INTRODUCTION

Physical fitness is generally categorized into performance related fitness and health related fitness so as to distinguish general fitness from specific fitness. Fitness for sport is specific and essentially performance related. Health related fitness often called general fitness, is a generalized term referring to the ability of a person to carry out his/her daily routines without undue fatigue and maintain that level for a minimum of 20 consecutive minutes. Achieving an “aerobic effect” can be defined as participating in a physical activity that elevates your heart rate to your target heart rate and maintains that level for a minimum of 20 consecutive minutes.

Health related physical fitness refers to those components of fitness that benefit from a physically active lifestyle and relate to health. Components of fitness that are affected favorably or unfavorably by habitual physical activity and related to health status. This has been defined as a state characterized by an ability to perform daily activities with vigor and demonstration of general wellbeing. Health related fitness may be defined as that state of wellbeing in which every individual would:

- Seek protection against disease
- Tackle problems of being obese (over-weight)
- Manage muscle and joint disorders
- Strive to be mentally balanced; and socially well-adjusted.

Health related physical fitness is a measure of a person's ability to perform physical activities that require endurance, strength and flexibility. This type of fitness is achieved through a combination of regular exercise and inherent ability. The components of health related physical fitness are cardiovascular endurance, muscular strength, muscular endurance, flexibility and body composition as they relate specifically to health enhancement.

Bouchard, 2007) “Health related fitness is a measure of a person’s ability to perform physical activities that require endurance, strength and flexibility. This type of fitness is achieved through a combination of regular exercise and inherent ability. The components of health related physical fitness are cardiovascular endurance, muscular strength, muscular endurance, flexibility and body composition as they relate specifically to health enhancement”.

Siedentop, 1998). According to current thinking in the physical education profession, physical fitness is either Health related or performance related. In keeping with wellness trends today and an emphasis on all aspects of healthful living in addition to stress reduction and motor skill related to fitness. This aspect of physical fitness concerns the development of qualities necessary to function efficiently and maintain a Healthy lifestyle. Each if the components of health related fitness cardio respiratory endurance, muscular strength and endurance, flexibility and body composition.

OBJECTIVE OF THE STUDY

The purpose of the study was to find out the effects of aerobic training on Health Related Fitness variables of college women.

METHODOLOGY

In this section the procedure for selection of subjects, selection of variables criterion measures, experimental design, procedure for administration of tests, administration of training programme and the statistical technique employed for analysis of data have been describe.

SELECTION OF SUBJECTS:

Since the purpose of the study was to analyze the changes that may occur in the adult person, as a result of aerobic training, it was considered necessary to choose untrained individuals who were not in any of the games or sports team or in any training or coaching programme. For this purpose ninety college women individuals free from deformities and ailments were selected randomly from Sagar Mahavidyalaya.

The requirements of the project were explained to the entire subject and all of them agreed voluntarily to undergo the testing and training programmes. A thorough orientation of the rigid requirements of the experimental procedure, as well as the exercise schedule were explained to them so that there was no ambiguity of what effort was required on their part and what hardship they might have to endure.

SELECTION OF THE VARIABLES:

The research scholar had gone through both critical as well as allied literature related to the problem. Keeping in the mind, the availability of equipment's acceptability to the subjects and the legitimate time that would be devoted for test in relation to the treatment (experimental variables) requirements and to keep the entire study unitary and integrated, the following Health related fitness variables.

HEALTH RELATED FITNESS VARIABLES

1. Cardio respiratory endurance
2. Body composition

CRITERION MEASURES:

Cardio Respiratory Endurance was measured through cooper 12 min walk and run test and Body Composition was measured through subjects Body Mass Index by taking the subjects body weight and height.

KEY WORDS:

Cardio Respiratory Endurance, Body Composition (BMI)

REFERENCES:

Siedentop, 1998).

Sagar Mahavidyalaya
STATISTICAL PROCEDURE:
To compare the significance of mean difference among the experimental and control group on the selected variables, the analysis of covariance was applied. The label of significance was set at 0.05.

RESULTS OF THE STUDY

TABLE-1

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>SUM OF SQUARES</th>
<th>DF</th>
<th>MEAN SQUARE</th>
<th>F</th>
<th>SIG</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRE</td>
<td>16626.737</td>
<td>1</td>
<td>16626.737</td>
<td>617</td>
<td>434</td>
</tr>
<tr>
<td>TRAINING</td>
<td>775356.902</td>
<td>2</td>
<td>387678.451</td>
<td>14.390</td>
<td>0.000</td>
</tr>
<tr>
<td>ERROR</td>
<td>2316963.263</td>
<td>86</td>
<td>26941.433</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CORRECTED ED TOTAL</td>
<td>3142410.00</td>
<td>89</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Show the F-value [F(2,86)=14.390] for comparing the adjusted means of criterion variable in three aerobic training groups.

Since F-statistics is significant, post-hoc comparison has been made for the adjusted means of the three training groups, which is shown in table-

TABLE-2 CARDIO RESPIRATORY ENDURANCE

<table>
<thead>
<tr>
<th>GROUP</th>
<th>PRE TEST MEAN</th>
<th>POST TEST MEAN</th>
<th>ADJUSTED MEAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXP. GRP. 1</td>
<td>1837</td>
<td>2118</td>
<td>2114.63</td>
</tr>
<tr>
<td>EXP. GRP. 2</td>
<td>1775</td>
<td>1962</td>
<td>1985.67</td>
</tr>
<tr>
<td>CONT. GRP. 3</td>
<td>1810</td>
<td>1887</td>
<td>1986.70</td>
</tr>
</tbody>
</table>

CARDIO RESPIRATORY ENDURANCE

FIGURE-1: PRE, POST AND ADJUSTED MEAN OF THE EXP. GRP. 1, EXP. GRP. 2 AND CONT. GRP. 3

i) There was no significant difference between the adjusted means of criterion variable in experimental group-1 and Experimental group-2.

ii) There was no significant difference between the adjusted means of criterion variable in experimental group-2 and control group-3.

iii) There was no significant difference between the adjusted mean of criterion variable in three training groups.

TABLE-3 ANCOVA TABLE FOR THE BMI FOR EXPERIMENTAL GRP-1, EXPERIMENTAL GROUP-2 AND CONTROL GROUPS-3 DURING TRAINING.

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>SUM OF SQUARES</th>
<th>DF</th>
<th>MEAN SQUARE</th>
<th>F</th>
<th>SIG</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRE</td>
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<td>0</td>
</tr>
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<td>TRAINING</td>
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<td>0.092</td>
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<tr>
<td>ERROR</td>
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<td>86</td>
<td>1.073</td>
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<td></td>
</tr>
<tr>
<td>CORRECTED TOTAL</td>
<td>255.587</td>
<td>89</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Shows the F-value [F(2,86)=2.459] for comparing the adjusted means of the criterion variable in three aerobic training groups.

Since F-statistics computed for aerobic training was significant because p-value associated with it was 0.092 which is less than .05. Thus the null hypothesis of no difference among the adjusted means for the data on criterion variable in three training groups may be rejected at 5% level.

REFERENCES

1. C.E.Barlow, J.Bkampert and Sn Blair, “Correlates of High Density Lipoprotein (HDL-C)

2. Responders and non Responders to Exercise Training” medicine and science in sports and exercise vol.28, 1996, s 84.


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