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Effect of Aerobic Dance Training on Selected Physiological Variables of Varsity Students

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ABSTRACT

The purpose of the study was to find out the Effect of Aerobic dance training on selected Physiological variables of varsity students. Sixty (age 18 and 18+) women students are randomly selected from Avinashilingam Institute. The subjects are divided randomly in two equal groups namely experimental group (N-30) and control group (N-30). Experimental group will undergo Aerobic dance Training for a period of twelve weeks. The subjects in control group are not engaged in any training programme. The variables selected for physiological parameters were resting pulse rate, breath holding time and Vo2 max. The study was formulated as a random group design. 't' test was done for finding whether there was any statistically significant pre-test to post-test mean differences in their respective variables of each groups. The results of the present study indicates that Aerobic dance training programmes effective method to produce significant changes in the variables selected for physiological parameters were resting pulse rate, breath holding time and Vo2 max due to twelve weeks of aerobic dance training.

1. Introduction

"Aerobic dance" is a particular form of aerobic exercise. Aerobic dance classes generally involve rapid stepping patterns, performed to music with cues provided by an instructor. This type of aerobic activity became quite popular in the United States after the 1970 publication of The New Aerobics by Dr. Kenneth H. Cooper, and went through a brief period of intense popularity in the 1980s, when many celebrities (such as Jane Fonda and Richard Simmons) produced videos or created television shows promoting this type of aerobic exercise. Group exercise aerobics can be divided into two major types: freestyle aerobics and pre-choreographed aerobics. **(The World Book Encyclopedia, 1993**)

2. Benefits of Aerobic Dance

Aerobics and step aerobics are more efficient methods to decrease the percentage of body fat to attain the other metabolic benefits of fitness. It is also a very good way to develop musculoskeletal fitness such as strength, flexibility, balance and coordination. Aerobic exercise has positive effects on stamina, blood pressure, weight, sleep patterns, energy levels, lipid profiles, and can reduce the risk of cardio vascular diseases, diabetes and certain type of cancer.

3. Methodology

The experimental model of the Aerobic dance is realized six times a week, over a period of twelve weeks, and the duration of each individual exercise is 60 minutes. The influence of Aerobic dance training will be assessed on selected Physiological variables by using following standard tests.

S. No	Variables	Test/ Tools Administered	Unit of Measurements
Physiological Variables			
1.	Resting pulse rate	Bio monitor	Beats/minute
2.	Breath holding time	Nose clip	Seconds
3.	Vo_2 max	Queen's college step test	Ml/kg/min

4. Results of the Study

In analysing the t test,'t' ratio needed was (2.045) at P<0.05 level of confidence for the degrees of freedom 1 and 29. The procedure of accepting the hypothesis or rejecting the hypothesis in accordance with the results obtained in relation to the level of significance was considered sufficient for the study. The level of significance was fixed at 0.05 level.

TABLE - 1
Computation of 't'ratio on Resting Pulse Rate of Aerobic Dance training group and Control group (Scores in seconds)

Groups	Pre – test mean	Pre – test S. D (±)	Post - test mean	Post – test S. D (±)	't' ratio
Aerobic dance training (ADT)	79.17	8.52	71.27	8.47	3.6*
Control group(CG)	76.37	8.76	76.70	8.71	0.15

* Significant at 0.05 level for the degrees of freedom 1 and 29, 2.045

Table 1 shows that the't' ratios on resting pulse rate of ADT was 3.6*. Since, these values were higher than the required table value of 2.045, it was found to be statistically significant at 0.05 level of confidence for degrees of freedom1 and 29. Further, the obtained 't' ratio between pre and post test of control group 0.15 was lesser than the required table value of 2.045and was found to be not statistically significant. From the results it was inferred that, aerobic dance training produced a significant improvement (reduced) in resting pulse rate of varsity women.

TABLE - 2
Computation of 't'ratio on Breath Holding Time of Aerobic Dance training group and Control group (Scores in seconds)

Groups	Pre – test mean	Pre – test S. D (±)	Post - test mean	Post – test S. D (±)	't' ratio
Aerobic dance training (ADT)	18.90	4.89	22.87	5.99	2.81*
Control group(CG)	24.23	9.02	23.53	8.99	0.30

* Significant at 0.05 level for the degrees of freedom 1 and 29, 2.045

Table 2 shows that the't' ratios on breath holding time of ADT was 2.81*. Since, these values were higher than the required table value of 2.045, it was found to be statistically significant at 0.05 level of confidence for degrees of freedom1 and 29. Further, the obtained't' ratio between pre and post test of control group 0.30 was lesser than the required table value of 2.045and was found to be not statistically significant. From the results it was inferred that, aerobic dance training produced a significant improvement (increased) in breath holding time of varsity women.

TABLE - 3
Computation of 't'ratio on Vo_2 max of Aerobic Dance training group and Control group (Scores in seconds)

Groups	Pre – test mean	Pre – test S. D (±)	Post - test mean	Post – test S. D (±)	't' ratio
Aerobic dance training (ADT)	22.15	4.83	25.08	4.66	19.22*
Control group(CG)	21.63	5.03	21.11	4.89	1.14

* Significant at 0.05 level for the degrees of freedom 1 and 29, 2.045

Table 3 shows that the't' ratios on Vo_2 max of ADT was 19.22*. Since, these values were higher than the required table value of 2.045, it was found to be statistically significant at 0.05 level of confidence for degrees of freedom1 and 29. Further, the obtained't' ratio between pre and post test of control group 1.14 was lesser than the required table value of 2.045and was found to be not statistically significant. From the results it was inferred that, aerobic dance training produced a significant improvement (increased) in Vo_2 max of varsity women.

5. Discussion

The results of the findings were discussed under the pertinent area of Aerobic Dance Training (ADT). The results of the present study indicates that aerobic dance training programme is effective method to produce significant changes in the selected physiological variables of resting pulse rate, breath holding time and vo_2max due to twelve weeks of aerobic dance training.

6. Conclusion

It was concluded that the aerobic dance training programme for a period of 12 weeks produced significant changes in Physiological variables of college women.

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