CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

SUMMARY

This study was undertaken to find out the effect of aerobic training on plasma lipids, lipoprotein and cardiac volume of adolescent male. Selected plasma lipids and lipoprotein variables were HDL – C, LDL – C, VLDL – C, Triglycerides, Total cholesterol and HDL – C / Total cholesterol ratio. Cardiological variables were IVS, IVPW, LVESD, LVEDD, LVM, LVEDV, LVESV, EF, FS, and SV.

Thirteen adolescent male students were selected randomly from Alwar Public School, Alwar, Rajasthan. These students were divided into three groups namely Experimental 1, Experimental 2 and Control. The experimental group was given aerobic training of different intensity thrice a week. Analysis Of Covariance was used as statistical measures to find out the significant effect of training programme on plasma lipids, lipoprotein and Cardiological variables.
The aerobic training programme proved effective in significantly increased the HDL-C and HDL-C / Total Cholesterol Ratio and brought about significant decrease in triglycerides and total cholesterol levels. No significant change was observed for VLDL-C and LDL-C levels of the subjects.

In case of cardiological variables, the aerobic training programme was not significantly increase Left Ventricular End Diastolic Diameter of the subjects, whereas Left Ventricular End Systolic Diameter of the subjects decreased significantly due to the increase of contractile mechanism of the Left Ventricular Muscle of the experimental subjects.

The thickness of the Inter Ventricular Septum and Left Ventricular Posterior Wall of the subjects did not change significantly, whereas the Left Ventricular Muscle Mass of the experimental subjects increased significantly due to training.
The Left Ventricular End Diastolic Volume of the subjects (experimental) increased significantly, whereas on the other hand, the Left Ventricular End Systolic Volume of the trained subjects decreased significantly following training.

The Fractional Shortening, Ejection Fraction and Stroke Volume of the experimental subjects increased significantly following training.

**CONCLUSIONS**

On the basis of the findings of the study, the following conclusion may be drawn:

1. The six months of aerobic training employed in the present study indicated favorable effects in increasing the HDL-C levels and in decreasing triglycerides and Total Cholesterol levels.
2. The above findings with respect to increase in HDL-C levels was further observed by an increase in the HDL-C/TC Ratio.

3. The LDL-C and VLDL-C levels of the subject did not change significantly as the result of the aerobic training.

4. The findings with respect to lipoprotein variables having shown increase in HDL-C and decrease in triglycerides and Total cholesterol indicates the benefits of regular aerobic training in preventing arteriosclerosis and coronary heart disease. It has already been established that increase in HDL-C levels reduces the risk associated and is thought to be protective against coronary heart disease.

5. The thickness of the Inter Ventricular Septum and Inter Ventricular Posterior Wall of the subjects did not change significantly. As a result of aerobic training.
6. The Left Ventricular Muscle Mass increased significantly following endurance training in the case of experimental groups.

7. The Left Ventricular End Diastolic Volume of the subjects (experimental) increased significantly, whereas on the other hand, the Left Ventricular End Systolic Volume of the trained subjects decreased significantly following training.

8. Training was effective in increasing the Ejection Fraction, Fractional Shortening and the Stroke Volume of the subjects.
RECOMMENDATIONS

On the basis of the findings of the study and the conclusion drawn, it is recommended that

1. Aerobic training may be recommended to patients suffering from arteriosclerosis and mild coronary disease.

2. Study may be undertaken by employing subjects of other age and sex than those employed in the present study.

3. Study may be replicated with longer duration and different intensity training than that used on the present study.

4. Same type of study may be conducted by including the right ventricular changes following training.

5. The same type of study can be conducted on the twins, of different age groups.