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EFFECT OF AEROBIC EXERCISE ON THE PHYSIOLOGICAL VARIABLES OF RURAL BACKGROUND SPORTSMEN

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ABSTRACT

The present investigation was taken during the year 2014-15 at Charudhary Devi Lal University (Haryana) with an objectives to assess the effect of Aerobic exercise on physiological variables of rural background sports men. The study concluded that 15 week training of aerobic exercise had a positive effect on Body weight, heart rate, hemoglobin, breath hold capacity and blood pressure of rural background sports men. The aerobic exercise reduces the level of Body weight, heart rate, blood pressure and also enhanced the level of breath hold capacity & hemoglobin in blood.

Keywords : Blood pressure, hemoglobin, heart rate, body weight & breath hold capacity.

INTRODUCTION

Aerobics is a fun way to get fit. It combines fat burning aerobic movements, muscle- building exercise and stretching into routines that are performed to music (Aerobe dance, 1997 online)[1] It is usually offered three intercity levels - low, intermediate and high. Low impact is usually for beginners. It is performed at a lower intensity and at slow pace. At the intermediate level, dancers start to receive the benefits of dance aerobics. There lungs and hearts become stronger and more efficient. At the high level intensity participants work extremely hard and this also help the heart and lungs become for efficient and stronger.

Dr. Kamlesh H.Kooper was the founder of aerobics. It was developing of to prevent coronary heart disease. Aerobics is a type of exercise that has many benefits for the body. The first area that benefits is ovrall wellness. It includes five dimensions physical, social, intellectual, occupational, and spiritual. The physical dimension of wellness includes developing cardiovascular endurance, body composition, strengths and flexibility.

All these dimensions are foundational for a health. They build all of each other. If one suffers they all suffer that is why it is important to mind to each area. Aerobics programme can increase the quality of life for all person with special need and contributed to their socialization by spending quality, time with them. Aerobics exercise programmed can be applied for preventions and remedial purpose. The movement's therapy is used for a person of various ages and physical readiness. It established the person psycho motors integrity undermined by the acquired or congential impairment. This type of exercise amiable the performance of movements and motoric exercise of sports person in a unique way.

Numerous studies have examined the effect of aerobic exercise training on physical and mental health[2-3]. Thus aerobic exercise can decrease visceral and subcutaneous fat more effectively than other exercise methods[4-5.] Even though moderate exercises enhance health conditions, there are recent and consistent

evidences that high intensity or strenuous exercises have evenmore significant positive effects on lipid profile[6], reducing up to two times mortality rates over a decade[7-10].

Acute and chronic effects of physical exercises on the human body have been targeted by many researches over the last few decades[11-16].

Not much researcher have been carried out to find the effect of aerobics on the sports person. There for the present study was carried out to find the effect of aerobic exercise on the body weight, blood pressure, heart rate, breath hold capacity and hemoglobin of sports men of rural background.

OBJECTIVES OF THE STUDY

To find out whether there was any effect of aerobic exercises on different physiological variables- body weight, heart rate, blood pressure, Breath hold capacity & hemoglobin of sports person.

MATERIAL AND METHODS

The methods of study were spited our following heads :

- Sampling :
  In the present study, a purpose sampling plan was used for selecting the samples. The present investigation was conducted on a total 25 male rural area background sport men between the age of 16 to 25 years.
- Collection of the data :
  The selected sample went through training for 15 weeks under the supervision of yoga experts and researchers. The intervention consists of different type aerobic exercises were performed 60 minutes in the morning. These variables (Body weight, heart rate, breath hold capacity, blood pressure and hemoglobin) were determine in pre test sample on the first and post test samples on the last day of the training. After getting the reports of both the samples, the data was analysed statistically.
- Statistical procedures : Keeping the view the object as well as design of the study, the appropriate statistical techniques such as t-test, SD and mean were used to analyzed the data.

RESULT & DISCUSSION

Table 1 Mean SD and 't' ratio of pre and post test of rural background sports men on body weight.

Sources	N	Mean	SD	't' ratio
Pre test	25	67.88	9.09	3.93**
Post test	25	59.84	4.66	

**significant of .01 level of confidence.

Table 1 shows that he 't' ratio 3.93** have a high significant difference at .01 level of confidence. The lower mean value (59.84) of post test body weight as compare to the pre test mean value (67.88) shows that the aerobic exercise have a positive effect on reducing the level of body weight of sports men.

Table 2 Mean SD and 't' ratio of pre and post test of rural background sports men on breath hold capacity.

Sources	N	Mean	SD	't' ratio
Pre test	25	36.72	4.13	4.19**
Post test	25	40.84	2.64	

**significant of .01 level of confidence.

Table 1 shows that he 't' ratio 4.19** have a high significant difference at .01 level of confidence. The higher mean value (40.84) of post test breath hold capacity as compare to the pre test mean value (36.72) shows that the aerobic exercise have a positive effect & increase the level of breath hold capacity of sports men.

Table 3 Mean SD and 't' ratio of pre and post test of rural background sports men on Heart Rate.

Sources	N	Mean	SD	't' ratio
Pre test	25	73.68	3.90	3.19**
Post test	25	70.80	2.25	

**significant of .01 level of confidence.

Table 3 shows that the't' ratio 3.19** have a high significant difference at .01 level of confidence. The lower mean value (70.80) of post test heart rate as compare to the pre test mean value (73.68) shows that the aerobic exercises have a positive effect on reducing the level of heart rate of sports men.

Table 4 Mean SD and 't' ratio of pre and post test of rural background sports men on Hemoglobin.

Sources	N	Mean	SD	't' ratio
Pre test	25	10.16	0.77	7.76**
Post test	25	12.48	1.28	

**significant of .01 level of confidence.

Table 4 shows that the 't' ratio 7.76** have a high significant difference at .01 level of confidence. The lower mean value (1.28) of post test hemoglobin as compare to the pre test mean value (73.68) shows that the aerobic exercise have a positive effect on increase the level of hemoglobin of sports men.

Table 5 Mean SD and 't' ratio of pre and post test of sports men (Rural) on Systolic Blood pressure.

Sources	N	Mean	SD	't' ratio
Pre test	25	127.20	7.37	4.23**
Post test	25	120.40	3.20	

**significant of 0.01 level of confidence.

Table 5 shows that the't' ratio 4.23** have a high significant difference at .01 level of confidence. The lower mean value (120.40) of post test Systolic Blood pressure as compare to the pre test mean value (127.20) shows that the aerobic exercise have a positive effect on reducing the level of Systolic Blood pressure of sports men.

Table 6 Mean SD and't' ratio of pre and post test of rural background sports men on Diastolic Blood pressure.

Sources	N	Mean	SD	't' ratio
Pre test	25	83.80	3.89	1.50
Post test	25	82.40	2.54	

Table 6 shows that the't' ratio 1.50 have a not significant difference at .05 level of confidence. There is no significant difference between the pre test (83.80) and post test (82.40) mean values of Diastolic Blood

pressure. It shows that the aerobic exercise have no significant effect on the Diastolic Blood pressure of sports men.

Conclusion :

Based on the present study, it was calculated that the yoga training that was given had a positive effect on reducing the level of body weight, blood pressure, heart rate were found to be beneficial in enhancing the breath hold capacity level in the rural area sports men. Thus if followed correctly and scientifically examined, aerobic can be promising investigation in improving the pathology of definite conditions among rural area sports men. Studies by Toy[17], Pollock[18] et al, Zent Kuma[19] also support the finding of the present study. They had concluded that the aerobic exercise helps in reducing the body weight, blood pressure, heart rate and body fat.

REFERENCE

1. Aerobic Dance. (1997) Georgia State University Retrieved April 21, 2005 from http://www2.gsu.edu/zwww.fit/aerobicdhtml#guideliens.
2. Helper T, McCubbin JA, Drum C, Peterson J. Physical activity and nutrition health promotion interventions. What is working for people with intellectual disabilities? Intellect Dev Disabil 2011 ; 49(1) :26-36.
3. Wu Cl, Lin JD, Hu J, et al. The effectiveness of healthily physical fitness, programs on people with intellectual disabilities living in a disability living in a disability institution six month short term effect Res Dev Disabil 2010 : 31 (3) : 713-7
4. Abe T. Kawakami Y, Sugita M, Fukunaga T. Relationship between traiing frequency and subcutaneous and visceral fat in women. Medei SCi Sports Exerc 1997 : 29(12) " 1549-53.
5. Stentz CA, Aiken LB, HOumard JA et al. inactivity, exercise and viscerat fat. STRRIDE: a randomized, controlled, controlled study of exercise intensity and amount J Appl Physiol 2005 : 99(4) : 1613-8.
6. Kraus WE, Houmard JA, Duscha BD, Knetzger KJ, Whaton MB, McCartney JS, et al. effects of the amount and intensity of exercise on plasma lipoproteins N Engl J Med 2002;347:1483-92.
7. Paffenbarger RS, Lee IM. Physical activity and fitness for health and longevity Res Q Exerc Sport 1996;67:11-28.
8. Manson JE, Hu FB, Rich-Edwards JW, Colditz GA, Stampfer MJ, Willett WC, et al. A prospective study of walking as compared with vigorous exercise in the prevention of coronary heart disease in women. N Engl J Med. 1999;341:650-8.
9. Manson JE, Greenland P, LaCroix AZ, Stenfanick ML, Mouton CP, Otherman A, et al. Walking compared with virorous exercise for the prevention of cardiovascular events in women. N Engl J Med 2002;347:716-25.
10. Tanasecu M, Leizmann MF, Rimm EB, Willet WC, Stampfer MJ, Hu FB Exercise type and intensity in relation to coronary disease in men. JAMA 2002:288:1994-2000.
11. Notin S, Vinet A. Steeken F. N'Guyen LD, Ounissi F, Lecoq AM, Obert P. Central and peripheral cardiovascular adaptations to exercise in endurance-trained children Acta Physiol Scand 2002;175:85-92.
12. McGuirre DK, Levine BD, Williamson JW, Senell PG, Blomqvist CG, Saltin B, et al. A 30-year follow up of the Dallas Bed Rest and Training Study. The effect of age on the cardiovascular response to exercise. Circulation 2001;104:1350-7.
13. McGuirre DK, Levinee BD, Williamson JW, Snell PG, Blomqvist CG, Saltin B, et al A 30-year follow-up of the Dallas Bed Rest and Training study. The effect of age on the cardiovascular adaptation to exercise.
14. Stration JR, Levy WC, Cerqueira MD, Schwartz RS, Abrass IB. Cardiovascular responses to exrercise. Effect of aging and exercise training in healthy men, Circulation 1994;89:1648-55.
15. Nobega ACL, Williamson JW, Araujo CGS, Friendman DB, Heart rate and blood pressure responses at the onset of dynamic exercise: effect of Valsala manoeuvre Eur J Appl Physiol 1994;68-336-40.
16. Ekblom B, Astrand PO, Saltin B, Stenberg J, Wallstom B. Effect of training on circulatory response to exercise. J Appl Physiol 1968-24:518-28.

17. C.T.Toy, "Effect of Aerobic dance Training on VO2Max and Body composition in Early Middle Age Women", Journal of physical education and exercise Science. VOL.1(JANUARY,2008).p.69.
18. L.Michal Pollack and Associate, "Effect of Walking on Body composition and cardiovascular function of Middle Aged Men", Journal of Applied Physiology VOL.I (March 1971), P. 106.
19. R.S. Van Zent and S.H. Kusma, "Effect of community based exercise and education on individual fitness in a corporate setting", Research Quarterly for exercise and Sport Abstract of Completed Research Supplement, Vo. 64 (March 1993), P. 104.