Chapter - V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS
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Summary

Training is not a recent discovery; it existed both in ancient and later in Greece where people systematically trained for both military and Olympic endeavors. Now-a-days athletes are preparing by themselves with available training methods to achieve their definite goal in sports. Training is a systematic athletic activity of long duration, progressive, alternate high and low intensity training aiming at modeling the human physical and physiological functioning to meet competitive demands in present world.

In modern days highly competitive sports essentially required a very official and specific selection of participants improved training procedures, advanced techniques and modern equipments etc.

Human beings are naturally competitive and ambitious for achieving top class performance. As a result of practical experience, observation and much scientific experimentation, old and traditional methods of conditioning have been discarded and replaced by new methods. The investigator proposed new methods of training series and parallel to investigate the training influences on physical and physiological variables.

The purpose of the present investigation was to find out the effect of resistance training and endurance training in series and parallel on selected physical and physiological variables among women. To achieve this purpose forty five (N=45) women students from K.V.R. College, Nandigama, Krishna Dist, Andhra Pradesh, India were randomly selected as subject and assigned to three groups of fifteen (n=15)
each Group I underwent series training, Group II underwent parallel training and Group III acted as control.

The criterion variables selected in this study were speed, explosive power (horizontal), cardio respiratory endurance, heart rate at rest, resting respiratory rate, systolic blood pressure at rest and diastolic blood pressure at rest and the data on speed, explosive power and cardiovascular endurance were measured by using 50 metre dash, standing broad jump (horizontal) and cooper’s 12 minutes walk/run test respectively where as heart rate at rest, resting respiratory rate, systolic blood pressure at rest and diastolic blood pressure at rest were collected by using automatic blood pressure monitor and resting respiratory rate was collected by using manual method.

The experimental groups I and II were trained in their respective training programs for four days for week for 12 weeks in addition to their regular physical education activities. Group I (series group) was put to resistance training for first six weeks and the remaining six weeks the subjects underwent endurance training. Group II (parallel group) was trained resistance training and endurance training in alternative sessions for twelve weeks. Group III (control group) acted as control and they did not participate in any specific training. However, they performed regular physical education activities.

Prior to and after training program, the subjects were tested for speed, explosive power (horizontal), cardio respiratory endurance, heart rate at rest, resting respiratory rate, systolic blood pressure at rest and diastolic blood pressure at rest.

The pre-test and post-test data of the three groups were statistically examined separately for significance differences, if any by employing analysis of covariance (ANCOVA), the process by which the pre – test mean differences can be adjusted by post-test means, wherever the ‘F’ ratio for the adjusted post-test means found to be significant. Scheffe’s test was applied as a post-hoc test to find out the significant
difference between the paired means. In all the cases 0.05 level of confidence was kept to accept/reject the null hypothesis.

CONCLUSIONS

From the results of the study the following conclusions were drawn.

- Speed is significantly increased by series and parallel training.
- There is no significance difference between series and parallel training on speed.
- Explosive power (Horizontal) is significantly increased by series and parallel training.
- There is no significant difference between series and parallel training on explosive power (Horizontal).
- Cardio respiratory endurance has increased by both series and parallel training and there is no significant difference between the both training groups.
- Heart rate at rest has significantly reduced by series and parallel training.
- There is significant difference between training groups on heart rate at rest.
- Resting respiratory rate ($R^3$) is reduced by series and parallel training.
- There is significant difference between both the training groups on resting respiratory rate.
- Systolic blood pressure at rest (SBP) and diastolic blood pressure at rest (DBP) is reduced by both the training groups.
- There is no significant difference between both the training groups on Systolic blood pressure at rest (SBP) and diastolic blood pressure at rest (DBP).
RECOMMENDATIONS

From the results of the study the following recommendations were drawn.

- Series and Parallel type of resistance and endurance training is recommended to improve speed.
- Series and Parallel training are recommended to improve explosive power in terms of horizontal distance and cardio respiratory endurance.
- Series and Parallel training methods are very effective to reduce heart rate at rest.
- Series and Parallel training are effective to reduced resting respiratory rate, systolic blood pressure and diastolic blood pressure.
- Similar research is necessary to explore on biochemical and anthropometric variables.
- Further study in the area may be conducted for the subjects of different age groups of both sexes.
- Coaches, fitness trainers and physical educationists are giving different types of training to improve cardiovascular efficacy of sports personnel. In addition, series and parallel training could also be given to enhance the efficiency of cardiovascular system of the players and athletes.
- Further studies may be conducted by extending detraining and retraining programs.