International Journal of Advanced Education and Research
ISSN: 2455-5746; Impact Factor: RJIF 5.34
Received: 05-11-2018; Accepted: 07-12-2018
www.alleducationjournal.com
Volume 4; Issue 1; January 2019; Page No. 21-22

Effect of physical exercise on resting pulse rate among school students

James Rathinaraj S[1], Dr. P Yoga[2]
[1] Research Scholar, College of Physical Education, Alagappa University, Karaikudi, Tamil Nadu, India
[2] Assistant Professor, College of Physical Education, Alagappa University, Karaikudi, Tamil Nadu, India

Abstract
The purpose of the present study was to investigate the effect of Physical exercise on Resting pulse rate among school students. To achieve the purpose of the study forty school students were selected from Alagappa Model Her Sec School, Karaikudi, during the year 2018. The subject's age ranges from 14 to 18 years. The selected players were divided into two equal groups consists of 20 men students each namely experimental group and control group. The experimental group underwent a Physical exercise programme for six weeks. The control group was not taking part in any training during the course of the study. Resting pulse rate was taken as criterion variable in this study. The selected subjects were tested on Resting pulse rate was measured through to record the pulse rate the fingertips were placed on the radial artery at the thumb side of the wrist about an inch from the base of the thumb. Pre-test was taken before the training period and post- test was measured immediately after the six week training period. Statistical Technique 't' ratio was used to analyse the means of the pre-test and post test data of experimental group and control group. The results revealed that there was a significant difference found on the criterion variable. The difference is found due to Physical exercise given to the experimental group on Resting pulse rate when compared to control group.

Keywords: physical exercise, resting pulse rate and 't' ratio

Introduction
One who is stable and established in the self is healthy. That is to say that identifying a healthy person doesn't only entail physical fitness, but what's even more crucial is ones mental fitness. One cannot say that 'I'm healthy, but not interested in life'. Body, mind and spirit are like a tripod – even if one aspect isn't functioning properly, our life will not be balanced and that will lead to ill health. Yoga (a component of Ayurveda) is that link which creates a harmony by aligning all the three components (body, mind and spirit) into one. This harmony, in turn exists to support life.

Physical exercise increase is currently under study as a possible prevention strategy for diabetes, obesity, blood pressure and cardiovascular disease (Dubbert P. M, 2002), either alone or in combination with dietary changes. The level of physical exercises needed to alter chronic disease patterns is currently the subject of debates. The Healthy People 2010 goals include increasing the number of people that are moderately physically active (e.g., walking & Jogging) five or more times per week for 30 minutes per day (USDHHS healthy people 2010). These general population goals are reasonable and have been related to cardiovascular fitness, but they may not be intensive enough to reduce obesity-related health problems and to ultimately affect life style disease risks; therefore, more rigorous goals have been proposed and used in recent studies (Irwin *et al.,* 2003, Me. Tieraal A., *et al.,* 1999) [1, 6].

Methodology
Statement of the problem
The purpose of the study was to find out the effect of Physical exercise on resting pulse rate among school students.

Selection of the subjects
To achieve this purpose of the study, forty school students were selected as subjects at random. The age of the subjects were ranged from 14 to 18 years.

Experimental Design
The selected subjects were divided into two equal groups of twenty subjects each, such as a Physical exercise group (Experimental Group) and control group. The experimental group underwent Physical exercise for three days per week for six weeks. Control group, which they did not undergo any special training programme apart from their regular physical activities as per their curriculum. The following physiological variable, namely Resting pulse rate was selected as criterion variable. All the subjects of two groups were tested on selected criterion variable Resting pulse rate was measured through to record the pulse rate the fingertips were placed on the radial artery at the thumb side of the wrist about an inch from the base of the thumb test at prior to and immediately after the training programme.

Statistical tool
The 't' test was used to analysis the significant differences, if any, in between the groups respectively. The 0.05 level of confidence was fixed to test the level of significance which was considered as an appropriate.

Analysis of the data
The significance of the difference among the means of the experimental group was found out by pre-test. The data were analysed and dependent 't' test was used with 0.05 levels as confidence.

Table 1: Analysis of t-ratio for the Pre and Post Tests of Experimental and Control Group on Resting pulse rate Scoring (Number of Beats/one minutes)

Variables	Group	Mean		SD		Sd Error		df	't' ratio
		Pre	Post	Pre	Post	Pre	Post		
Resting Pulse Rate	Control	80.55	80.65	4.03	4.04	0.90	0.90	19	0.41
	Experimental	80.45	78.6	2.98	3.35	0.67	0.75		5.66*

*****Significance at .05 level of confidence.

The Table-I shows that the mean values of pre-test and post-test of the control group on Resting pulse rate were 80.55 and 80.65 respectively. The obtained 't' ratio was 0.41, since the obtained 't' ratio was less than the required table value of 2.14 for the significant at 0.05 level with 14 degrees of freedom it was found to be statistically insignificant. The mean values of pre-test and post-test of the experimental group on Resting pulse rate were 80.45 and 78.6 respectively. The obtained 't' ratio was 5.66* since the obtained 't' ratio was greater than the required table value of 2.14 for significance at 0.05 level with 19 degrees of freedom it was found to be statistically significant. The result of the study showed that there was a significant difference between control group and experimental group in resting pulse rate. It may be concluded from the result of the study that experimental group improved in resting pulse rate due to six weeks of Physical exercise.

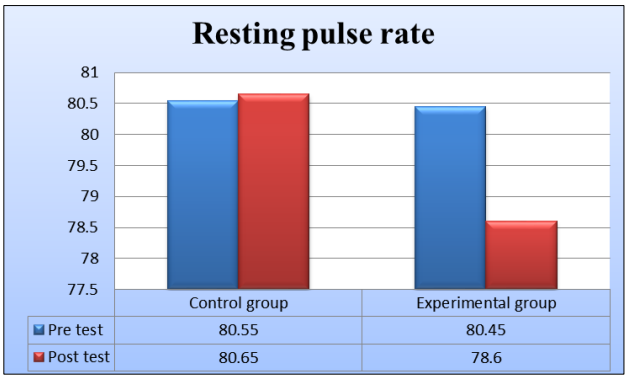

Fig 1: Bar Diagram Showing the Pre and Post Mean Values of Experimental and Control Group on Resting Pulse Rate (Score in Seconds per Minute)

Discussions on Findings

The result of the study indicates that the experimental group, namely Physical exercise group had significantly improved the selected dependent variable, namely Resting pulse rate, when compared to the control group. It is also found that the improvement caused by Physical exercise when compared to the control group.

Conclusions

1. There was a significant difference between experimental and control group on Resting pulse rate after the training period.
2. There was a significant improvement in Resting pulse rate. However the improvement was in favour of experimental group due to six weeks of Physical exercise.

References

1. Belfry GR. *et al.* Effects of 14 sessions of Short-Duration High Intensity Exercise on Resting pulse rate and Performance Time of High-Intensity Cycling, Canadian Centre for Activity and Aging, School of Kinesiology, The University of Western Ontario, London, 2003.
2. Doijad VP, Kamble P, Surdi AD. Effect of Yogic Exercises on Aerobic Capacity (Resting pulse rate). International Journal of Physiology. 2013; 1(2):47-50.
3. Gharote ML. Effect of Yogic Training on Physical Fitness, Yoga Mimamsa. 1973; 15(43).
4. Dubbert PM. Physical activity and exercise: recent advances and current challenges. Journal of Consulting and clinical psychology. 2002; 70:526-536. Dio: 10.1037/0022-0066X.70.3.526.
5. 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): 1-8USDHHS Healthy people 2010 (conference addition in two volumes) Washington DC 2010, 2007.
6. McTiernan A, *et al.* The physical activity for total health (path) study: rational & design. Medicine & science in sports & exercise. 1999; 31:1307-1312. Mehmet Goral, Ozean Journal of applied sciences. 1999; 3(2). 2010 ISSN 1943-2429.