CHAPTER - V

Summary, Conclusion and Recommendations
SUMMARY

In these days of explosive population growth and advanced technology, considerable emphasis is being laid on educating a citizen to maintain optimum level of fitness for personal efficiency and national progress all over the world. The present day is an age of automation, sophistication and technological wonders which were beyond man's wildest dreams of a few years ago. In spite of all the powerful and ever increasing efforts on the part of medical science in recent years, to make man aware of the fact that preventive maintenance of his body and especially of his heart, is the only way to assure a long and healthy life of modern man, it has not been observed.

In the modern scientific age, sportsmen are being trained using highly sophisticated means for better achievement in their concerned sport. They are being exposed to the exercises and training methods which have proved beneficial for achieving high standards. The training programmes for sports are to be designed that they may favourably affect the physical and physiological variables associated with high performance capacity in that sport.
A variety of training procedures are adopted to develop the physical fitness with emphasis on developing one or other factors more intensively through any method which will have some effect on all qualities to be developed. The training methods can be identified as speed training, endurance schedules of stress loads undertaken by trainer and athletes. Therefore the purpose of the study was to investigate the effects of Intensive and Extensive Interval Training on muscular performance, cardiovascular efficiency and Body composition.

The second purpose of the study was to find out the effects of the Intensive and Extensive Interval Training on Muscular Performance, Cardiovascular Efficiency and Body Composition in varied periods.

To facilitate the study, ninety students were selected randomly and their Muscular Performance, Cardiovascular Efficiency and Body Fat Percentage were tested by using Muscular Performance Tests, the Harvard Step Test and Skinfold measurements respectively. They were divided randomly into three groups, two of them were considered as Intensive Interval Training group and Extensive Interval Training Group and the other was treated as Control group. All the subjects had routine activities except the subjects
of the experimental groups who were progressively introduced to the additional practice of the Intensive and Extensive Interval Training.

The practice session was conducted for 30 minutes on all days except Sundays for a period of ten weeks. Following the practice in Interval Training, the measurements of Muscular Performance, Cardiovascular Efficiency and Skinfolds were recorded at the end of second week, fourth week, sixth week, eighth week and tenth weeks.

The subjects were selected at random, but the groups were not equated in relation to the factors in which they have been examined. Hence the differences among the means of three groups in pre-test had to be taken into account during the analysis of the post-test differences among the means. This was achieved by the application of Analysis of Covariance, wherein the final means were adjusted for the differences in the initial means and the adjusted means were tested for significance. Scheffe's significant difference test was used as the post hoc test of significance. The level of significance was set at 0.05 level.

The post-test data for the experimental group was collected after second, fourth, sixth, eighth and Tenth weeks of training. Repeated measures of analysis of variance was employed in the study as the subordinate
purpose was to find out the improvement of the variables at varied periods. Tuckey's Honestly Significant Difference Test was used as the post hoc test of significance. The level of significance was set at 0.05 level.

FINDINGS

The following results were obtained after the Statistical analysis of covariance and repeated measures of analysis of variance.

The control group did not show any significant improvement in any of the selected variables namely, Muscular Performance, Cardiovascular Efficiency and Percentage of Body Fat.

The Intensive and Extensive Interval Training made significant improvement in Arm and Shoulder girdle strength, Abdominal strength, Agility, Power, Speed and Cardiovascular endurance which were the components of Muscular Performance. The Training also made significant improvement in Cardiovascular Efficiency whereas it did not show any significant improvement in Percentage of Body Fat.

The Intensive and Extensive Interval Training group made significant improvement in Muscular Performance, Cardiovascular Efficiency and Percentage of Body Fat in varied weeks.
CONCLUSIONS

In the light of the study undertaken with certain limitation imposed by the experimental conditions, the following conclusions were drawn.

1. Intensive and Extensive Interval training equally improved the following factors of Muscular Performance namely Abdominal strength, Agility, Power, Speed and Cardiovascular Endurance, whereas Extensive Interval training was found to be superior to Intensive Interval training in improving Arm and Shoulder girdle strength.

2. Intensive and Extensive Interval training improved Cardiovascular Efficiency. The Extensive Interval training was found superior to Intensive Interval training in improving Cardiovascular Efficiency.

3. The training resulted in a decrease in body fat percentage but the decrease was not equal for these two training methods.

4. The findings of this study indicated that there was gradual improvement in Muscular Performance, Cardiovascular Efficiency and a decrease in Percentage of Body Fat in varied weeks. The maximum improvement was obtained in the tenth week. This demonstrated the
fact that continuous training for a period of ten weeks had effect on these three variables.

RECOMMENDATIONS

The following recommendations are given on the basis of the study.

1. Performance in sports depends largely on physical fitness, that is strength, speed, endurance, power, speed and flexibility. Sports activity is a physical activity, which is not possible without these motor abilities. To improve the motor skills, Muscular Performance is required. Since it was proved in this study that Intensive and Extensive Interval Trainings improved Muscular Performance, they may be adopted as a method of training to improve motor skills of school girls.

2. Cardiovascular Efficiency is important not only for sportsmen, but for every person, young or old, male or female. It helps in achieving good performance directly or indirectly. This does not mean that in each sport, the same degree of efficiency is needed. Efficiency requirements differ from sport to sport, but a good deal of basic and general endurance is a necessary prerequisite for good performance in all sports. Since
it was proved in this study that the Intensive and Extensive Interval Training improved Cardiovascular Efficiency, these methods can be adopted for improving activities involving Cardiovascular Efficiency in girls.

3. Excess fat on the body, commonly referred to as obesity, is a problem that concerns both children and adults. Obesity is constantly encountered as a hurdle to the cause of Physical fitness among children and adults. These individuals score low on physical and motor tests, a result encountered universally by school and college physical educators. Intensive and Extensive Interval Training may be used to reduce the Percentage of Body Fat.

SUGGESTIONS FOR FURTHER RESEARCH IN THE AREA

The following suggestions are given on the basis of this study.

1. The study may also be conducted separately for boys of different age groups.

2. It is also suggested that similar study can be conducted by altering the intensity of the training.
3. Similar studies can also be conducted on certain physiological and biochemical variables like hemoglobin content, blood cholesterol and lactic acid, circulatory variables like cardiac output stroke volume, rate of blood flow, oxygen pulse etcetera.

4. Similar study may be carried out with different types of training.

5. The study can further be conducted separately for rural and urban children having different nutrition habits and different Socioeconomic status.

6. Similar studies can be conducted for various group games like Basket ball, Foot ball and Hockey.