Chapter V
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The goal of today's tremendous competition in sports is to exhibit one's excellence and to win. In modern age, athletes are trained scientifically to improve their physical fitness, technical and tactical ability to attain better performance. Main features of modern scientific sports training are based on a thorough knowledge of the muscular activity, functional physiology and also the mechanics of the body adaptation to muscular work. On the basis of various years of research, the sports scientists say that the improvement in sports performance depends mainly on two factors: (1) motor potential and (2) the athlete's ability to exploit this potential during training and competition. The present study is one such effort to suggest a method for the development of performance.

The purpose of the present study was to find out the relative effects of isolated and combined weight and plyometric trainings on Arm strength, Leg strength, Explosive strength, Strength endurance, Speed and Elastic power. Forty five men students aged 20 - 25 years studying Master degree course at Dr. Sivanthi Aditanar College of Physical Education, Tiruchendur were selected at random as subjects for this study. The selected subjects were randomly assigned
to three experimental groups of fifteen each namely weight training group (A), plyometric training group (B) and combined weight and plyometric training group (C). The experimental groups had undergone their respective training programme three times a week for 12 weeks in addition to the regular programme of the college. Group 'A' underwent weight training, Group 'B' underwent plyometric training and Group 'C' underwent weight training exercise for the first six weeks and plyometric exercise for next six weeks. The training session lasted long for 45 to 60 minutes approximately including warming up and warming down periods.

The dependent variables such as Arm strength, Leg strength, Explosive strength, Strength endurance, Speed and Elastic power were assessed by Dip strength test, Leg lift, Vertical jump (Sargent jump), Sit-up (Bent-knee), 50 metres run and Bunny hops (five stride bounding test) respectively. The data were collected from all the subjects two days before and two days after the training period. (12 weeks)

The collected data from the three groups were statistically analysed for significant improvement applying the dependent 't' test and also estimated the magnitude of improvement for each group separately on each dependent variables. One way analysis of variance (ANOVA) was used among the difference scores (between pre test and post test scores) of weight training, plyometric training and combined weight and plyometric training groups to examine the
significant difference. Whenever the 'F' ratio was found to be significant, scheffe's test was used as a post-hoc test to determine the significant difference, if any, between the paired means. In all the cases .05 level was selected as the confidence interval.

CONCLUSIONS

From the research of the study the following conclusions were arrived at.

(1) Arm strength, Leg strength, Explosive strength, Strength endurance, Speed and Elastic power were improved significantly by weight training, plyometric training and combined weight and plyometric training programmes.

(2) No significant difference existed among weight training, plyometric training and combined weight and plyometric training groups in improving the selected dependent variables.

(3) Eventhough there was no significant difference existed among the experimental groups, the trend was in favour of combined weight and plyometric training group for Explosive strength, Strength endurance, Speed and Elastic power whereas the trend was in favour of weight training group for Arm strength and Leg strength.
RECOMMENDATIONS

(1) Similar study may be conducted using female subjects.

(2) Similar study may be conducted among players of different disciplines.

(3) Such study may be conducted among different age groups.

(4) Similar study may be conducted by extending the training period.

(5) Similar study may be conducted with different frequencies and intensities of weight and plyometric training programmes.

(6) Similar study may be conducted in greater details to assess the changes on physiological, haematological and biochemical variables.

(7) Similar study may be conducted by adding detraining and retraining effects.