INTERNATIONAL SOIL AND WATER CONSERVATION RESEARCH

ISSN-2095-6339

EFFECT OF HIGH INTENSITY INTERVAL TRAINING PROGRAM ON SPEED OF BEGINNER FOOTBALL PLAYERS OF SHILLONG

Banadien Rapsang
M.P.Ed, Bharati Vidyapeeth (Deemed to be University), College of Physical Education, Dhankawadi, Pune (Maharashtra), India

Rajat Sukladas
Assistant Professor, Bharati Vidyapeeth (Deemed to be University), College of Physical Education, Dhankawadi, Pune (Maharashtra), India. E-mail:

Neelkamal Boro
Assistant Professor, NSHM Durgapur.

Abstract:
This experimental pre-post study investigates the "Effect of High Intensity Interval Training (HIIT) Program on Speed of Beginner Football Players of Shillong". A total of 30 beginner football players under the age category of U-17 were selected from Summit Sports Academy, Shillong. The participants underwent a six-week HIIT program designed to enhance speed. The intensity of the training was set at 75% for week 1 and 2, increased to 80% for week 3 and 4, and further accumulated to 90% for weeks 5 and 6. Data collection occurred in two phases: pre-test and post-test and it was measured using the 50m dash test. The t-test statistical tool was used to analyze the data. The results demonstrated a significant improvement in speed among the participants, indicating the effectiveness of the HIIT program in enhancing the attributes in beginner football players.

Keywords: *Football, speed, beginner football players.*

1. Introduction:

High Intensity Interval Training (HIIT) is a cardio training that alternates between quick burst of high and low intense exercises with short periods of recovery time. The goal of this training is to improve the cardiovascular health by increasing the heart rate, and enhance heart function. High-intensity interval training, or HIIT, alternates short bursts of vigorous activity with low-intensity recovery or rest intervals, excellent for raising metabolic rate, strengthening general endurance, and improving cardiovascular fitness. The association between HIIT and football players is defined by the training's capacity to improve critical performance characteristics including strength, stamina, agility, and mental toughness, all of which are in line with the dynamic and diverse nature of the game. Football players can see notable gains in their performance by including HIIT into their training plans, which will enhance their overall efficacy and success on the field. Modern football is an exciting fast-paced game that requires players to make snap decisions and move fluidly in all directions. Speed is a multifaceted quality that combines linear velocity and deft manoeuvring. Players are the best example of this combination, deftly dodging defenders with their feet. Therefore, we can say that HIIT can be structured and prepared

according to the needs and goals of the athletes making it an effective and versatile training method.

2. Methodology:

The study evaluated The Effect of High Intensity Interval Training Programme on Speed of Beginner Football Players of Shillong. This study employed an experimental pre-post design. 30 beginner football players, aged U-17, were conveniently selected from Summit Sports Academy, Shillong. Pre-test data were gathered before administering the 6-week HIIT program, and post-test data were collected upon the program's completion. Selection was based on inclusion and exclusion criteria, and convenient sampling was employed to better represent the population. The study focused on speed as a variable which is measured through 50m dash test. Data analysis was conducted using t-tests.

Table 1:

HIIT TRAINING SCHEDULE FOR SIX WEEKS				
WEEK 1 & WEEK 2				
PHASE	**ACTIVITIES**	**SET**	**INTENSITY**	**REST**
Warm-Up (20 minutes)	. Shuttle Run	3	75%	90 sec
	. Hollow Sprint	3	75%	90 sec
	. Dribbling	3	75%	90 sec
2 minutes rest (after each activity)	. V Sit Abdominal	3	75%	90 sec
	. Stair Running	3	75%	90 sec
	. Jump Squat	3	75%	90 sec
COOL DOWN (15 MINUTES)				
WEEK 3 & WEEK 4				
Warm-Up (15 minutes)	. Shuttle Run	3	80%	90 sec
	. Hollow Sprint	3	80%	90 sec
	. Dribbling	3	80%	90 sec
2 minutes rest (after each activity)	. V Sit Abdominal	3	80%	90 sec
	. Stair Running	3	80%	90 sec
COOL DOWN (15 MINUTES)				
WEEK 5 & WEEK 6				
Warm-Up (15 minutes)	. Shuttle Run	4	90%	90 sec
	. Hollow Sprint	4	90%	90 sec
	. Dribbling	4	90%	90 sec
2 minutes rest (after each activity)	. V Sit Abdominal	4	90%	90 sec
	. Stair Running	4	90%	90 sec
COOL DOWN (15 MINUTES)				

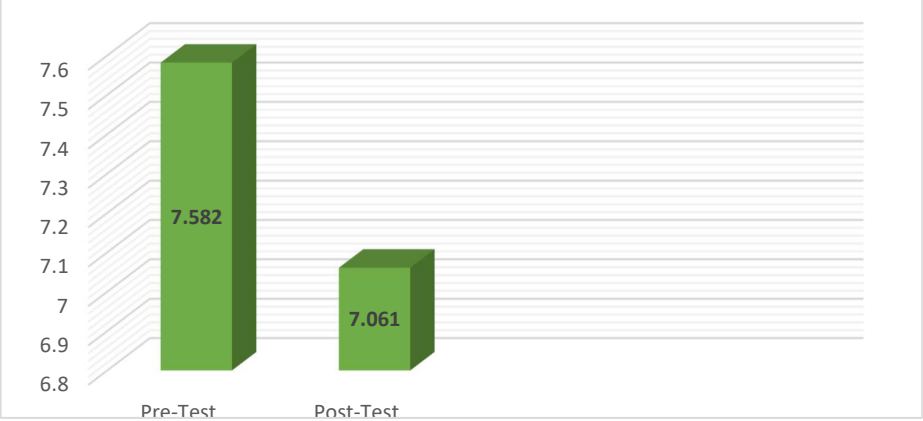
Result: Findings and scores during pre-test and post- test of 50m Dash Test.

Table 2: 50m Dash (Speed)

Test	N (total number of students)	Mean	SD	MD	df	Cal T	Tab T
Pre-Test	30	7.5820	0.5800	0.521	29	2.9732	2.045
Post-Test	30	7.0610	0.6246				

p<0.05 level

Figure-1: Time Taken in 50m Dash



From Table 2: It was concluded that for speed, the critical value of degree of freedom (df) 29 where the calculated value 2.97 which is higher than the tabulated value 2.045. Therefore, there is a significant difference of speed of the beginner football players of Summit Sports Academy, Shillong.

3. Conclusion:

The findings of this study suggest that a 6-week HIIT training program can significantly enhance the speed of beginner football players. This emphasizes the importance of incorporating specialized HIIT programs for skill and performance improvement. While the study had limitations, including a small sample size and focus on only one variable, it highlights the positive impact of regular HIIT sessions. Future research can explore longer training periods or different HIIT programs to further understand their effects. Overall, this study adds valuable insights for football players and coaches, underscoring the benefits of HIIT for performance enhancement.

References:

1. Anderson, T.W. (1973). Statistical Analysis of Time Series, John Wiley, New York.
2. Austin, Damien, et al. “Repeated High Intensity Exercise in Professional Rugby Union.” Journal of Sport Sciences, vol.29, no.10, July 2011, pp.1105–1112.
3. Belegišanin, Bogdan. "Effects of High-Intensity Interval Training on Aerobic Fitness in Elite Serbian Soccer Players." EQOL Journal, vol.9, no .2,2017, pp.13- 17.

4. Best, J. W. and Kahn, J. V. (2003). Research in Education. Published by PrenticeHall of India Private limited, New Delhi-110001. p. 58.
5. Clark, J E. “The Use of an 8-Week Mixed-Intensity Interval Endurance-Training Program Improves the Aerobic Fitness of Female 158 Soccer Players.” The Journal of Strength & Conditioning Research, vol. 24, no. 7, 2010, pp.1773-1781.
6. Dorgo, Sandor, et al. “The Effects of Manual Resistance Training on Improving Muscular Strength and Endurance” Journal of Strength and Conditioning Research, vol.23, no.1, Jan.2009, pp.293–303.
7. Dupont, Gregory, et al. “The Effect of In-Season, High-Intensity Interval Training in Soccer Players.” The Journal of Strength & Conditioning Research, vol.18, no.3, 2004, pp.584–589.
8. Fajrin, F, et al. “Effects of High Intensity Interval Training on Increasing Explosive Power, Speed, and Agility.” Journal of Physics: Conference Series, vol.947, no. 1,2018, pp. 1–5.