Differences of Cardiac Efficiency of Rural and Urban Students

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Abstract
The purpose of the study was to identify the physical fitness components of rural and urban students. 40 students, 20 rural and 20 urban from various colleges of Swami Ramanand Teerth Marathwada University, Nanded, Maharashtra India were selected as a subjects for the study. Execution criteria were the presence of chronic medical condition such as asthma, heart disease or any other condition that would put the subject at risk when performing the physical fitness components. The data was collected by use of measurements of height & weight as well as by application of tests like, running, jumping, steeping, setups etc. The data was analysed with the help of statistical procedure in which arithmetic mean, standard deviation and t - test were employed. The mean age of rural students were 21.03 (± 3.11) years, height were 171.33 (± 5.22) cm. and the weight were 68.48 (± 3.91) kg. On other hand the mean (± S.D.) age of the urban students were 21.99 (± 3.72) years, height 171.66(± 8.29) cm. and weight 67.92 (± 3.76). Significant difference was found in endurance ability (t=5.96, p<.05) between rural and urban students. Rural students were found to have got more cardiovascular efficiency as compare to urban students.

Introduction
Sound cardiac function is recognized as an important component of health and it may be important for the performance of functional activities and quality of life, Low physical fitness may result in high physical strain during the performance of activities (Bruinings et al.2007). As a consequence, activity levels may decrease due to fatigue and discomfort, exacerbating low physical fitness. Caspersen and co-workers defined several health-related components of physical fitness, i.e. aerobic capacity, muscle strength and endurance, flexibility and body composition (Caspersen et al.1985).

Keeping in view the fact that students physical fitness has important health consequences during adulthood (sallis et al, 1992) a large number of studies on physical fitness have been reported form different countries of the world. Data on the physical fitness students from Denmark, England, South Africa, Belgium, Israel, & Japan are available in the literature. All these reports made the health planners realise the importance of the contribution of health education & physical fitness in the development of total fitness. The practice of physical testing in students started thereafter in various countries.

Materials and Methods

Subjects: Twenty rural and twenty urban students from various colleges of Swami Ramanand Teerth Marathwada University Nanded.

Who were regularly participating two years in the inter collegiate athletic tournament selected

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as subject for present study, “exclusion criteria were the presence of chronic medical conditions such as asthma, heart disease or any other condition that would put the subjects at risk when performing the test the subjects were free of smoking, alcohol and caffeine consumption, antioxidant supplementation and drugs. The age, height, endurance, of all subjects measured in physical education department ground. The data analysed with the help of statistical procedure in which mean, standard deviation, t test were used to compare the data.

Selection of Variable and Their Criterion Measures

Cardiac efficiency was measured by the using Harwood Step test, it waw conduct according to the AAPHER youth fitness test.

Results

The statistical of the results of physical fitness components between rural & urban students are shown in table 1.

The mean (+ S.D.) of the age of the rural students was 21.03 (+ 3.11) years, height 171.33 (+ 5.22) cm. weight 68.48 (+ 3.91) kg. On other hand, the mean (+ S.D.) of the urban students was 21.99 (+ 3.72) years height 171.66 (+ 8.29) cm. and weight 67.92 (+ 3.76).

Table 1 shows statistical comparison of Cardiac efficiency between rural & urban collegiate students.

<table>
<thead>
<tr>
<th>Students</th>
<th>No.</th>
<th>Means</th>
<th>S.D.</th>
<th>S.Ed.</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td>20</td>
<td>88.03</td>
<td>8.12</td>
<td>0.14</td>
<td>6.96*</td>
</tr>
<tr>
<td>Urban</td>
<td>20</td>
<td>71.39</td>
<td>6.99</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*significant

Table 1 depicts the statistical information of Cardiac efficiency between rural and urban students. Significant difference were observed in Cardiac efficiency (t=6.96, P<.05) between the rural and urban students. Rural students were found to have got greater Cardiac efficiency as compared to urban students.

Discussion

This study reveals that significant deference was found in cardiac efficiency between rural and urban students. Rural students were found to have got strongest cardiac capacity than urban students. A similar type of result was obtained in the work of Mehtap and Nihal (2005). Who conducted a study on physical fitness in rural children compared with urban children in turkey and found that children living in the urban areas were more inactive and obese than rural children. Urban students incur significantly low Endurance ability as compared to rural children. This may be due to mechanization, automation and
computerization have minimised the opportunities for vigorous physical activities to cause physical exertion in urban population. The result is supported Uppal and Sareen (2000) choudhary (1998) and Ray (1979). The relatively greater Cardio-respiratory of rural students were Probly due to rural students engaged in vigour physical activity like agriculture and Animal husbandry. This may also be due to the rural life style is more active in nature then the life in urban areas which produced high level physical and psychological functioning in rural areas

**Conclusion**

It is found that the rural students were comparatively better than urban students in endurance ability of colleges of Swami Ramanand Teerth University.

Rural students were stronger to urban students in endurance. However urban students are stronger in cardiac function.

**References**


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National Association for sports & physical education (NASPE). 2001 Shape of the Nation Report.


President’s Council on physical fitness and sports. 1999. Physical activity promotion and school physical education. Physical education and fitness research Digest.


ISSN 0976-9714


Deborah Jbowen et. al., randomized trial of exercise in sedentary middle aged women: effects on quality life Published online 2006 Oct. 4.


JA Blumenthal et. al., Physiological & psychological variables predict comprehensive to prescribed exercise therapy in patients recovering from myocardial infarction, psychosomatic medicine, vol. 44, Issue 6 page 519 to 527.


ISSN 0976-9714

McTiernan A. et.al. the physical activity for total health (path) study: rational & design. Medicine & science in sports & exercise. 1999; 31:1307-1312.


Tinna Ritvanen et. al., Effect of aerobic fitness on the physiological stress responses at work, international journal of occupational medicine and environmental health 2007; 20(1):1-8

USDHHS Healthy people 2010 (conference addition in two volumes) Washington DC 2010


ISSN 0976-9714

Joanie Larose, et. al., Effect of exercise training on physical fitness in type II diabetes Mellitus, Medicine & science In Sports & exercise 2010;42(8) : 1439 to 1447.


Joanie Larose, et. al., Effect of exercise training on physical fitness in type II diabetes Mellitus, Medicine & science In Sports & exercise 2010;42(8) : 1439 to 1447.


K. Spanos et.al., the effects of tow resistance training programs in maximum strength & muscular endurance of male adults., Physical training Aug. 2007.

Kwok Kei Mak et. al., Health related physical fitness & Weight status in Hong Kong adolescents BMC public health 2010, 10:88.

Kwok Kei Mak et. al., Health related physical fitness & Weight status in Hong Kong adolescents BMC public health 2010, 10:88.

K. Spanos et.al., the effects of tow resistance training programs in maximum strength & muscular endurance of male adults., Physical training Aug. 2007.

Laurin M et. al., health related physical fitness of adolescents & young adults with Myelomeningocele, Eur J Appl. Physiol. 2008 Feb. 103(2) 181-188.


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