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Comparison of physical fitness components between urban and rural school going female students

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Abstract

The purpose of this study is to ascertain the influence of infrastructure on physical fitness of rural and urban children. To find out differences between physical fitness of children living in urban and rural districts of Jammu, Jammu and Kashmir, Total 40 female subjects each 20 from urban and rural primary schools of Jammu district were selected their age ranged from 9-12 years old. Administration of tests includes 50m dash for speed, Sit ups for abdominal muscular endurance, standing broad jump for explosive strength and shuttle run for agility. In speed, abdominal strength endurance and leg strength were significantly higher in the rural children whereas no significant difference found in the standing broad jump between urban and rural students.

Keywords: Physical fitness, female, urban and rural

Introduction

Physical activity is an essential component of a healthy lifestyle. In combination with healthy eating, it can help prevent a range of chronic diseases, including heart disease, cancer, and stroke, the three leading causes of death. Risk factors for these diseases can begin early in life and be mitigated early in life by adopting regular physical activity habits. Physical activity helps control weight, builds lean muscle, reduces fat, and contributes to a healthy functioning cardiovascular system, hormonal regulatory system, and immune system; promotes strong bone, muscle and joint development; and decreases the risk of obesity. Research has also found that physical activity is related to improvements in mental health, helping to relieve symptoms of depression and anxiety and increase self-esteem. In addition, some studies show that physical activity is correlated with improved academic achievement.

Physical fitness is generally considered to be “the ability to perform daily tasks without fatigue”. It includes several components: cardio respiratory fitness, muscular endurance, muscular strength, flexibility, coordination, and speed. Differences in mean height, weight and physical fitness levels of children belonging to different socio-economic strata and/or towns or villages occur in almost all developed as well as in developing countries, and also in North India.

Studies state that participation in physical activity during childhood can aid the development of motor abilities and lay the foundation for good health, especially cardiovascular health. Although some studies have shown that the physical fitness levels of children, in general, are not sufficient to promote optimal health, the health related benefits of physical activity are well known. For example, regular physical activity decreases the risk of health problems, such as coronary heart disease, hypertension, and obesity. Participation in physical activity and sport can also promote social well-being, as well as mental health, among children and adolescents. The results from fitness assessments can serve a variety of purposes. For example some studies revealed that, results from fitness tests can be utilized by teachers to increase the effectiveness of fitness activities that have been incorporated into the physical education program over a period of time. These fitness test scores are often reported as group means and may even be compared with the scores of students from other school.

In literature it has been suggested that the distribution of children’s physical fitness across geographic boundaries, such as rural-urban districts needs to be studied in different climate, economic and cultural.

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Methodology

Total twenty (N=40) female subjects out of which 20 students from urban school and 20 from rural were randomly selected for the study of whom the Data were collected. The age of the subjects were ranged between 9 to 12 years. The variables selected under Physical fitness parameters were 50m dash for speed, Sit ups for abdominal muscular endurance, standing broad jump for explosive strength and shuttle run for agility.

Statistical Techniques

To calculate mean difference between urban and rural in relation to selected physical fitness components mean, standard deviation and independent t-test was used. Significant level was set at 0.05 level.

Results

After converting the raw data into group data, statistical test were employed to find out necessary information. The result and findings of the same are given in the table and illustration below.

Table 1: Comparative analysis of various fitness test scores

Variables	Groups	Mean	SD	"t" Value
50m Dash	Urban	11.08	1.12	3.50
	Rural	10.12	0.46	
Sit-ups	Urban	24.8	3.06	5.78
	Rural	29.9	2.71	
Standing broad jump	Urban	1.14	0.09	1.66
	Rural	1.20	0.07	
Agility	Urban	15.46	2.48	2.29
	Rural	14.02	1.32	

*significant, $P < 0.05$, df-38

The rural school going female students were significantly better than urban students in speed t-value = 3.51, abdominal strength endurance t-value = 5.79 and agility t-value = 2.29.

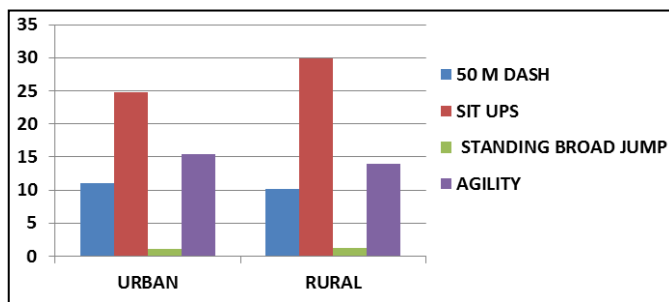


Fig 1: Show mean of physical variables of urban and rural school going female students

Discussion

The findings that the rural school going female students was significantly better in speed, abdominal strength endurance and explosive leg strength compared to urban school going female students, may be due to the fact that the students belonging to rural area performs various extra activities walk to school, market, various type of play, regular physical activity whereas the lifestyle of urban students are more comfortable, better transportation and lack of physical activity.

Conclusion

The purpose of the study was to ascertain to differences in physical fitness of school going female students in both urban and rural settings. In speed, abdominal strength endurance and

leg strength were significantly higher in the rural children whereas no significant difference found in the standing broad jump between urban and rural students.

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