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Effect of physical exercises on physical variables of school children

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Abstract

The purpose of the study was to find out the effect of physical exercises on selected physical variables among school girls. It was hypothesized that there would be significant differences on selected physical variables due to the effect of physical exercises among school girls. For the present study the 120 school girls from Maganoor Basappa, Karnataka were selected at random and their age ranged from 14 to 17 years. For the present study pre test – post test random group design which consists of control group and experimental group was used. The subjects were randomly assigned to two equal groups of fifteen each and named as Group 'A' and Group 'B'. Group 'A' underwent physical exercises and Group 'B' has not undergone any training. The level of significance was set at 0.05. Leg Explosive strength was assessed by standing broad jump and flexibility was assessed by sit and reach. The data was collected before and after sixteen weeks of training. The data was analyzed by applying dependent 't' test. The physical exercises had positive impact on Leg Explosive strength and flexibility among school girls.

Keywords: Physical exercises, school (girls) children, leg explosive strength, flexibility

Introduction

Physical exercise is any bodily activity that enhances or maintains physical fitness and overall health and wellness. It is performed for various reasons including strengthening muscles and the cardiovascular system, honing athletic skills, weight loss or maintenance, as well as for the purpose of enjoyment. Frequent and regular physical exercise boosts the immune system, and helps prevent the "diseases of affluence" such as heart disease, cardiovascular disease. It also improves mental health, helps prevent depression, helps to promote or maintain positive self esteem, and can even augment an individual's sex appeal or body image, which is also found to be linked with higher levels of self esteem. Childhood obesity is a growing global concern and physical exercise may help decrease some of the effects of childhood and adult obesity. Health care providers often call exercise the "miracle" or "wonder" drug alluding to the wide variety of proven benefits that it provides (Heyward, 2002) ^[1].

Physical conditioning programme provides an opportunity for the development and maintenance of physical fitness. It offers an opportunity for the facilitation of normal growth of a child and prevents the reversal factors of the performance such as strength, endurance, flexibility, speed. By undergoing a physical conditioning programme, one experiences a number of changes that make better performance and faster recovery possible. Through repeated muscular 10 work, strength is gained and as a result one can produce more power as there is a faster contraction, which means, gain in both power and speed. Conditioning the body through regular exercise enables an individual to meet emergencies more effectively. Regular physical activity that is performed on most days of the week reduces the risk of developing or dying from some of the leading causes of illness and death. The physical benefits of physical exercise less often are the psychological benefits promoted. Yet, engaging in a moderate amount of physical activity will result in improved mood and emotional states. Exercise can promote physiological and psychological well-being as well as improve quality of life.

Methodology

The purpose of the study was to find out the effect of physical exercises on selected physical variables of school children.

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It was hypothesized that there would be significant differences on selected physical variables due to the effect of physical exercises on physical variables of school children. For the present study the 120 school girls from Maganoor Basappa School, Karnataka were selected at random and their age ranged from 14 to 17 years. For the present study pre test – post test random group design which consists of control group and experimental group was used. The subjects were randomly assigned to two equal groups of fifteen each and named as Group „A“ and Group „B“. Group „A“ underwent physical exercises and Group „B“ has not undergone any training. The data was collected before and after six weeks of training. The data was analyzed by applying dependent „t“ test.

The level of significance was set at 0.05.

Table 1: Variables and Test

| SL. No | Variables | Tests |
|--------|------------------------|---------------------|
| 1 | Leg Explosive Strength | Standing Broad Jump |
| 2 | Flexibility | Sit and Reach |

Results

The findings pertaining to analysis of dependent „t“ test between experimental group and control group on selected physical variables among school girls for pre-post test respectively have been presented in table II to III.

Table 2: Significance of Mean Gains & Losses between Pre and Post Test Scores on Selected Variables of Physical Exercises Group (PEG)

| S. No | Variables | Pre-Test Mean | Post-Test Mean | Mean difference | Std. Dev (±) | σ DM | ‘t’ Ratio |
|-------|------------------------|---------------|----------------|-----------------|--------------|------|-----------|
| 1 | Leg Explosive Strength | 24.32 | 32.41 | 8.09 | 2.61 | 1.12 | 26.64* |
| 2 | Flexibility | 24.15 | 27.55 | 3.40 | 1.62 | 0.31 | 8.48* |

* Significant at 0.05 level

Table II shows the obtained „t“ ratios for pre and post- test mean difference in the selected variable Leg Explosive strength (26.64) and flexibility (8.48). The obtained ratios when compared with the table value of 2.14 of the degrees of freedom (1, 14) it was found to be statistically significant at

0.05 level of confidence. It was observed that the mean gain and losses made from pre to post- test were significantly improved in performance variables namely Leg Explosive strength (8.09 $p<0.05$) and flexibility (3.40 $p<0.05$) thus the formulated hypothesis is accepted.

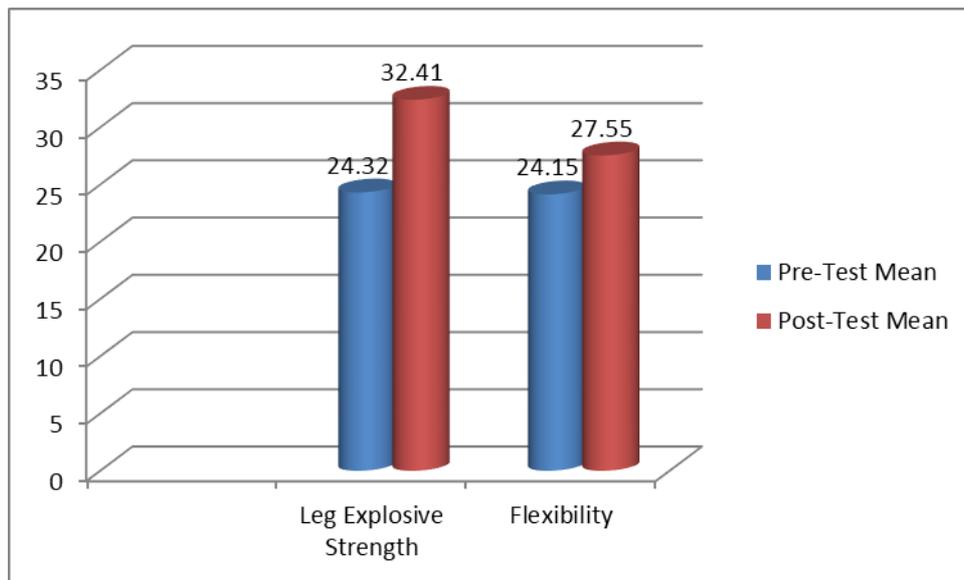


Fig 1: Comparisons of Pre-Test Means and Post-Test Means for Experimental Group in Relation to Physical Variables.

Table 3: Significance of Mean Gains & Losses between Pre and Post Test Scores on Selected Variables of Control Group (CG)

| S. No | Variables | Pre-Test Mean | Post-Test Mean | Mean difference | Std. Dev (±) | σ DM | ‘t’ Ratio |
|-------|------------------------|---------------|----------------|-----------------|--------------|------|-----------|
| 1 | Leg Explosive Strength | 23.14 | 24.21 | 1.07 | 1.67 | 0.36 | 1.46 |
| 2 | Flexibility | 24.85 | 25.12 | 0.27 | 1.97 | 0.35 | 1.11 |

* Significant at 0.05 level

Table III shows the obtained „t“ ratios for pre and post test mean difference in the selected variable of Leg Explosive Strength (1.46) and flexibility (1.11). The obtained ratios when compared with the table value of 2.14 of the degrees of freedom (1, 14) it was found to be statistically significant at

0.05 level of confidence. It was observed that the mean gain and losses made from pre to post test were not significantly improved in performance variables Leg Explosive strength (1.07 $p>0.05$) and flexibility (0.27 $p>0.05$).

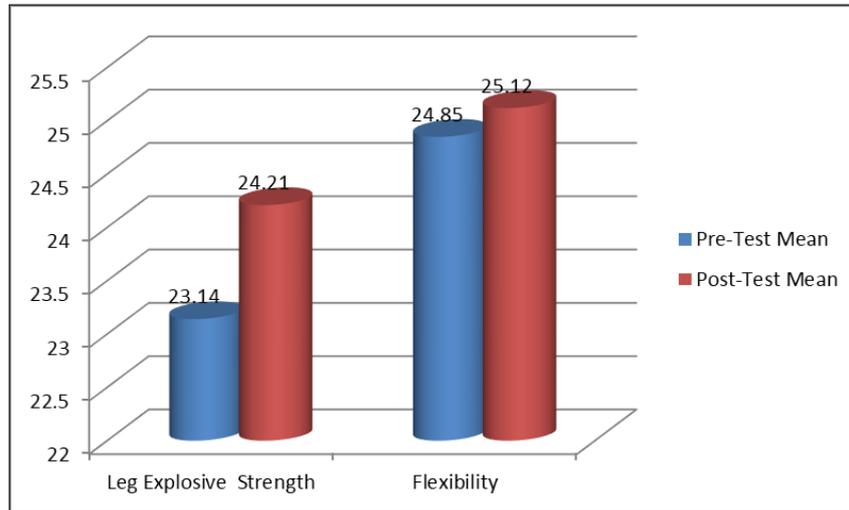


Fig 2: Comparisons of Pre – Test Means and Post – Test Means for Control Group in Relation to Physical Variables.

Discussions on Findings

In case of physical variables i.e. Leg Explosive strength and flexibility power the results between pre and post test has been found significantly higher in experimental group in comparison to control group. This is possible because due to regular physical exercises which may also bring sudden spurt in physical variables in school girls. The findings of the present study have strongly indicates that physical exercises of six weeks have significant effect on selected physical variables i.e., Leg explosive strength and flexibility of school girls. Hence the hypothesis earlier set that physical exercises programme would have been significant effect on selected physical variables in light of the same the hypothesis was accepted.

Conclusions

On the basis of findings and within the limitations of the study the following conclusions were drawn:

1. The physical exercises had positive impact on Leg Explosive strength and flexibility among school girls.
2. The experimental group showed better improvement on Leg explosive strength and flexibility among school girls than the control group.

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