

Study of Anthropometric Measurements and Physical Fitness Levels amongst Adolescent Boys in Rural and Urban areas of Doda District in Jammu and Kashmir

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Introduction

Anthropometry has caught greater attention and interest amongst the current generation of physical education researchers. It has played a determining role in sports counseling, talent selection, talent identification, and guidance for nutritional intake in determining parameters for health related physical fitness. One of the most important tasks for physical educationists is to measure different parts and components of human body. The scientific terminology given to the measurement of human body is “Anthropometry”. The word Anthropometry is derived from the Greek word “Anthropo” meaning “Human” and “Metron” meaning “Measurement”. It includes a range of human body measurement such as Weight, Height, Skin fold thickness, Circumferences, Diameters, and length measurements of the body segments. As per the World Health Organization (WHO) report, Anthropometry has played an instrumental role in understanding the human biological differences all across the world. Nutritional status, growth and progress, highly depends on the anthropometric dimensions, body composition and morphological characteristics in India.

Physical fitness at the childhood stage has important benefits, as it is reflected in the later stage of adulthood. The developmental stages comprises of infancy, childhood, puberty, adolescence and adulthood. There are four characteristics stages of growth from birth to adult: Rapid growth in infancy and early childhood, slow steady growth in middle childhood, rapid growth during puberty, gradual slowing down of growth in adolescence until adult height is reached. When the rate of growth increases rapidly, it is called growth spurt. The most important growth spurt is the one which occurs at puberty. This spurt produces a rapid increase in both weight and height. The peak of this growth spurt occurs at about age 12 for girls and age 14 for boys. The changes in the size and shape of the body, also brings about many physiological changes. These changes in body proportions will have a great influence on how skills will be performed. The low level of physical fitness has been related with the impaired health indicators such as cardiovascular disease risk factor, increase body fat, abdominal adiposity and hypertension. Physical fitness helps in developing a positive attitude towards body and helps the child to remain concerned and highly motivated to maintain or improve his individual fitness.

The categorization of rural and urban areas has been done on the basis of population, shape of settlements, and patterns formed. Rural settlements are most closely and directly related to land. They are dominated by the primary activities such as agriculture, animal husbandry, fishing etc. The settlement size is relatively small. The rural settlements have their own advantages and

disadvantages. The definition of urban areas varies from one country to another. Some of the common bases of classification are size of population, occupational structure and administrative setup. On the basis of population, the lower limit of the population, for a settlement to be called as urban is 1500 in Colombia, 2000 in Argentina, 2500 in USA, 5000 in India and 30,000 in Japan. Beside the size of population, density of 400 persons per sq. km, and the urban population is largely involved in the industrial and manufacturing sectors as well as allied services.

Hypothesis of the study

1. There would be no significant differences in the anthropometric measurements of early adolescent boys between rural and urban areas of dodda district in Jammu and Kashmir.
2. There would be no significant differences in anthropometric measurements of middle adolescent boys between rural and urban areas of dodda district in Jammu and Kashmir.
3. There would be no significant difference in physical fitness levels of early adolescent boys between rural and urban areas of dodda district in Jammu and Kashmir.
4. There would be no significant difference in physical fitness levels of middle adolescent boys between rural and urban areas of dodda district in Jammu and Kashmir.

Research Methodology

The main focus of the research methodology is to use the precise methods, result oriented techniques and cost benefit material. In this work, the researcher has collected the anthropometric measurements and physical fitness levels of adolescent boys in rural and urban areas of dodda district in Jammu and Kashmir. The measurement has been taken with proper care and precision by personally visiting each district. A comprehensive survey has been done to compare the anthropometric measurements and physical fitness levels among the rural and urban boys of dodda district. The whole pattern of study is just like the decadal census of country, as all the parameters and variable of distinction have been taken in to consideration.

Results and Discussions

For Early Age: We can observe that there is significant difference between the weight of the boys from rural and urban areas. Similarly, there is significant difference between the lower arm, upper leg, lower leg, upper arm circumference, fore arm circumference, wrist circumference, chest circumference, wrist diameter, hand diameter, biacromial diameter, bicondylar femur diameter, biceps, triceps, subscapular, supra-iliac, explosive power, arms and shoulder strength, grip strength of the boys from rural and urban areas.

For Middle Age: We can observe that there is significant difference between the upper arm of the boys from rural and urban areas. Similarly, there is significant difference between the fore arm circumference, thigh circumference, bicondylar humerus diameter, hand diameter, biacromial diameter, bicondylar femur diameter, subscapular, supra-iliac and speed of the boys from rural and urban areas.

Conclusion

In the early adolescent age group the relevant anthropometric measurements viz: weight, lower arm, upper leg, lower leg, upper arm circumference, fore arm circumference, wrist

circumference, chest circumference, wrist diameter, hand diameter, biacromial diameter, bicondylar femur diameter, biceps, triceps, subscapular, suprailiac are significant at p value < 0.05 and physical fitness levels viz: explosive power, arm and shoulder strength, grip strength are Significant at p value < 0.05. In the early adolescent age group the rural adolescent age group seems to have significant advantage in the anthropometric measurements and physical fitness over the urban adolescent age group.

In the middle adolescent age group vary anthropometric measurements viz: upper arm circumference, fore arm circumference, thigh circumference, bicondylar humerus diameter, hand diameter, biacromial diameter, bicondylar femur diameter, subscapular, supra-iliac are significant at p value < 0.05 and physical fitness levels viz: speed are significant at p value < 0.05. there is significant difference in the anthropometric measurements of early adolescent age group boys of rural area over the urban areas of doda district of Jammu and Kashmir state.

There is significant difference in the physical fitness levels of rural early adolescent age group boys over urban early adolescent age group boys of doda district of Jammu and Kashmir state.

There is no significant difference in the anthropometric measurements of middle adolescent age group boys of doda district of rural middle adolescent age group over the urban middle adolescent age group of doda district of Jammu and Kashmir state.

There is no significant difference in the physical fitness levels of rural middle adolescent age group boys over urban middle adolescent age group boys of doda district of Jammu and Kashmir state.

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