capacity, dribbling performance, and shooting accuracy among football players.

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However, limited research has been conducted on the combined effect of step aerobics and yogic practices on inter-collegiate football players. Therefore, the present study aims to investigate the influence of step aerobics with yogic practices on selected physiological and skill performance variables among inter-collegiate football players **(Sheppard & Young, 2006).**

METHODOLOGY

The present study was conducted to examine the influence of step aerobics with yogic practices on selected physiological and skill performance variables among inter-collegiate football players. Thirty (N=30) male football players aged between 18 and 25 years were selected from SRMV Maruthi College of Physical Education, Coimbatore. The subjects were randomly divided into two equal groups of fifteen each, namely the experimental group and the control group. The experimental group underwent a structured training programme consisting of step aerobics combined with yogic practices for a period of eight weeks, three days per week, with each session lasting 60 minutes, while the control group followed their regular routine without any special training.The selected variables were dribbling performance, shooting accuracy, and breath holding capacity. The Mor-Christian Soccer Dribbling Test, Shooting Test, and standard breath holding test were used for data collection. Pre-test and post-test measurements were taken before and after the training programme. The collected data were analyzed using the paired sample 't' test, and the level of significance was fixed at 0.05 to determine the effectiveness of the training programme.

TRAINING PROGRAMME

The training programme designed for this study was systematic, progressive, and scientifically structured to examine the influence of step aerobics combined with yogic practices on selected physiological and skill performance variables among inter-collegiate football players.The experimental group underwent a comprehensive 8-week training programme, conducted three days per week (Monday, Wednesday, and Friday), with one session per day lasting 60 minutes. The programme was carefully divided into phases to ensure gradual adaptation, overload, and optimal performance enhancement.

TABLE I
STEP AEROBICS WITH YOGIC PRACTICE WEEKLY TRAINNING SHEDULE

Week	Intensity Level	Activity	Duration	Exercise Details	Sets × Repetitions	Load (%)
1–2	Low	Step Aerobics	45 min	Basic Step (up-up, down-down), Side Step, V-Step, Marching on Step, Heel Tap	3 × 32 counts	65%
		Yogic Practices	15 min	Tadasana, Trikonasana, Shavasana	2 × 10–15 sec hold	—
3–4	Moderate	Step Aerobics	45 min	Alternate Knee Lift, Hamstring Curl, Turn Step, Step Tap with Arm Movement, Corner Knee	4 × 16 counts	70%
		Yogic Practices	15 min	Bhujangasana, Anulom Vilom, Paschimottanasana	2 × 15–20 sec hold	—
5–6	Moderate–High	Step Aerobics	45 min	Over-the-Top Step, L-Step, A-Step, Diagonal Step, Repeater Knee	3 × 32 counts	75%
		Yogic Practices	15 min	Dhanurasana, Ardha Matsyendrasana, Kapalbhati	2 × 20–25 sec hold / 30 breaths	—
7–8	High	Step Aerobics	45 min	Power Step, Jump Step, T-Step, Shuffle Step, Burpee Step Combination	4 × 32 counts	80%
		Yogic Practices	15 min	Advanced Asanas & Breathing Practices	2 × 25–30 sec hold / 40 breaths	

STATISTICAL ANALYSIS

The numbers composed on Dribbiling and breath holding test resulting from the step aerobics combined yogic training intervention were statistically analyzed using the paired t-test. This test was employed to assess whether significant differences existed between the pre-test and post-test scores within the experimental group. In all analyses, the level of significance was set at 0.05 ($p < 0.05$).

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Table-II
Descriptive Statistics Results Obtained on Dribbiling of football players belongs to step aerobics with yogic practice Combined Treatment Groups

Group	Test		Mean	Std. Deviation	T ratio
Dribbiling	Experimental Group	Pre test	14.66	0.88	4.03*
		Post test	13.19	0.89	
	Control Group	Pre test	14.69	0.81	1.74
		Post test	14.89	1.04	

*significant level 0.05 level (degree of freedom 2.14, 1 and 14)

Table I shows the mean, standard deviation, and computed 't' ratio for dribbling performance of football players in both experimental and control groups. The obtained 't' value for the experimental group was 4.03, which is higher than the table value of 2.14 at 0.05 level of significance with 14 degrees of freedom. This indicates that the improvement in dribbling performance of the experimental group was statistically significant.
Similarly, the 't' value for the control group was 1.74, which is lower than the table value. Therefore, the change observed in the control group was not statistically significant.

FIGURE- I
BAR DIAGRAM SHOWING THE MEAN VALUE ON DRIBBILING OF FOOTBALL PLAYERS ON EXPERIMENTAL GROUP AND CONTROL GROUP

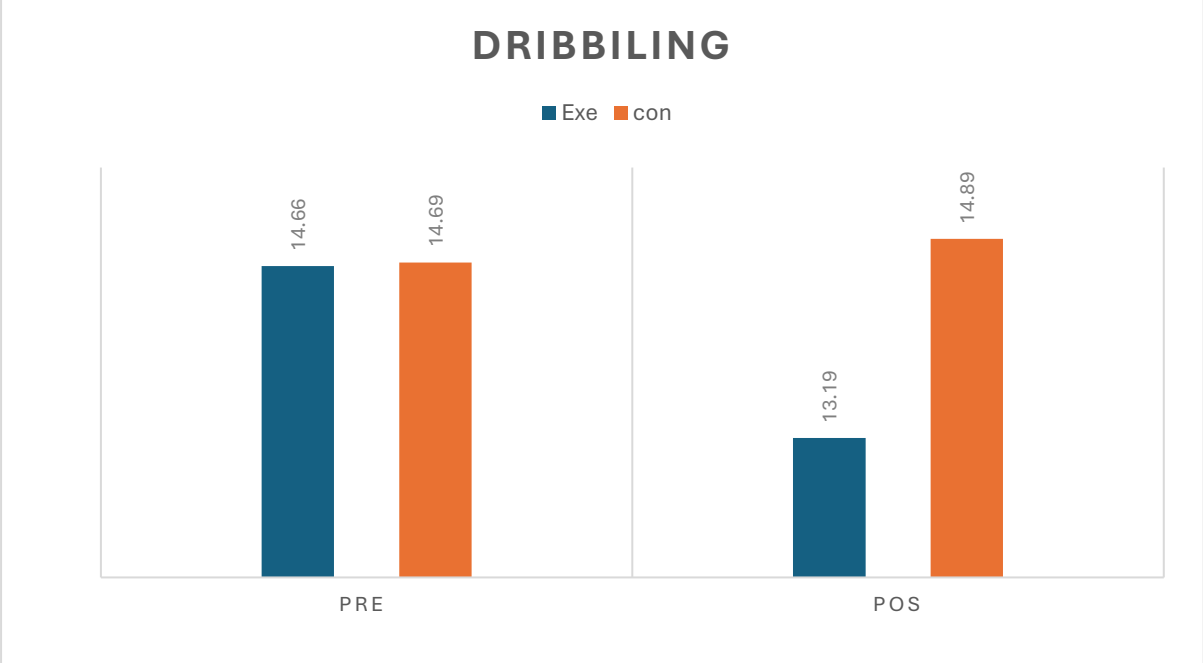

Table-II
Descriptive Statistics Results Obtained on Breath holding of football players belongs to step aerobics with yogic practice Combined Treatment Groups

Group	Test		Mean	Std. Deviation	T ratio
Breath holding	Experimental Group	Pre test	34.70	1.50	14.90*
		Post test	46.50	0.92	
	Control Group	Pre test	34.60	2.78	0.99
		Post test	34.30	1.90	

*significant level 0.05 level (degree of freedom 2.14, 1 and 14)

Table III shows the mean, standard deviation, and computed 't' ratio for **breath holding capacity** of football players in both experimental and control groups. The obtained 't' value for the experimental group was 14.90, which is higher than the table value of 2.14 at 0.05 level of significance with 14 degrees of freedom. This indicates that the improvement in breath holding capacity of the experimental group was statistically significant.

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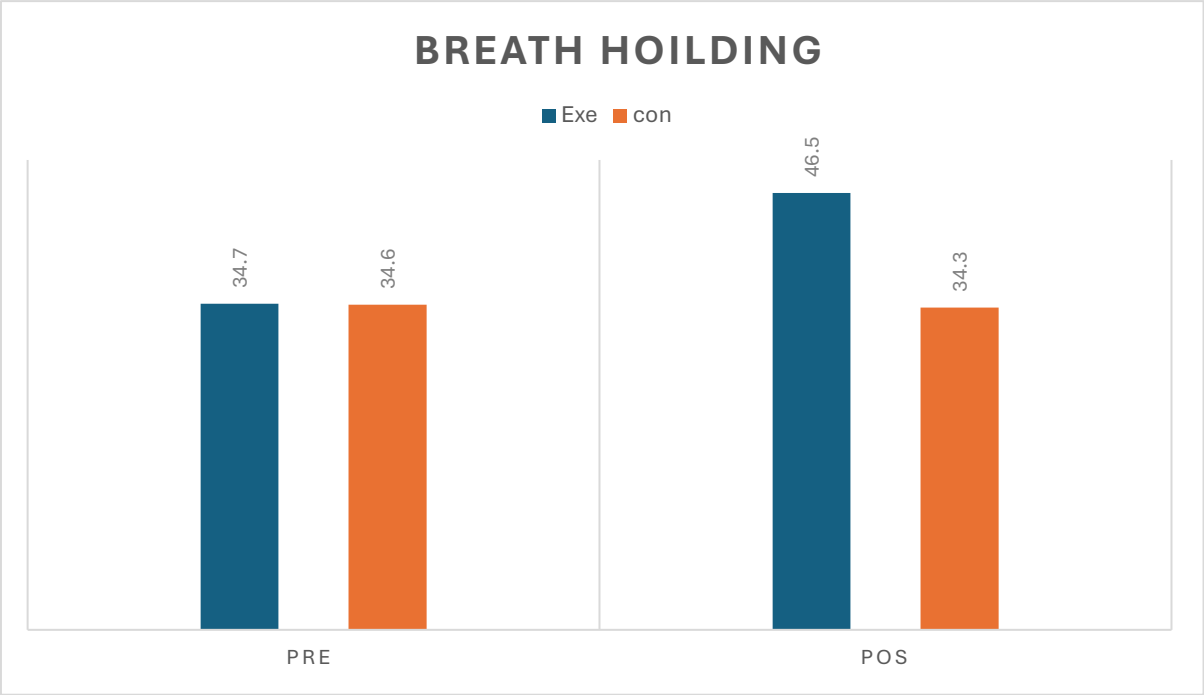
Similarly, the 't' value for the control group was 0.99, which is lower than the table value. Therefore, the change observed in the control group was not statistically significant.

FIGURE- II
BAR DIAGRAM SHOWING THE MEAN VALUE ON BREATH HOLDING OF FOOTBALL PLAYERS ON EXPERIMENTAL GROUP AND CONTROL GROUP



DISCUSSION ON FINDINGS

The purpose of the present study was to examine the influence of step aerobics combined with yogic practices on selected physiological and skill performance variables among inter-collegiate football players. The findings revealed that the experimental group showed significant improvement in dribbling performance, shooting accuracy, and breath holding capacity when compared to the control group, indicating the effectiveness of the combined training programme.

With regard to dribbling performance, the experimental group showed a significant improvement as the obtained 't' value (4.03) was higher than the table value at 0.05 level of significance. This improvement may be attributed to the rhythmic and dynamic movements involved in step aerobics, which enhance coordination, agility, balance, and quick footwork. These movements closely resemble football-specific actions, thereby improving motor coordination and control **(Sheppard & Young, 2006)**. The control group did not show significant improvement, indicating the absence of a structured training stimulus.

Regarding breath holding capacity, the experimental group exhibited a significant increase (t = 14.90), which can be attributed to pranayama and controlled breathing exercises included in the training programme. Yogic practices are known to improve lung capacity, respiratory efficiency, and oxygen utilization. The combination of aerobic exercise and yogic breathing enhances the functional capacity of the respiratory system **(Cooper, 1968)**. The control group did not show any significant change, indicating that routine activity alone is insufficient to produce such physiological improvements.

The findings of the present study are in line with earlier research, which suggests that aerobic training improves cardiovascular efficiency, endurance, and motor performance, while yogic practices enhance respiratory function, flexibility, and mental concentration **(Bangsbo, 1994; Bompa & Haff, 2009)**. The integration of these two training methods provides a holistic approach to athletic development.

Thus, it can be concluded that the combined training of step aerobics and yogic practices has a significant positive effect on both physiological and skill performance variables among inter-collegiate football players.

CONCLUSION

1. The present study concludes that step aerobics combined with yogic practices has a significant positive effect on selected physiological and skill performance variables among inter-collegiate football players.

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2. Therefore, such combined training programmes can be successfully incorporated into regular football training. It is evident that a holistic training approach contributes to overall athletic performance. Hence, the study supports the use of step aerobics with yogic practices for improving performance of inter-collegiate level football players.

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