CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

It is well established that strength training is a key to success for all sports and games. An adequate amount of strength is needed for every sport. Weight training is one of the best ways to develop specific type of strength due to the fact that resistance can be manipulated at will.

Plyometrics is an area of conditioning that is beginning to receive a great deal of attention in the strength training profession. Plyometric training represents the link between strength and speed. It is yet another secret training technique brought back from the eastern block countries. Originally, plyometrics was quite popular among track and field coaches in the mid to late 1970’s. It is now being used to increase jumping ability and running speed in a wide range of sports.

To extract best out of the athletes, coaches and physical educators use the most beneficial and economical means to train their sportsman. It is however, a valid concern to study such training protocols to gain insight into their effectiveness. The research scholar scanned 69 related studies being conducted on weight training and plyometrics since 1950. Different parameters, means and methods were
thoroughly reviewed. It was concluded that very few studies have been reported with comparative analysis of weight training and plyometrics when carried out separately and jointly. Hence, the present investigation was undertaken to analyse the effects of weight training, plyometric training and their combination on motor components.

The study was undertaken by selecting 120 male students of MBA- 1st and 3rd Semester from Prestige Institute of Management, Gwalior. They were randomly divided into three experimental and one control group consisting of 30 subjects each. The first group named as Group A trained with weight training (half squat, leg press, hamstring curls and heel raise). The second group named as Group B were given plyometric training (tuck jumps, box and depth jumping and double leg bound). Combination of weight training and plyometric training exercises were administered on Group C. all the groups were trained thrice a week on alternate days in the evening for one hour. The forth group served as control group.

The training programme started with pre-test on selected variables on all the four groups. Post-test was also conducted after twelve weeks of experimental programme. The motor variables selected for this study were speed, strength and explosive power. The criterion measures were fifty yards dash, leg dynamometer and vertical jump respectively. The descriptive statistics like mean, standard
deviation, coefficient of variation, minimum and maximum scores, skewness and kurtosis were computed. The effectiveness of the different treatments on the pre-test and post-test means were analysed by using paired t-test. Further, analysis of covariance was computed to find out the significant differences between the means due to the three treatments on the experimental groups on the performance of vertical jump, leg strength dynamometer and fifty yard dash tests. The level of significance was 0.05 for all statistical techniques.

The descriptive analysis of data for vertical jump has shown that initial score of combination group is negatively skewed whereas it is symmetrical for final scores of control group. For all the four groups the initial and final scores presents platykurtic curve. Coefficient of variation was quiet large in initial and final scores of control group and initial scores of combination training.

The Plyometric training group showed positive skewness but Combination training group showed negative skewness on 50 yards dash. As far as kurtosis is concerned, the initial scores of Plyometric training and the Control group show normal curve. The final values of Plyometrics and Combination training forms a Leptokurtic curve. Co-efficient of variation for pre-test scores of Weight training group proves that this group was more variable.
For 50 yards dash, the curve of initial scores on Weight training was positively skewed whereas for initial scores of Control group, it was having negative skewness. All the treatment groups exhibit platykurtic curve in their initial and final readings. The pre-test values of Plyometric group and the post-test values of Control show a quite large variation.

The results pertaining to F-ratio for vertical jump performance reveals that the random sampling was quiet successful as the pre-test value was found to be insignificant. The post-test and adjusted post-test means were significant which proves atleast one of the groups has shown significant difference from other groups.

The results of t-test indicates that all the experimental groups were significantly different at 0.05 level from control group. No significant difference existed between the experimental groups and the control group.

In case of fifty yards dash performance, the analysis of Covariance indicated similar results as in vertical jump. The results of t-test has proved that Group B and C showed significant values where as Group A and D were insignificant at 0.05 level here was significant difference among all the groups.
It was evident from the results of analysis of covariance in leg strength dynamometer test that all the obtained F-ratios were significant. The significant value of initial scores proves that experimenter was not successful in getting homogeneous samples whereas other significant values assures that at least means one of the groups must be different from rest of the groups.

It was apparent from the results of t-test that Group A and C equally improved leg strength and were different from Group B and D.

**Conclusions**

On the basis of findings and within the limitation of present investigation the following conclusions were drawn:

1. All three training treatments i.e. weight training, plyometric training and combination training improved leg explosive power as compared to control group.

2. Weight training and combination training were found to be effective in development of strength.

3. Plyometric training is not effective in improving strength.

4. Both plyometrics and combination training showed marked progress in developing speed as compared to weight training and control group.
Recommendations

In the light of conclusions drawn in the study the following recommendations are made:

1. The physical education teachers, coaches and trainers may employ weight training, plyometric training and their combination type of training for development of leg explosive power.

2. Weight training and combination training may be incorporated in the training schedule for enhancing static strength in games where this variable has major role to play.

3. Plyometrics and combination training may be included in training protocols for development of speed in sports like handball, basketball, hockey, football, cricket, lawn tennis and all track and field events.

4. Similar studies may be undertaken on different age categories, sex and performance levels.

5. Different means and methods of training may be employed for further research studies than those employed here.

6. Another study in the same pattern may also be done with longer duration of training and keeping nutrition, daily routine as controlled factors.