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# Effect of Aerobic Exercise on the Physiological Variables of Rural Background Sports Women

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***Abstract – The present investigation was taken during the year 2014-15 at Charudhary Devi Lal University (Haryana) with an objective to assess the effect of Aerobic exercise on physiological variables of rural background sports women. 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 women. 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.***

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## 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) (Aerobic Dance, 1997). 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. Their 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 overall 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 program 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 congenital impairment. This type of exercise amiable the performance of movements and metric exercise of sports person in a unique way. Numerous studies have examined the effect of aerobic exercise training on physical and mental health (Helper *et. al.,* 2011. Wu *et al.,* 2010). Thus aerobic exercise can decrease visceral and subcutaneous fat more effectively than other exercise methods (Abe *et. al.,* 1997. Stentz *et al.,* 2005). Even though moderate exercises enhance health conditions, there are recent and consistent evidences that high intensity or strenuo us exercises have even more significant positive effects on lipid profile6, reducing up to two times mortality rates over a decade (Kraus *et al.,* 2002. Paffenbarger, Lee, 1996. Manson *et al.,* 1999. Manson *et al.*, 2002). Tanasecu *et. al.,* 2002). Acute and chronic effects of physical exercises on the human body have been targeted by many researches over the last few decades (Notin *et. al.,* 2000. McGuirre *et. al.,* 2001. McGuirre *et. al.* Stration *et. al.,* 1994. Nobega *et. al.,* 1994. Ekblom *et. al.,* 1968). Not much researcher has 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 rural background sports women.

## 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 women between the ages of 16 to 25 years.

- **Collection of the Data:**

The selected sample went through training for 15 weeks under the supervision of aerobic 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 pretest 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 analyzed 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 ANALYZE the data.

## RESULT & DISCUSSION

**Table 1**: Mean, SD and 't' ratio of pretest and posttest of rural background sports women on body weight.

| Sources | N | Mean | S.D. | t-ratio |
|---|---|---|---|---|
| Pre test | 25 | 63.72 | 6.03 | 3.44** |
| Post test | 25 | 58.72 | 4.02 | |

**Significant at .01 level of confidence.

**Table 1** Point out that the t-ratio, S.D. and mean score of pre and posttest of aerobic exercises on body weight. The t-ratio 3.44 was significant at .01 level of confidence. There was significant difference between the pretest (63.72) mean value and posttest (58.72) mean value shows that the aerobic exercises have a positive effect on reducing the level of body weight of rural sports women.

**Table 2** : Mean, SD and 't' ratio of pretest and posttest of rural background sports women on systolic blood pressure

| Sources | N | Mean | S.D. | t-ratio |
|---|---|---|---|---|
| Pre test | 25 | 127.60 | 5.22 | 4.33** |
| Post test | 25 | 122.40 | 2.92 | |

**Significant at .01 level of confidence.

**Table 2**: Demonstrates that the t-ratio, S.D. and mean score of pre and posttest of aerobic exercises on systolic blood pressure. The t-ratio 4.33 was significant at .01 level of confidence. There was significant difference between the pretest (127.60) mean value and posttest (122.40) mean shows that the aerobic exercises have a positive effect on reducing the level of systolic blood pressure of rural sports women.

**Table 3** : Mean, SD and 't' ratio of pretest and posttest of rural background sports women on diastolic blood pressure.

| Sources | N | Mean | S.D. | t-ratio |
|---|---|---|---|---|
| Pre test | 25 | 84.80 | 3.94 | 0.78 |
| Post test | 25 | 84.00 | 3.22 | |

Not significant.

**Table 3:** Represents that the t-ratio, S.D. and mean score of pre and posttest of aerobic exercises on diastolic blood pressure. The t-ratio 0.78 was not significant of confidence. There was no significant difference between the pretest (84.80) mean value and posttest (84.00) mean value shows that the aerobic exercises have no significance effect the level of diastolic blood pressure of rural sports women.

**Table 4**: Mean, SD and 't' ratio of pretest and posttest of rural background sports women on hemoglobin.

| Sources | N | Mean | S.D. | t-ratio |
|---|---|---|---|---|
| Pre test | 25 | 8.96 | 0.97 | 10.04** |
| Post test | 25 | 11.64 | 0.90 | |

**Significant at .01 level of confidence.

**Table 4**: Shows that the t-ratio, S.D. and mean score of pre and posttest of aerobic exercises on hemoglobin. The t-ratio 10.04 was significant at .01 level of confidence. There was significant difference between the pretest (8.96) mean value and posttest (11.64) mean value shows that the aerobic exercises have a positive effect on increasing the level of hemoglobin of rural sports women.

**Table 5** : Mean, SD and 't' ratio of pretest and posttest of rural background sports women on breath hold capacity.

| Sources | N | Mean | S.D. | t-ratio |
|---|---|---|---|---|
| Pre test | 25 | 24.12 | 2.18 | 7.32** |
| Post test | 25 | 28.44 | 1.98 | |

**Significant at .01 level of confidence

**Table 5** Illustrates that the t-ratio, S.D. and mean score of pre and posttest of aerobic exercises on breath hold capacity. The t-ratio 7.32 was significant at .01 level of confidence. There was significant difference between the pretest (24.12) mean value and posttest (28.44) mean value shows that the aerobic exercises have a positive effect on increasing the level of breath hold capacity of rural sports women.

**Table 6:** Mean, SD and 't' ratio of pretest and posttest of rural background sports women on heart rate

| Sources | N | Mean | S.D. | t-ratio |
|---|---|---|---|---|
| Pre test | 25 | 73.20 | 3.18 | 3.13** |
| Post test | 25 | 70.88 | 1.87 | |

**Significant at .01 level of confidence.

**Table 6** Indicates that the t-ratio, S.D. and mean score of pre and posttest of aerobic exercises on heart rate. The t-ratio 3.13 was significant at .01 level of confidence. There was significant difference between the pretest (73.20) mean value and posttest (70.88) mean value shows that the aerobic exercises have a positive effect on reducing the level of heart rate of rural sports women.

## CONCLUSION:

Based on the present study, it was calculated that the Aerobic 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 and hemoglobin in the rural background sports women. Thus if followed correctly and scientifically examined, aerobic can be promising investigation in improving the pathology of definite conditions among rural background sports women. Studies by Toy (Toy, 2008), Pollock (Michal, 1971). Zent Kumar (Van Zent, Kusma, 1993). 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.

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