Chapter V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

This chapter presents the results of the study from the data analyses of the experimental study. The purpose of the study is to find out the relative effects of home-based resistance and aerobic training on selected variables among overweight and obese adults. To achieve the purpose of the present study, subjects were of thirty six (n=36) students from Tirunelveli Corporation, Tamilnadu, India and their age ranged between 18 and 25 years.

The selected subjects were randomly (simple random sample) assigned to one of three groups of twelve (n=12) each, such as two experimental groups and a control group. The Group I (n=12) underwent resistance training, Group II (n=12) underwent aerobic training, for a duration of 12 weeks and the number of sessions per week was confined to three alternative days, in addition to the regular schedule and Group III (n=12) acted as control, participants were informed of all possible risks involved in this study, and necessary consent was obtained from each participant. The following dependent variables were selected for this study such as body weight, body composition, muscular strength, physical function and health related quality of life. As per the available
literatures, the standardized tests were used to collect relevant data on the selected dependent variables.

The following independent variables were selected for this study such as resistance and aerobic training. The level of significance was fixed at .05 levels, which was considered to be appropriate.

The pre test and post test random group design was used as experimental design. No attempt was made to divide the groups in any manner. The collected data from the three groups prior to and immediately after the training programme on selected criterion variables were statistically analyzed with dependent ‘t’ test to find out the significant improvement between pre and post-test means of both groups and analysis of covariance (ANCOVA) was used to find out the significant difference between experimental and control groups. Whenever the ‘F’ ratio for adjusted test was found to be significant, the Scheffe’s test was applied as post-hoc test to find out paired mean difference. In all the cases 0.05 level of significant was fixed to test the hypothesis.

**Conclusions**

The following conclusions have been derived from the present study.

1. The resistance training group had significant decrease in body weight and body composition among overweight and obese adults when compared to the control group.
2. The resistance training group had significant improvement on muscular strength, physical function and health related quality of life among overweight and obese adults when compared to the control group.

3. The aerobic training group had significant decrease in body weight and body composition among overweight and obese adults when compared to the control group.

4. The aerobic training group had significant improvement on muscular strength, physical function and health related quality of life among overweight and obese adults when compared to the control group.

5. The resistance and aerobic training had significant difference towards improving the participants’ body weight, body composition and muscular strength among overweight and obese adults.

6. Resistance training group was much better than aerobic training group on developing muscular strength among overweight and obese adults.

7. Aerobic training group was much better than resistance training group on developing physical function and health related quality of life among overweight and obese adults.
8. There was no significant difference between resistance and aerobic training groups on developing body weight and body composition.

9. Control groups shown insignificant improvement on body weight, body composition, muscular strength, physical function and health related quality of life among overweight and obese adults.

**Recommendations for Future Research**

The current study posed several limitations which should be addressed in future research:

1. This study examined the effects of a 12 week home-based weight loss intervention with resistance and aerobic training on weight loss, body composition, muscular strength, physical function and health related quality of life. The intervention lasted only 12 weeks, thus it is unsure if a longer duration would have a better effect on the outcome variables observed.

2. The current study used resistance bands and own body weights for the resistance training intervention. Little research has been conducted with this type of equipment in the obese population. Therefore, it is unclear if the bands bring out results in the overweight and obese population.
Future research should focus on other means of resistance training for this population.

3. In the present study, it has been concluded that body weight, body composition, muscular strength, physical function and health related quality of life of overweight and obese adults have improved by both resistance and aerobic training. Hence, it is recommended to the trainers, fitness professionals and physical educators to adopt these findings to improve fitness among overweight and obese adults.

4. A similar study may be conducted by selecting bio-chemical variables as criterion variables.

5. A similar study may be attempted by selecting the middle age group adulthood subjects.

6. A similar study may be conducted on female subjects.

7. A similar study may be undertaken and its influences on psychological and physiological parameters may be assessed.