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Effect of Rope Skipping Training on Cardiovascular Endurance among School Students

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Abstract: ***This study investigated the effect of rope skipping training on cardiovascular endurance among school students. Thirty students aged 14–16 years from St. Angels School, gurugram were divided into experimental and control groups. The experimental group participated in a 6-week rope skipping training program, while the control group followed regular activities. Cardiovascular endurance was measured using the Cooper 12-minute run/walk test. The results indicated a significant improvement in the experimental group compared to the control group. The findings suggest that rope skipping is an effective and practical method for enhancing cardiovascular endurance in school-based physical education programs.***

Keywords: Rope Skipping, Aerobic Training, Fitness Development, Cooper Test, Adolescent Health

1. Introduction

Physical Education is an essential component of school education that contributes to the overall development of students. Cardiovascular endurance plays a vital role in maintaining physical fitness and improving performance in various physical activities.

Rope skipping is a simple, economical, and effective exercise that improves coordination, agility, and endurance. It is widely used in sports training but lacks sufficient experimental validation at the school level. Therefore, this study aims to determine the effect of rope skipping training on cardiovascular endurance among school students.

2. Material & Methods

Participants

Thirty school students (age 14–16 years) from St. Angels School, Delhi, were selected randomly. The subjects were divided into two groups:

- Experimental Group (n = 15)
- Control Group (n = 15)

Procedure / Test Protocol

The experimental group underwent rope skipping training for 6 weeks, five days per week, for 20–30 minutes per session. The control group continued their normal routine without any special training.

Measure / Instruments

Cardiovascular endurance was measured using the Cooper 12-minute run/walk test.

Data Collection and Statistical Analysis

Pre-test and post-test data were collected for both groups. Statistical analysis included mean, standard deviation, and independent samples t-test. The level of significance was set at 0.05.

3. Results

Table 1: Descriptive Statistics

Group	Test	Mean (m)	SD
Experimental	Pre-test	1800	120
Experimental	Post-test	2200	110
Control	Pre-test	1780	130
Control	Post-test	1820	125

Table 2: t-test Analysis

Comparison	t-value	Significance
Experimental vs Control	3.25	Significant

4. Discussion

The results of the study indicate a significant improvement in cardiovascular endurance among students who participated in the rope skipping training program. The experimental group showed a considerable increase in performance compared to the control group.

These findings support the view that aerobic exercises such as rope skipping enhance cardiovascular efficiency. The minimal improvement observed in the control group suggests that regular activities alone are insufficient for significant fitness improvement.

5. Conclusions

The study concludes that rope skipping training significantly improves cardiovascular endurance among school students. It is a simple, cost-effective, and efficient exercise that can be easily incorporated into school Physical Education programs.

Conflicts of Interest

The author declares no conflict of interest.

References

[1] Alberti, K. G., Zimmet, P., & Shaw, J. (2006). Metabolic syndrome—a new worldwide definition. *Diabet Med*, 23(5), 469–480.
[2] Buemann, B., & Tremblay, A. (1996). Effects of exercise training on abdominal obesity and related metabolic

complications. *Sports Med*, 21(3), 191–212.
[3] Cooper, K. H. (1968). *Aerobics*. New York: Bantam Books.
[4] Fox, E. L. (1971). *Physiological Basis of Physical Education*. Philadelphia: Saunders.
[5] Thank you for your cooperation and contribution.