Effect of Yogic Practice with Aerobic Exercise on Selected Kinanthropometric Physical and Physiological variables of Urban Obese School Students

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Abstract

The target of the present study was to find out the impact of yogic practice with aerobic exercise on kinanthropometric physical and physiological variables of urban obese school students. To achieve the purpose of the study, thirty obese from the urban school students, Ranga Reddy district, were selected as subjects at random and their age group range between 14 to 17 years. The study was formulated as pre and post test random group design, in which thirty urban obese school students were divided into two equal groups. The experimental group-1(n=15) underwent Yogic practice with aerobic exercise and group -2 served as control group (n=15). In this study, only one training program were adopted as independent variables and ability of cardiovascular endurance breath holding time and body mass was selected as dependent variable and it was tested by 9 minutes run/walk, performance was recorded in meters, Nose holding method was recorded in seconds and BMI was recorded in Kg/m². The training period of this intervention 6 days in a week for twelve weeks. The collected pre and post data was critically analyzed with dependent ‘t’ test. The level of significance was fixed at 0.05 levels for all the cases in order to find out the significance. The result clearly proved that the yogic practice with aerobic exercise demonstrated better improvement on cardiovascular endurance breath holding time and body mass.
**Key words**: Yogic practice, Aerobic exercise, Cardiovascular endurance, Breath holding time and Body Mass Index (BMI).

**INTRODUCTION**

Cardio exercise is any exercise that raises your heart rate. Face it our bodies were made to move. And we all know that to keep our muscles in shape we need move them. This movement makes them stronger and stronger muscles make for a more efficient and healthy body. The center for disease control and preventing defined overweight as at or above the 95th percentile of BMI for age and at risk for overweight as between 85th to 95th percentile of BMI for age Kumaravelu P and Govindasamy K., et al (2018). Yogic practices composed of dynamic muscular movements synchronized with deep rhythmic breathing. Originating in the ancient East, yoga has gained massive popularity in the modern western world. Its image has evolved from those photos we may have seen of the extraordinary practice of unbelievably flexible cotton-clad ascetics in India, or the seventies hobby of hippy types! Yoga has become part of the chosen lifestyle of thousands of westerners seeking some real balance, health and well-being in their lives. Experiences of yoga can be close to nature, out of doors or on bumpy ground in large tents with slightly sloppy carpets on summer retreats or at festivals. However, it is also common now to see the wonderfully tranquil and well-equipped yoga studios in the towns and cities too. Yoga teachers seem to be possibly even hipper than DJs these days, making their own tracks by bicycle, scooter, or nippy Mini through city streets from one class to another, taking life at their own chosen pace, holidaying in stunning places, teaching the much-appreciated techniques and principles of yoga to grateful and enthusiastic city dwellers. On the other hand, one of the ways to control obesity and related disease is to do physical activity Govindasamy K., (2017). There are yoga magazines, gorgeous yoga holidays and a rainbow of great yoga kit you can buy. But when it comes down to it, all you really need to benefit from the ancient wisdom of yoga is your own body, mind and spirit, some self-discipline, and a decent teacher to get you started.
Aerobics is a form of physical exercise that combines rhythmic aerobic exercise with stretching and strength training routines with the goal of improving all elements of fitness (flexibility, muscular strength, and cardio-vascular fitness). It is usually performed to music and may be practiced in a group setting led by an instructor (fitness professional), although it can be done solo and without musical accompaniment. With the goal of preventing illness and promoting physical fitness, practitioners perform various routines comprising a number of different dance-like exercises. Formal aerobics classes are divided into different levels of intensity and complexity and will have five components: warm-up (5–10 minutes), cardiovascular conditioning (25–30 minutes), muscular strength and conditioning (10–15 minutes), cool-down (5–8 minutes) and stretching and flexibility (5–8 minutes). Aerobics classes may allow participants to select their level of participation according to their fitness level. Many gyms offer different types of aerobic classes. Each class is designed for a certain level of experience and taught by a certified instructor with a specialty area related to their particular class.

**METHODS AND TOOLS**

To achieve the purpose of the study thirty urban obese school students in the age group of 14 to 17 years were selected as subjects at random of Ranga Reddy District. The study was formulated as pre and post test random group design, in which thirty subjects were divided into two equal groups. The experimental group I undergone (n=15, YWAG) for yogic practice with aerobic exercises and group II served as control group purpose. In this study, one training program were adopted as independent variables and the cardiovascular endurance breath holding time and body mass was selected as dependent variable and it was tested by 9 minutes run/ walk, performance was recorded in meters, Nose holding meth was recorded in seconds and BMI was recorded in Kg. The performance of the subjects were recorded in seconds and BMI was recorded in Kg. The one intervention group was performed 6 days in per week for 12 weeks. The collected pre and post data was critically analyzed with dependent ‘t’ test was applied for the determined mean differences. The level of confidence was fixed at 0.05 levels for all the cases in order to find out the significance.
**TRAINING PROGRAMME**

The training programme was lasted for 60 minutes for session in a day, 6 days in a week for a period of 12 weeks duration. These 60 minutes included warm up for 10 minutes, 20 minutes Yogic practice after 25 minutes aerobic exercise and 5 minutes warm down. The equivalent in yogic practice with aerobic exercise is the length of the time each action in total 6 day per weeks. (Monday to Saturday)

**TABLE - I**

**COMPUTATION OF ‘T’ RATIO ON CARDIO VASCULAR ENDURANCE OF EXPERIMENTAL GROUP AND CONTROL GROUP**

(Scores in beat/min/seconds)

<table>
<thead>
<tr>
<th>Group</th>
<th>Test</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>T ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiovascular</td>
<td>Pre test</td>
<td>716.25</td>
<td>21.57</td>
<td>38.43*</td>
</tr>
<tr>
<td>Group</td>
<td>Post test</td>
<td>748.15</td>
<td>23.03</td>
<td></td>
</tr>
<tr>
<td>Control Group</td>
<td>Pre test</td>
<td>716.50</td>
<td>16.31</td>
<td>1.37</td>
</tr>
<tr>
<td></td>
<td>Post test</td>
<td>715.75</td>
<td>17.34</td>
<td></td>
</tr>
</tbody>
</table>

*significant level 0.05 level (degree of freedom 2.14, 1 and 14)

Table I reveals the computation of mean, standard deviation and ‘t’ ratio on cardiovascular endurance of experimental and control group. The obtained ‘t’ ratio on cardiovascular endurance were 38.43 and 1.37 respectively. The required table value was 2.14 for the degrees of freedom 1 and 14 at the 0.05 level of significance. Since the experimental group ‘t’ values were greater than the table value of 2.14, it was found to be statistically significant. The control group ‘t’ value is less then table value of 2.14 it was found to be statistically insignificant.
BAR DIAGRAM SHOWING THE MEAN VALUE ON CARDIOVASCULAR ENDURANCE OF SCHOOL BOYS ON EXPERIMENTAL GROUP AND CONTROL GROUP

![Bar Diagram](image)

TABLE – II

COMputation of ‘T’ RATIO ON BREATH HOLDING TIME OF EXPERIMENTAL GROUP AND CONTROL GROUP

(Scores in beat/min/seconds)

<table>
<thead>
<tr>
<th>Group</th>
<th>Test</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>T ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breath Holding</td>
<td>Pre test</td>
<td>27.10</td>
<td>1.84</td>
<td>22.26*</td>
</tr>
<tr>
<td>Time</td>
<td>Post test</td>
<td>32.50</td>
<td>1.83</td>
<td></td>
</tr>
<tr>
<td>Control Group</td>
<td>Pre test</td>
<td>26.43</td>
<td>2.27</td>
<td>1.21</td>
</tr>
<tr>
<td></td>
<td>Post test</td>
<td>26.93</td>
<td>2.33</td>
<td></td>
</tr>
</tbody>
</table>

*significant level 0.05 level (degree of freedom 2.14, 1 and 14)

Table II reveals the computation of mean, standard deviation and ‘t’ ratio on breath holding time of experimental and control group. The obtained ‘t’ ratio on breath holding time
were 22.26 and 1.21 respectively. The required table value was 2.14 for the degrees of freedom 1 and 14 at the 0.05 level of significance. Since the experimental group ‘t’ values were greater than the table value of 2.14, it was found to be statistically significant. The control group ‘t’ value is less than the table value of 2.14, it was found to be statistically insignificant.

**FIGURE- II**

**BAR DIAGRAM SHOWING THE MEAN VALUE ON BREATH HOLDING TIME OF SCHOOL BOYS ON EXPERIMENTAL GROUP AND CONTROL GROUP**

**TABLE – III**

**COMPUTATION OF ‘T’ RATIO ON BODY MASS INDEX OF EXPERIMENTAL GROUP AND CONTROL GROUP**

(Scores in beat/min/seconds)

<table>
<thead>
<tr>
<th>Group</th>
<th>Test</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>T ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body Mass</td>
<td>Experimental</td>
<td>Pre test</td>
<td>23.54</td>
<td>0.64</td>
</tr>
</tbody>
</table>

*www.turkjphysiotherrehabil.org*
Table II reveals the computation of mean, standard deviation and ‘t’ ratio on body mass index of experimental and control group. The obtained ‘t’ ratio on body mass index were 4.12 and 0.79 respectively. The required table value was 2.14 for the degrees of freedom 1 and 14 at the 0.05 level of significance. Since the experimental group ‘t’ values were greater than the table value of 2.14, it was found to be statistically significant. The control group ‘t’ value is less then table value of 2.14 it was found to be statistically insignificant.

FIGURE- II
BAR DIAGRAM SHOWING THE MEAN VALUE ON BODY MASS INDEX OF SCHOOL BOYS ON EXPERIMENTAL GROUP AND CONTROL GROUP
DISCUSSION ON FINDINGS

The present study experimented the effect of yogic practice with aerobic exercise on selected parameters of urban obese school students. The result of the study shows that the yogic practice with aerobic exercise improved the cardiovascular endurance, breath holding time and body mass index. The findings of the present study had similarity with the findings of the investigations referred in this study. However, there was a significantly changes of subjects in the present study the cardiovascular endurance, breath holding time and body mass index was significantly improved of subject in the group may be due to the in yogic practice with aerobic exercise. Luo, J., et al., (2019). Effect of yoga combined with aerobic exercise intervention on morphological and blood lipid indicators in female college students. NishaShinde, S. K., et al., (2013). A comparative study of yoga and aerobic exercises in obesity and its effect on pulmonary function. J. Diabetes Metab, 4, 4. Devi, L. B. S. (2021). Effect of Aerobic and Yogic Training On Body Composition Among Sedentary Women Of Manipur. According to these results; it can be said that regular, structured and planned yogic practice with aerobic exercise for 12 weeks of urban obese school students who have a positive effect on improving their changes.

Conclusion

From the results of the study and discussion the following conclusions were drawn.

The results of the present study demonstrated that 12 weeks of yogic practice with aerobic exercise increased the cardiovascular endurance, breath holding time and body mass index of urban obese school students. Therefore, it is suggested that yogic practice with aerobic exercise should be used as an effective strategy to promote improvements in the functional fitness of obese. Its low operational cost, easy applicability, high attendance rate, and the fact that it can be performed by many individuals of different fitness levels at the same time make this modality viable to be implemented in any community center. Physiological competency appears to be a better predictor of school boys yogic practice with aerobic exercise during physical activity opportunities than breathing competency. Findings from the current study substantially contribute to the understanding of yogic practice with
aerobic exercise in urban obese school boys and will assist in evidence-based intervention design to increase cardiovascular endurance, breath holding time and body mass index.

REFERENCE


