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Comparison of Cardiovascular Efficiency between Students of Physical Education College and General Education College

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Abstract:
The aim of this, study was to find the cardiovascular efficiency between non sports student and the sports collegiate students . To achieve this collegiate students were taken as, subject from Yashoda Mahavidyalaya, Nagpur, (Group-1) and Jupiter Sharirik Shikshan Mahavidyalaya, Nagpur (Group-II). Harvard step testis used to find but the-cardiovascular efficiency. The subjects steps up and down 24 times in a minute, on a bench of 18 inches high, 't'-rdtio was computed to find out the significant difference between sports collegiate student and non sports collegiate students, on cardiovascular efficiency. The 't'- ratio obtained from the data on cardiovascular efficiency was compared at 0.05 level.
Keywords : Cardiovascular, efficiency, palpation, physical.

Introduction:

The importance of physical programs is linked to a higher quality of life as well as academic achievement. It is well documented that regular physical activity in childhood and adolescence improves strength & endurance, health build, healthy bones & muscles; hips, controls weight, reduces anxiety and stress, increases self esteem and may improve cardio respiratory function. Physical fitness is recognized as an important component of health, Limb et.al 1998; Twisk et.al. 2002 and it may be important for the performance of functional activities and quality of life (Noreau and Shepherd 1995; Stewart et.al. 1994). Low physical fitness may result in high physical strain during the performance of activities (Brtnning et. al. 2007). As a consequence, activity levels may decrease due to fatigue and discomfort, exacerbating low physical fitness.

Keeping in view the fact that student's physical fitness has important health consequences during their study, a large number of studies on physical fitness have been reported from different count step of the world. Data on the physical fitness students from Denmark (Knutgen, 1961), England (Campbell & Pohndof, 1961), South Africa(Slon 1966), Belgium (Hebbelink & [3orms, 1959), Israel Ruskin 1978), Japan (Ishiko 1978) are available. The literature of all these reports made the health planners realize the importance of the contribution of health education & physical fitness in the development of total fitness.

Day by day the importance of young population is being declared in many platforms by international organizations, politicians and scientists. According to the statistics of world health organization the deficieney of physical activates of adults are approximately at 17% (Berggren, 2005); (Angilley and Haggas, 2009) in the world. In developed countries 10 to 15% of young population do sports (Yitzhak; 2009), the percentage decreases through the developing and undeveloped ones. Participation to physical activities is rapidly decreased specially in the college and university education, academic education in the universities focuses on the specialization in preferred fields, Sinku S.K. (2009) implied that physical education and sports lessons in Swami Ramanand Teerth Marathwada University. Physical fitness has an important role in the education of new generation in the frame of physical and mental health and

now days it is placed as a piece of education in the developed societies, education programs. T he studies regarding the physical fitness programs can be placed in a special order in the subject of physical education, Sports sciences and medical sciences. In this contest, fitness program applications that are covered by the study field of physical education departments have an important role. Therefore this study endowers to examine the effects of health related physical fitness programs that are covered in the academic program of physical education department on the resting heart rate, respiratory rate, vital capacity and breath holding capacity.

Cardiovascular efficiency is an important.quality to be developed by the sportsmen's health, endurance, nutrition and general well being all depends upon a common denominator circulatory fitness.

Cardiovascular fitness mainly depends on the cardiac output, the-pulse rate and blood pressure. Heart is the vital organ of our body. The muscles of the heart,- blood vessels must be strong enough to send the required amount of. oxygen and nutrition through the. blood. So it can be said that cardiovascular fitness represents one's whole health. Physical fitness is the capability of the heart} blood vessels, lungs and muscles to function at operative efficiency.

The. immediate and long term effects of. regular exercise on the cardiovascular system .as outlined demonstrate-why the incidence of cardiovascular-disease has consistently been found to be lower in physically active people than in those who led more, sedentary lives Cardiovascular test have shown possible relationship sometimes with functional manifestations of circulatory respiratory endurance.

Methodology:

The purpose of this study was to compare the cardiovascular efficiency between physical education college students and general education college students l. To achieve these 30 collegiate students were selected as subjects from Yashoda Mahavidyalaya Nagpur, (Group-I) & 30 college students from Jupiter Sharirik Shikshan Mahavidyalaya, Nagpur-(Group-II) were selected. The students were explained about the purpose of study. Apparatus used were a bench of 18 inches height, stop watch metronome.

Harward step test was used to find out the cardiovascular efficiency (with the help of Physician). The subjects steps.up and down 24 times in.a minute on a bench of 18 inches high. Each time, the Subject should step all the way upon the bench with her body erect. Stepping was done in four counts as per the Skubic and Hodgkin's test; however he may lead off with the same foot each time of change feet as he desires, as long as the four count step was maintained. Metronome was used to regulate the stepping counts.

The stepping exercise continues for exactly three .minutes, unless the subject if forced to stop sooner due to exhaustion. In either case, the duration of the exercise in seconds was recorded. Immediately after completing the exercise the subject was given one minute of rest in a sitting position. The pulse was taken for 30 seconds at. the carotid artery by palpation. Cardiovascular efficient score = no of sec. x 100/Six pulse count.

The pulse rate, was read by feeling the carotid artery. The atmospheric, temperature being 30 ± 2°c.The experimental conditions were observed in the administration of the tests as follows.
The subjects were asked to perform the test according to the count, namely up, up down. The test was conducted for Group - I 30 students Yashoda Mahavidyalaya and 30 students from Jupiter Sharirik Shikshan Mahavidyalaya.(Group-II) whose pulse rate was counted.

Results and Discussion:

For the purpose of testing the significance of the difference between the means of the two groups, the 't'-ratio was computed.

Table-I

For Ungrouped data
Mean (M) = 97.47
S.D. - 10.02

Table - II

For Ungrouped data
Mean (M)= 111.13
S.D. = 13.01

Table-III
Difference between means of Group-I and Group-II

Groups	Mean	MD	Standard error	't'
I	113.13	13.66	3.96	3.45*
II	97.47			

Conclusions:

It was observed that the Physical education college students had better cardiovascular efficiency than general education college students. It was concluded that the training given to physical education college students was strenuous than the training given to general education college students.

As the physical education college students are involved in playing of various games in their course regularly, their cardiovascular efficiency was better than general education college students. The general education college students may also be given some more training to improve their cardiovascular efficiency.

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