Chapter V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

In the modern age, scientific progress has gone a long way in providing us with almost all the comforts and opportunities of an easy-going life. Man is hardly expected to do a great physical effort. This is no vigorous living. Consequently, the 'push button' civilization has, to a great extent, made man inactive and lazy. He is gradually discarding active participation in physical and active toil and turmoil. If this tendency is not checked for the centuries to come, man will be reduced merely to the state of a physical lump, which will be able to think or reflect only and not act. The present circumstance may not demand from man hard physical labour but biological evidence certainly directs him to involve in active and vigorous living.¹

Physical education must help to develop a higher and better plane of living as its part in this 'evolving' process if it is to justify its worth. A

¹ Kamlesh and Sangral, Principles and History of Physical Education, p. 52.
study of evolution shows that people should not follow a sedentary existence, but, instead, should be active, should exercise the various parts of their bodies and should spend more times in the out of doors. Therefore physical education has many potentialities. To train youth successfully, nature's methods should be followed. This holds true also in regard to the activities in which humans engage. Primitive people obtained food, provided shelter and protected themselves against a hostile environment through activities that involved walking, running, hopping, climbing, throwing, carrying, leaping and hanging. These are consistent with the evolutionary process and have formed the basic movements for humans throughout their long history. They are a part of our inheritance. The games, dances, other physical education activities that are utilized today have as a basis these racially old activities.  

Regular participation in vigorous physical exercise increases physical fitness. A high level of physical fitness is desirable for a full productive life. Sedentary living habits and poor physical fitness have a negative impact on both health and daily living.  

---


3 Uppal, *Physical Fitness How to Develop*, p. 4.
The development and maintenance of physical fitness can be brought about through a variety of exercise programmes of which a person may adopt any one or more, depending upon the purpose, need, time and the facilities available.

Regular physical exercise or dance is required for an individual to develop and maintain physical fitness. An increasing body of evidence suggests that physical activity and physical fitness contribute to good health.\(^4\)

Positive changes in lifestyle can best occur through education. This education for fitness needs to start with young children to make them aware of their bodies and the value of physical fitness to their emotional and physical well-being. In addition, public communication through literature, television and radio should endeavour to educate adults, so that they may take positive steps in improving their physical fitness.\(^5\)

Circuit training is a very popular and effective organizational form of doing physical exercises. In circuit training, a certain number of

\(^4\) Hockey, \textit{Physical Fitness -The Pathway to Healthful Living}, p. 89.

\(^5\) Bucher, \textit{Foundation of Physical Education and Sports}, p. 270.
exercises are done one after the other in the form of a circuit. This circuit is repeated three or more times. Experience has shown that circuit training is particularly effective for the improvement of strength and endurance ability.  

Circuit training, aerobic fitness, calisthenics etc. are some effective measures to develop physical fitness.

Dance is one of the oldest arts and is an important part of many physical education programmes from the primary grades through college. As far back as one can go into history, popular dancing was a pastime in the lives of all people. The members of early tribal groups danced as part of their religious festivals, in preparing for combat and for entertainment. Dance has come down through the ages, bringing with it an account of the way people lived in other lands and other times. It is a means of communication. Through dance one may creatively express feeling about people, forces of nature and other phases of our culture. It provides enjoyment, a means of emotional release, and expression of desires in action. It results in beneficial physiological effects by stimulating the various organic systems of the body. It helps to develop balance, control

---

and poise and provides the opportunity to respond to music through movement.  

More and more people are accepting the fact that aerobic exercise is essential to a healthy cardio-vascular system. In brief, aerobic exercise is activity that can be sustained for an extended period of time without building an oxygen debt in the muscles. It is a type of exercise that overloads the heart and lungs and causes them to work harder than they do when a person is at rest. 

Further the circuit training, aerobic fitness and dance programme play a very important role in physical education. They give an all-round development and elasticity in muscle and enable one to show various movements with great co-ordination, so as to switch of from one activity to another without any difficulty. 

---

7 Bucher, *Foundation of Physical Education*, p. 446.


Conclusions

1. Both the circuit training and the aerobic fitness programme are found to be effective in developing physical fitness of secondary school girls. It is specifically noticed that the circuit training programme is found to be more effective in developing physical fitness of secondary school girls than that of aerobic fitness programme.

2. Both the circuit training and the aerobic fitness programme are also found to be effective in developing calf and upper arm girth as well as in reducing biceps, triceps, suprailiac and subscapular skinfold of secondary school girls. In this aspect the circuit training programme is found to be more effective in developing calf girth than that of aerobic fitness programme while the aerobic fitness programme is found to be more effective in developing upper arm girth as well as in reducing triceps, biceps, supra iliac and subscapular skinfold of secondary school girls than that of circuit training programme.

On the other hand neither the circuit training programme nor the aerobic fitness programme is found to be significantly effective in
improving weight, standing height, thigh girth, hip girth and chest girth of secondary school girls.

3. The circuit training and the aerobic fitness programme are also found to be effective in bringing about significant positive changes in resting and working heart rate as well as in resting diastolic blood pressure, in which the greater effect of aerobic fitness programme is specifically noticed in comparison to the circuit training programme. On the other hand both the circuit training programme and the aerobic fitness programmes declined in showing significant effect on resting systolic blood pressure of secondary school girls.
Recommendations

1. The effects of both the circuit training and the aerobic fitness programmes on physical fitness, motor fitness, anthropometric and physiological variables of full residential group of subjects and for longer duration than 10 weeks may be studied.

2. The effects of circuit training and the aerobic fitness programmes on various physical, physiological and psychological characteristics of trained and untrained groups of students of different age groups and sex may be studied.

3. The effect of various degrees of intensity, density, duration and frequency of load of circuit training and the aerobic fitness programmes on physical, physiological characteristics may be undertaken.

4. The effect of circuit training and aerobic fitness programmes may be investigated on physical fitness ability and physiological variables of migrated and non-migrated tribal boys and girls.
5. The effect of circuit training and aerobic fitness programmes on performance variables, physical and physiological characteristics of urban and rural school boys may be investigated.

6. The effect of different other physical training methods may be investigated on physiological and motor-fitness variables of tribal and non-tribal boys and girls.