Chapter V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

This study was undertaken to compare and analyse the physiological adaptations resulting from aerobic and anaerobic training on girls of Higher Secondary Schools, in selected physiological variables. It had the purpose of comparing the data collected from each variable from the aerobic, anaerobic and control groups during the pre-test, mid-test and post-test.

The subjects numbering 105 girls of the eleventh and twelfth standards of Sri Sarada Vidyalaya Higher Secondary School, Salem were randomly selected. They were randomly grouped into three: aerobic, anaerobic and control groups.

The aerobic group had aerobic training and the anaerobic, anaerobic training for 12 weeks while the control group did not have any training. The selected physiological variables were tested at three stages, pre-test, mid-test and post-test. The data pertaining to the selected physiological variables, namely basal blood pressure (systolic and diastolic), basal heart rate, haemoglobin percentage, blood corpuscles (R.B.C. and W.B.C.) and recovery heart rate were analysed by two-way analysis of variance for each variable.
separately. The F-ratios obtained were tested for significance at .05 level of confidence. The Scheffe S test of post-hoc significance was used to assess the significant differences between the means of the three groups and at the three stages. Significant differences at the .05 level of confidence were seen in favour of the aerobic group in blood pressure (systolic and diastolic), basal heart rate, red blood corpuscles and recovery heart rate. However no significant differences were indicated in case of haemoglobin percentage and white blood corpuscles.

The results of the study supported the hypothesis that there will be significant difference between the means of the groups, in favour of the aerobic group, except in two variables, haemoglobin percentage and white blood corpuscles.

The results of the study also indicated that basal heart rate and recovery heart rate were susceptible for changes quicker than the other variables, as significant changes were noticed during the mid-tests after 6 weeks of training. Such changes were in favour of the aerobic group.

Conclusions

Within the limitations of the study the following conclusions may be derived:

1. The aerobic group had significantly lower blood pressure (systolic and diastolic).
2. The aerobic group had significantly lower heart rate (Basal) when compared with the anaerobic group.

3. There was significant increase in the red blood corpuscles after the aerobic training programme.

4. The recovery heart rate as indicated by cardiovascular efficiency score (CES) was significantly better for the aerobic group when compared with the anaerobic group.

5. There was no significant difference found in haemoglobin percentage and white blood corpuscles count, due to either aerobic or anaerobic training.

6. The aerobic training contributed to better training effects when compared to anaerobic training.

**Recommendations**

The following recommendations are made based on the results of this study:

1. Different types of training programmes may be administered on subjects of different age groups.

2. Studies on aerobic and anaerobic training may be conducted on selected physical variables such as strength, agility, flexibility etc.

3. Aerobic training programme and anaerobic training may be compared by studies on lean body weight and fat reduction on adult women.
4. The effect of aerobic and anaerobic training may be compared on selected psychological and sociological aspects.

5. In view of the more beneficial physiological effects caused by aerobic exercises, in the physical education programmes from elementary school levels more emphasis be given to aerobic exercise programmes.