CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 SUMMARY

Obesity is a medical condition in which excess body fat has accumulated to the extent that it may have an adverse effect on health, leading to reduced life expectancy. Researches proved that exercises burn out fat, increased the cardiovascular endurance, flexibility, strength, endurance and decrease the body composition. There is lack of researches to which extent floor aerobics and step aerobics influences the selected fitness variables. Hence, the investigator selected the above fitness variables for this research. The increased physical activities in the forms of floor aerobics and step aerobics influences, the physiological variables, vital capacity, resting heart rate, blood pressure, breath holding time and respiratory rate of the obese adults.

The impact of the floor aerobic exercises and step aerobic exercises which influences the selected fitness and physiological variables is bound to affect the biochemical variables of the obese adults. Total cholesterol, low density lipoprotein, high density lipoprotein and triglycerides are affected due to exercises and the researcher selected these variables to find out the influence of varied aerobic exercises on obese adults. The researches perceived that the influence of varied aerobic exercises would affect the psychological variables self confidence, emotional adjustment, assertiveness, inter personal relationship and stress management.
The purpose of this study was to find out the effect of varied aerobic exercises on selected fitness, physiological, biochemical and psychological variables among obese engineering college students. To achieve the purpose of the study 60 male obese engineering college students from different engineering colleges in Chennai were randomly selected as subjects and their age were 20 - 25 years. They were assigned into three groups, namely, experimental group I, experimental group II and control group. Experimental group I was experimented with step aerobic exercises, experimental group II was experimented with floor aerobic exercises and the control group was not given any experiment. The variables selected for the study were fitness variables: cardiovascular endurance, muscular strength, muscular endurance, flexibility and body composition. The physiological variables selected for this study were vital capacity, mean arterial blood pressure, resting pulse rate, respiratory rate and breath holding time. The biochemical variables selected for this study were, total cholesterol, triglycerides, high density lipoprotein and low density lipoprotein. The psychological variables selected for this study were self confidence, emotional adjustment, assertiveness, inter personal relationship and stress management.

The study was formulated as a true random group design consisting of a pre-test and post test. The subjects (N=60) were randomly assigned to three equal groups of twenty subjects in each group. The groups were assigned as experimental group I – (Floor aerobics exercise group), Experimental Group II (Step Aerobics exercise group) and control group respectively. Pre tests were conducted for all the 60 subjects on selected fitness, physiological, biochemical and psychological variables. After the experimental period of twelve weeks post
test were conducted and the scores were recorded. The normality of data collected were tested using mean, standard deviation and F ratio and data collected were found normal. The differences between the initial and final scores in selected variables were subjected to statistical treatment using Analysis of Covariance (ANCOVA) to find out whether the mean differences were significant or not.

5.1.1 Level of Significance

The purpose of this study was to find out the effect of varied aerobic exercises on selected fitness, physiological, biochemical and psychological variables among obese engineering college students. The data collected on selected criterion variables were subjected to statistical analyse using analysis of covariance (ANCOVA) to find out the significant difference if any, between the groups on selected criterion variables separately. In all the cases, .05 level of confidence was fixed to test the significance, which was considered as appropriate.

The results of the study proved that there was significant improvement in selected fitness variables: cardiovascular endurance, muscular strength, muscular endurance, flexibility and body composition due to varied aerobic exercises, physiological variables : vital capacity, mean arterial blood pressure, resting pulse rate, respiratory rate and breath holding time, biochemical variables: total cholesterol and low density lipid protein, psychological variables, self confidence, assertiveness and stress management.
5.2 CONCLUSIONS

Within the limitations and delimitations of the study, the following conclusions were drawn:

1. Varied aerobic exercises significantly improved fitness variable, cardiovascular endurance of the obese students. There was no significant difference between floor aerobic and step aerobic exercises.

2. Varied aerobic exercises significantly improved muscular strength of the obese students. There was no significant difference between floor aerobic and step aerobic exercises.

3. Varied aerobic exercises significantly improved muscular endurance of the obese students. There was no significant difference between floor aerobic and step aerobic exercises.

4. Floor aerobic exercises significantly improved flexibility of the obese students.

5. Varied aerobic exercises significantly reduced body composition of the obese students. Step aerobic exercises were better than floor aerobics in reducing body composition of obese students.

6. Varied aerobic exercises significantly influenced physiological variables: vital capacity, resting pulse rate, respiratory rate and breath holding time except on mean arterial blood pressure.
7. There was no significant alteration by varied aerobic exercises on physiological variable, mean arterial blood pressure.

8. Varied aerobic exercises significantly reduced total cholesterol of the obese students. Step aerobics was significantly better than floor aerobics groups.

9. There was no significant alteration by varied aerobic exercises on biochemical variables, triglycerides and HDL-C.

10. Varied aerobic exercises significantly reduced LDL-C of the obese students. There was no significant difference between floor aerobic and step aerobic exercises.

11. Varied aerobic exercises significantly improved self confidence of the obese students. Step aerobic group was found to be better than floor aerobic exercises group in improving self confidence.

12. Varied aerobic exercises did not significantly influenced the emotional adjustment and interpersonal relationships of the obese students.

13. Step aerobics significantly influenced psychological variable, assertiveness of the obese students.

14. Varied aerobic exercises did not significantly influenced the interpersonal relationship of the obese students.

15. Varied aerobic exercises significantly improved the stress management of the obese students. There was no significant difference between the floor aerobics and step aerobics.
5.3 RECOMMENDATIONS

The findings of this research proved that twelve weeks varied aerobic exercises significantly altered selected fitness, physiological, biochemical and psychological variables of obese engineering college students. Based on these results, discussions and findings of the research, the following recommendations are made:

1. In view of the benefits of the varied aerobic exercises, educational authorities may consider inclusion of these exercises as part of the physical education programme for engineering college students.

2. In view of the fact that aerobic exercises require no equipment or minimal equipments, students may be encouraged to undergo these types of training regularly for their total fitness.

3. Efforts may be taken to popularize benefits of aerobic exercises among student community, which, in turn would make the nation fit.

4. An awareness campaign may be carried out to highlight the causes, symptoms and management of obesity among engineering college students.

5.4 SUGGESTIONS FOR FURTHER RESEARCH

Based on the experience gained through this study, the investigator makes the following suggestions for further research.
1. Effect of varied aerobic exercises, including aqua aerobic exercises may be conducted on selected fitness, physiological, biochemical and psychological variables of obese students.

2. A research to find out the effect of varied aerobic exercises and diet regulations among obese students may be conducted.

3. Similar study may be conducted among obese women engineering college students.

4. A study to determine the effect of varied aerobic exercises on fitness, physiological, biochemical and psychological variables not covered by this study may be undertaken.

5. A comparative study may be conducted among obese men and women students on the effect of varied aerobic exercises.