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Training Effects of Intermittent Running on Selected Physical Fitness Parameters among University Men Students

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Abstract

The present study aimed to investigate the training effects of intermittent running on selected physical fitness parameters among university men students. Thirty (N = 30) male students aged between 18 and 23 years were randomly selected from a university and divided into two groups, namely an experimental group (n = 15) and a control group (n = 15). The experimental group underwent an intermittent running training programme for a period of eight weeks, five days per week, whereas the control group did not participate in any structured training programme. Speed, cardiovascular endurance, and muscular endurance were selected as dependent variables. Standardized tests were administered before and after the training period. The collected data were statistically analyzed using Analysis of Covariance (ANCOVA). The results of the study revealed that intermittent running training produced significant improvement in speed, cardiovascular endurance, and muscular endurance among university men students. The findings of the study indicate that intermittent running training is an effective method for enhancing physical fitness components in university-level students.

Keywords: *Intermittent Running, Physical Fitness, Speed, Cardiovascular Endurance, Muscular Endurance, University Students.*

1. Introduction

Physical fitness is an essential component of overall health and plays a significant role in improving physical performance, mental well-being, and quality of life. University students, particularly men students, often experience reduced physical activity levels due to academic workload and lifestyle changes. Hence, the adoption of effective and time-efficient training methods becomes crucial for maintaining and

improving physical fitness. Intermittent running is a training method characterized by repeated bouts of high-intensity running interspersed with periods of rest or low-intensity activity. This form of training places stress on both aerobic and anaerobic energy systems, resulting in improved cardiovascular efficiency, muscular endurance, and speed. Previous studies have reported that intermittent and interval training methods are more effective than continuous training in enhancing physical fitness components among young adults. Despite the growing popularity of intermittent running, limited research has been conducted specifically on its training effects among university men students. Therefore, the present study was undertaken to examine the effects of intermittent running training on selected physical fitness parameters, namely speed, cardiovascular endurance, and muscular endurance among university men students.

2. Objectives of the Study

1. To determine the effect of intermittent running training on speed among university men students.
2. To assess the effect of intermittent running training on cardiovascular endurance among university men students.
3. To evaluate the effect of intermittent running training on muscular endurance among university men students.

3. Hypothesis

It was hypothesized that intermittent running training would produce significant improvement in selected physical fitness parameters such as speed, cardiovascular endurance, and muscular endurance among university men students when compared to the control group.

4. Methodology

4.1. Selection of Subjects

Thirty male students studying at a university were randomly selected as subjects for the present study. The age of the subjects ranged between 18 and 23 years. All subjects were medically fit and had not undergone any systematic training programme during the period of the study.

4.2. Experimental Design

A random group design was adopted for the study. The subjects were divided into two equal groups:

- Experimental Group (n = 15) – Intermittent Running Training
- Control Group (n = 15) – No Training

4.3. Training Programme

The experimental group underwent an intermittent running training programme for a period of eight weeks, five days per week. Each training session lasted approximately 45 minutes, including warm-up and cool-down activities. The control group continued their routine daily activities without any specific training.

Table 1: Week-wise Training Schedule of Intermittent Running

Week	Running Duration	Recovery Duration	Sets	Intensity
1	30 seconds	90 seconds walk	6	Moderate
2	30 seconds	75 seconds jog	8	Moderate
3	45 seconds	75 seconds jog	8	Moderate–High
4	45 seconds	60 seconds jog	10	High
5	60 seconds	60 seconds jog	10	High
6	60 seconds	45 seconds jog	12	High

7	60 seconds	45 seconds jog	14	Very High
8	60 seconds	30 seconds jog	16	Peak Load

Table 2: Variables and Tests

Variable	Test Administered
Speed	50-Metre Dash
Cardiovascular Endurance	12-Minute Run/Walk Test
Muscular Endurance	Sit-Ups Test (1 Minute)

4.4. Scoring Procedure

- **Speed:** Time taken to complete 50 metres was recorded in seconds.
- **Cardiovascular Endurance:** Total distance covered in meters during 12 minutes was recorded.
- **Muscular Endurance:** Maximum number of sit-ups completed in one minute was recorded.

4.5. Statistical Technique

Analysis of Covariance (ANCOVA) was employed to analyze the pre-test and post-test data, with the pre-test scores treated as covariates. The level of significance was fixed at 0.05.

5. Results

Table 3: ANCOVA on Speed (50-Metre Dash)

Test	Experimental Mean	Control Mean	F-value
Pre-test	7.42	7.45	0.18
Post-test	6.98	7.44	22.64*
Adjusted Mean	6.96	7.43	**24.18***

Significant at 0.05 level

Table 4: ANCOVA on Cardiovascular Endurance (12-Minute Run)

Test	Experimental Mean	Control Mean	F-value
Pre-test	2140.33	2138.20	0.06
Post-test	2456.67	2145.40	31.72*
Adjusted Mean	2461.20	2142.15	**34.56***

Significant at 0.05 level

Table 5: ANCOVA on Muscular Endurance (Sit-Ups)

Test	Experimental Mean	Control Mean	F-value
Pre-test	28.40	28.13	0.09
Post-test	36.87	28.40	29.85*
Adjusted Mean	37.10	28.15	**32.40***

Significant at 0.05 level

6. Discussion

The results of the present study clearly indicate that intermittent running training significantly improved speed, cardiovascular endurance, and muscular endurance among university men students. The observed improvements may be attributed to enhanced aerobic and anaerobic adaptations, improved muscular efficiency, and better neuromuscular coordination resulting from repeated high-intensity running bouts with adequate recovery periods. These findings are consistent with earlier research that supports the effectiveness of intermittent training methods in improving physical fitness parameters among young adults.

7. Conclusion

It is concluded that intermittent running training is an effective training method for improving selected physical fitness parameters such as speed, cardiovascular endurance, and muscular endurance among university men students. Therefore, intermittent running training may be recommended as a suitable component of

physical education and sports training programmes at the university level.

References

Bompa, T. O., & Haff, G. G. (2009). Periodization: Theory and methodology of training. Human Kinetics.

Fox, E. L., Bowers, R. W., & Foss, M. L. (1993). The physiological basis for exercise and sport. Brown & Benchmark.

McArdle, W. D., Katch, F. I., & Katch, V. L. (2015). Exercise physiology: Nutrition, energy, and human performance. Lippincott Williams & Wilkins.

Singh, H. (2018). Effect of interval training on selected physical fitness variables. International Journal of Physical Education, 11(2), 45–49.

Wilmore, J. H., & Costill, D. L. (2004). Physiology of sport and exercise. Human Kinetics.

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