

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 SUMMARY

Physical training entails exposing the organism to a training load or work stress of sufficient intensity, duration and frequency to produce a noticeable or measurable training effect, that is, to improve the functions for which one is training. To achieve such a training effect, it is necessary to expose the organism to an overload (i.e., a stress) that is larger than the one regularly encountered during everyday life. It is a common perception in training environments that “to build up, one must first break down.” Admittedly, exposure to the training stress is associated with some catabolic processes, such as break down of glycogen, followed by an overshoot or anabolic response that causes an increased deposition of the molecules that were mobilized or broken down during training. Circuit training was first proposed by Morgan and Adamson of Leeds University as a method for developing general fitness. Their initial circuit training routine consisted of several stations arranged in a circle (hence the name circuit training) so as to work muscle groups alternately from station to station. As circuit training grew in popularity, other authors began to provide additional information. A wide variety of exercises and devices can be used in a circuit training routine, such as body weight, surgical tubing, medicine balls, light implements, dumbbells, barbells, and any strength training machines. A circuit may be of short (6 to 9 exercises), medium (9 to 12 exercises), or long (12 to 15 exercises) duration and may be repeated several times depending on the number of exercises involved. In deciding the number of circuits, the number of reps per station, and the load, coaches must consider the athlete’s work tolerance and fitness level.

Total workload during the anatomical adaptation phases should not be so high as to cause the athlete pain or high discomfort. Athletes should help determine the amount of work they can perform. Circuit training is a useful, although not magic, method for developing the foundation of strength during the anatomical adaptation phase. Any other training method in which the muscle groups can be alternated can be equally beneficial. The key to any training method used during this phases is the number of exercises, number of exercises, number of reps and sets, and the rest interval. As shown in the following examples, the training methodology used for the anatomical adaptation phase has to be adapted to the physiological profile of the sport (e.g., speed or power vs. a sport in which endurance has a certain role) and the needs of the athlete. It must also develop most muscles used in that sport. In line with the overall purpose of the preparatory phase, and particularly the goal of anatomical adaptation, exercises should be selected to develop the core area of the body as well as the prime movers.

The purpose of the study was to find out the “effects of different circuit training with yogic practices on selected motor fitness attributes and physiological variables of school girls students”. To achieve this purpose of the study, sixty girls’ students from Presidency girls’ higher secondary school, Egmore, Cnennai, Tamilnadu, India were selected at random as subjects. Their age was between fifteen to seventeen years. The study was formulated as pre and post test random group design, in which sixty students were divided into four equal groups. The experimental group –1 (n = 15 ESBC-YP) underwent explosive strength based circuit with yogic practices, the experimental group –2(n=15 SEBC-YP) underwent strength **endurance based** circuit with yogic practices, the experimental group –3 (n = 15 CES& SEBC-YP) underwent combined explosive strength and strength endurance based circuit with yogic practices and the group -4 served as control group (n = 15 CG) did not undergo any specific training.

The selected training group was given as per the training schedule of three days per week of ten weeks. In the study, three different training approaches were adopted as independent variables, i.e., explosive strength based circuit with yogic practices, strength endurance based circuit with yogic practices, combined strength and endurance based circuit with yogic practices. The following motor fitness attributes and physiological variables were selected as dependent variables. They were listed as follows: 1) speed 2) explosive power 3) Muscular Strength Endurance, 4) flexibility, 5) resting pulse rate, 6) VO₂ max and 7) breath holding time.

As far as the motor fitness attributes were concerned the : speed, explosive power, muscular strength endurance and flexibility, were tested and measured by 50 meters run (in second), standing broad jump(in meter), bent knee sit-ups(in numbers) and Sit and Reach test (in centimeters), respectively. As far as physiological variables were concerned the, resting pulse rate,VO₂ max and breath holding time were tested and measured by stethoscope (beats/minute),step-up test(ml/kg/min¹) and stop watch(second) respectively. The pre and post-test random group design was used as experimental design in which sixty students were selected as subjects; the selected subjects were divided into four groups of fifteen subjects each. Ancova was used to find out significant adjusted post test mean difference of four groups with respect to each parameters and Scheffe's post hoc test was used to find out pair-wise comparisons between groups with respect to each parameter. The results revealed that there was a significant difference among the selected training groups and control group. Further there was significant improvement on selected criterion variables owing to the three different circuit training with yogic practices among the school girl's students.

5.2 CONCLUSIONS

Based on the findings of the present study the following conclusions were arrived.

1. The nature of the speed quality highly influenced on explosive strength based circuit with yogic practices programme than the other trainings.
2. The excellence of the explosive power extremely favoured to explosive strength based circuit with yogic practices programme than the other trainings
3. The capacity of the muscular strength endurance tremendously improved to combined explosive strength and strength endurance based with yogic practices programme than the other trainings.
4. The nature of flexibility increased responses to combined circuit with yogic practices programme than the other trainings.
5. The reduction of resting pulse rate superior the combined explosive strength and strength endurance based circuit with yogic practices programme than the other trainings.
6. The volume of oxygen consumption was greater in combined explosive strength and strength endurance based circuit with yogic practices programme than the other trainings.
7. The breath holding capacity increased due to the combined explosive strength and strength endurance based circuit with yogic practices programme than the other trainings.
8. No difference was found in the control group.

5.3 RECOMMENDATIONS

Based on the results of the study, the following recommendations were drawn.

The selected training interventions of explosive strength based circuit with yogic practices, strength endurance based circuit with yogic practices and combined explosive strength and strength endurance based circuit with yogic practices produced positive impact on the selected motor fitness attributes and physiological variables among the school girl's students.

Hence, the selected methods of training recommended to the coaches, physical educators and fitness instructor who required developing the general health fitness; skill related fitness as well as holistic well-being.

- 1) The explosive strength based circuit with yogic practices recommend for those interested to develop the basic explosive nature qualities.
- 2) The explosive strength based circuit with yogic practices recommend for junior athletes who aiming to concentrate in jumping related events..
- 3) The strength endurance based circuit with yogic practices programme recommends to beginner, who needed good cardio respiratory fitness and endurance types of activities.
- 4) The combined explosive strength and strength endurance based circuit with yogic practices programme recommends to intermittent athletes, during their pre-competition period.

- 5) The combined explosive strength and strength endurance based circuit with yogic practices programme recommends to the major game participants, for achieving the higher percentage of aerobic and anaerobic qualities
- 6) The increasing intensity and volume of the selected trainings recommends to the elite level sports participants for enhancing their high level achievements.
- 7) The same study recommends to the sports hostel women athletes for better performance.
- 8) The same training approaches recommend identifying the effects of other performance parameters.
- 9) The same study conduct the sub-junior level boys and girls of various games, with fluctuate the training volume and load.
- 10) The similar study recommends making an attempt to observe the training effects on other physiological, psychological, biochemical and anthropometrical qualities of irrespective of different sports participants.