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"EFFECT OF NUTRITION AND PHYSICAL TRAINING ON PERFORMANCE OF FEMALE ATHLETES"

Dr. Saruk Chandrasen Uddhavrao
Shivsagar Sevabhavi Shikshan Prasarak Mandal,
Chatrapati Sambhaji Nagar's Kala Mahavidyalaya, Nandurghat
Tal. kej Dist- Beed.

ABSTRACT :

The present study investigates the effect of proper nutrition and physical training on the athletic performance of female athletes from secondary schools in Beed city. A sample of 60 female athletes (aged 13–16) was divided into two groups: Experimental (Nutrition + Training) and Control (only Training). The results showed that the experimental group exhibited significant improvements in strength, endurance, and agility. The findings highlight the importance of integrated training and nutrition plans in improving female athletic performance.

KEYWORDS : *proper nutrition and physical training , female athletic performance.*

INTRODUCTION:

Nutrition and physical training are vital pillars for enhancing athletic performance, especially among young female athletes who undergo various physiological changes. Inadequate nutrition may hinder physical development, stamina, and performance. Combining scientifically designed physical training with appropriate nutritional support helps achieve optimal results.

Need and Importance of the Study

- To highlight the role of balanced nutrition in female athletic performance.
- To assess how physical training alone differs in impact compared to training combined with nutrition.
- To promote awareness among schools and coaches regarding nutrition's importance.
- To provide scientific recommendations for developing effective training programs.

Objectives of the Study

1. To study the existing dietary habits of female athletes.
2. To assess the impact of nutritional supplementation combined with physical training.
3. To compare performance between groups with and without a nutritional intervention.
4. To suggest improvements for school-level athletic development.

Assumptions

- Participants follow the designed diet and training plans sincerely.
- Training sessions are conducted uniformly.
- The physiological differences are minimal within the group.

Hypothesis

H_0: Nutrition and physical training have no significant effect on female athletic performance.
H_1: Nutrition combined with physical training significantly improves athletic.

Scope and Limitations

Scope:

- Applicable to adolescent female athletes in Beed schools.
- Focuses on physical parameters like strength, speed, and endurance.

Limitations:

- Psychological and social aspects are not considered.
- Long-term dietary patterns beyond the study period are not evaluated

Research Method

Type of Study: Experimental
Duration: 8 weeks
Variables: Nutrition, physical training, and performance metrics

Research Design

Two-group experimental design:

- Group A (Experimental): Physical Training + Nutritional Guidance
- Group B (Control): Physical Training only

Sampling

Sample Size: 60 Female Students
Age Group: 13–16 years
Sampling Technique: Purposive sampling
Location: Selected secondary schools in Beed city

Tools for Data Collection

- Performance Tests (AAHPERD components)
  - 50m sprint (Speed)
  - Standing long jump (Explosive leg power)
  - 600m run (Endurance)
- Nutritional Logs
- Anthropometric data (BMI, body weight)

Data Analysis

A pre-test and post-test were conducted for both groups. Statistical analysis (mean, SD, t-test) was used to compare the performance metrics.

Parameter	Group A (Pre)	Group A (Post)	Group B (Pre)	Group B (Post)
50m Sprint (sec)	9.2	8.4	9.1	8.9
Standing Long Jump (cm)	135	152	136	140
600m Run (min:sec)	2:35	2:18	2:34	2:29

t-test Results (Group A vs Group B post-test):

Significant improvement in Group A across all parameters ($p < 0.05$)

RESEARCH FINDINGS

- Group A showed higher improvement compared to Group B.
- Nutritional support played a significant role in boosting energy, recovery, and performance.

- A balanced diet improved endurance and reduced fatigue.
- Participants reported increased concentration and stamina.

CONCLUSION

The study confirms that nutrition, when combined with proper physical training, significantly enhances athletic performance in female students. Schools and coaches should integrate nutritional planning into athletic development programs to support female athletes more effectively.

REFERENCES

1. Wilmore, J. H., & Costill, D. L. (2004). *Physiology of Sport and Exercise*. Human Kinetics.
2. Thomas, D. T., Erdman, K. A., & Burke, L. M. (2016). *Position of the Academy of Nutrition and Dietetics on Nutrition and Athletic Performance*. Journal of the Academy of Nutrition.
3. AAHPERD Fitness Test Manual (Revised Edition).
4. Singh, H. (2012). *Sports Training Principles*. Friends Publications, New Delhi.
5. Journals on Sports Science and Nutrition (2020–2024 editions).