

Effect of Health-Related Physical Fitness Programmes on the Cardio-Respiratory Function of Sedentary Students

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Abstract

The purpose of the study was to examine the effects of health related physical fitness programmes that are covered in the academic programme of physical education department on the cardio respiratory functions of sedentary students. Fifteen sedentary male students studying in different colleges of the Swami Ramanand Teerth Marathwada University Nanded, Maharashtra, India volunteered to be the subjects for the study. The mean age, height and weight of these students were 20.3+2.66 years, 172.33+5.99 cm. and 69.29+4.01kg respectively. Resting heart rate, vital capacity, breath holding capacity after expiration and inspiration and respiratory rate were recorded at the beginning of 2009-2010 academic year in this study on all the subjects. The health related physical fitness programme was administered for twelve weeks, 5 days a week and for 120 minutes a day. Mean scores and standard deviation were taken and paired t-test was applied. A significant effect on resting heart rate ($t=4.44$, $p<0.05$) respiratory rate ($t=4.15$, $p=0<0.05$) and vital capacity ($t=4.30$, $p=0<0.05$) was observed. However no significant effects on breath holding capacity after expiration ($t=0.07$) & breath holding capacity after inspiration ($t=0.72$) was observed. In the study it was found that twelve weeks of health related physical fitness programme resulted in a significant decrease in the resting heart rate and respiratory rate with significant increase in the vital capacity. According to the results it can be concluded that diet and health related physical fitness programme in physical education department is not only beneficial to increase the cardio respiratory functions and improve physical fitness of sedentary students but also improve the cardio respiratory functions of players of various sports disciplines and general people. The study provides a platform for further research in the field of physical education.

Keywords: Health Related Physical Fitness Programme, Resting Heart Rate, Vital Capacity, Breath Holding Capacity

Introduction

The importance of physical programmes is linked to a higher quality of life as well as academic achievements. It is well documented that regular physical activity in childhood and adolescence improve strength & endurance, health build, healthy bones & muscles, hips control weights, reduce anxiety and stress increases self esteem and may improve cardio reparatory 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 (*Bruining 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