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*Chapter - I*

**INTRODUCTION**

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### INTRODUCTION

The world greatest thinkers have stressed the importance of physical fitness in leading a productive and meaningful life, the Greek philosopher Aristotle stated that the body is the temple of soul and to reach harmony among body, mind and spirit a human being must be physically fit.

Many scientific students in the fields of physical education and sports have proved beyond any doubt that on exercise programme or regular physical activity improves ones physical fitness level and ability to meet variety of physical tasks in day-to-day life physical fitness comprises of many components such as strength, endurance, agility co-ordination, flexibility etc.

Fitness means the ability of an individual to live a happy and well-balanced life. Physical Fitness is the capacity of the heart, blood vessels, lungs and muscles to function at optimal efficiency <sup>1</sup>.

Basically fitness means being in good physical condition and able to function at one's best level. Total fitness for living involves spiritual, mental, emotional and social as well as physical qualities <sup>2</sup>.

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1. Charles. A. Bucher and Williams. F. Prentice, "*Fitness, College and Life*". (Toronto. C.V. Mosby Company, 1985), p.27
  2. Charles. A. Bucher, "*Foundation of Physical Education*" (Saint Louis". The CY. Moshy Company 1975).

Total Fitness is the watchwords of today and basic to the total fitness demanded by society is the developmental and maintenance of physically fit man. This is a constant need, which is not altered as man evolves mentally, morally, and socially <sup>3</sup>.

Physical Fitness is a term used to refer to the functional capacity of an individual to perform certain kinds of tasks requiring muscular activity. Physical Fitness is the ability of the body to adopt and recover from strenuous exercise. It is the relation of one's ability to work and play with vigor and pleasure without undue fatigue and with sufficient energy for unforeseen emergencies. Physical fitness is to ability to last, to bear up and to preserve under difficult circumstances where an unfit person would give up. It is the opposite of being fatigued from ordinary efforts <sup>4</sup>.

Physical Fitness is not only the most important key to a healthy life, but also the basis for dynamic and creative life <sup>5</sup>.

Physical Fitness is necessary for every individual to be physically fit to perform their daily work with ease and to take part in various activities effectively. Every one should be fit enough through participation in physical activities to develop the different physical fitness components <sup>6</sup>.

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3. Indira Gandhi, *"Message"*, Abstract International Congress or SpOr1S Science (Patiala, Netaji Subhas, National Institute of Sports, 1982) pp. 1-10.

4. David K. Miller and T. Earl Allen. *"Fitness a life time commitment"* (Delhi: Sujeet Publication, 1982), p 4.

5. Brain I. Sharker, *"Physiology of Fitness"* (Champaign: Human Kinetics Publishers Inc., 1984), and p.55

6. Margaret J. Safrit, *"Introduction to measurement in physical education and exercise"*, (SI. Louis: Times mirror / Mosby college Publishing, 1986). P 78

Physical fitness is the ability to meet the physical demands of daily life and meet to resist diseases associated with inactivity. Physical fitness enables people to perform well in sports and other activities and to look and feel their best.

Physical fitness can be classified into two main kinds:

1. Performance related and
2. Health-related.

People face different physical demands in the course of their occupations and leisure time. Therefore, the necessary type of conditioning, which may be called performance-related physical fitness, varies from one individual to another. For example, a stockbroker who runs marathon races for recreation requires a high capacity of the heart and lungs to deliver oxygen to leg muscles. On the other hand, a factory worker who lifts heavy crates but reads for relaxation primarily requires great leg and upper body strength to meet daily physical challenges.

The requirements for health-related fitness are similar for all people. Everyone must maintain certain aspects of health-related fitness to feel good and to resist disease.

## **PERFORMANCE-RELATED FITNESS**

Performance-related physical fitness includes such qualities as muscular strength, aerobic power, anaerobic power, and anaerobic capacity and flexibility.

Muscular strength is the ability to produce force in a single effort. This type of strength is vital to such athletes as discus and javelin throwers, football assistant referee, shot-putters, and power lifters.

Aerobic power is the highest rate at which a person's body can produce energy in the muscles through the use of oxygen. Aerobic power depends on good lung function to supply oxygen to the blood, a strong heart to pump blood to the muscles, and muscles that are efficient in using the oxygen sent to them. Great aerobic power is common among endurance athletes, including cyclists, distance runners, rowers and distance swimmers. These athletes may have twice the aerobic power of untrained people.

Anaerobic power is the ability to produce great force quickly, a combination of speed and strength. The term anaerobic means without oxygen. Highly anaerobic means without oxygen. Highly anaerobic activities use up energy so fast that they can be sustained for only 30 seconds or less. Anaerobic power is needed in such events as the high jump, long jump, 50 to 100 meter sprints in track, rebounding in basketball, and weightlifting.

Anaerobic capacity is the ability to sustain great force for up to 30 seconds. It is important in 200 and 300-meter sprints in track; 25 and 50 meter swims; and any sport involving brief bursts of maximum effort.

Flexibility is the range of motion of body joints. Great flexibility is needed in such activities as dance, gymnastics, high jumping, hurdling, long jumping and wrestling. A high degree flexibility may also help prevent certain sports injuries.

## **HEALTH -RELATED FITNESS**

Health-related fitness includes such qualities as aerobic power, flexibility of the spine, abdominal strength, body fat, cholesterol levels and glucose tolerance.

Aerobic power enables a person to comfortably perform such activities as cycling, racquetball, rowing, running, stair climbing, swimming, vigorous walking, or yard work. Participation in aerobic activities on a regular basis can reduce the risk of coronary artery disease, the most common form of heart disease. Along with diet control, these activities can also help prevent obesity (being too fat) and osteoporosis (loss of bone tissue).

Flexibility of the spine involves the range of motion of the joints of the spinal column, it is important for reducing the risk of low back pain. When in a sitting position with both legs extended, a person should be able to reach within about 4 inches (10 centimeters) of his or her toes.

Abdominal strength also helps to reduce back pain. The abdominal muscles should be strong enough for a person to do about 20 bent -knee sit-ups easily.

## IMPORTANCE OF PHYSICAL FITNESS

Every individual must know the importance of physical fitness. Physical fitness is the capacity of a person to function steadily and smoothly when a situation arises.

Increased physical fitness not only improves health but also improves the performance at work. Hundreds of American companies have backed this idea financially by employing fulltime doctors of Fitness for their workers. The player in good condition generally thought to have the ability to do sustained work over a long period of time. He should have sufficient speed, endurance, power and agility. Cardio-vascular endurance and jumping ability are essential qualities required to be developed by all players.

Bucher states, Games and Sports are a popular pastime for young and old, for boys and girls and for men and women. They offer opportunity for all to obtain exercise, fun and relaxation. They can play an important part in developing physical fitness and skill for use in the leisure time, now and perhaps more important in later years. Many of the skills developed through games and sports may be used: in years to come to keep physically fit <sup>7</sup>.

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7. Margaret J. Safrit "*Evaluation in physical Education*" (Eagle Wood Cliffs, New Jersey Prentice -Hall inc: 1973)(1.216.

Indira Gandhi stated that, Technology covers every 'aspect of life and sports are no exception to it. Sports science has enabled modern youth to develop physical capacities beyond imagination. Sports have become highly competitive and existing records are being broken and bettered with greater rapidity <sup>8</sup>.

### **STATEMENT OF THE PROBLEM**

The purpose of the study was to compare the physical fitness between rural and urban high school girls of Chikmagalur district.

### **DELIMITATIONS**

- 1 The study was delimited to the rural and urban high school girls.
- 2 The study was delimited to selected rural and urban high schools of Chikmagalur district.
- 3 Further the study was delimited to physical fitness components like speed, strength, agility, endurance, power.

### **LIMITATIONS**

- a. Effect of the external factors like climate and food which would have an effect on the result of the study was considered as limitation of the study during the collection of data.
- b. No special motivation technique was used during the collection data.

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8. Hardayal Singh *Op Cit* 115.

## **HYPOTHESIS**

It was hypothesized that the rural high school girls will be better than the urban high school girls in most of the physical fitness components.

## **DEFINITIONS OF TERMS**

### **SPEED**

It is the capacity of an individual to perform successive movements of the same pattern at a fast rate<sup>9</sup>.

“Speed may be defined as the capacity of the individual to perform successive movements of the same pattern at fast rate”<sup>10</sup>.

### **ENDURANCE**

Endurance is the ability to keep on exerting force against a resistance. Cardiovascular endurance relates to the whole body. Local muscle endurance relates to specific limbs or muscle groups<sup>11</sup>.

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9. V 30. Gothi, *Op. Cit.*, P. 107

10. Albert S. Hyman. Et al., (eds) *“Encyclopedia of Sports Science and Medicine”*, New York; The Macmillan Company, 1971.

11. John. D. Lawthes., *“Psychology of Coaching”*, Englewood Cliffs, N.J : Prentice - Hall, 1951, p. 279.

Endurance is the result of physiological capacity of the individual to strain movement over a period of time <sup>12</sup>.

Endurance can be defined as the ability to do sports movement with the deserved availability and speed under conditions of fatigue. The resistance against fatigue during a continuous high stress “Endurance is the physiological condition manifested by the length of time are can persist in any activity <sup>13</sup>.

## **STRENGTH**

Strength is the force that a muscle or muscle group can exert against a resistance in one maximum effort <sup>14</sup>.

“Strength can be defined now much weight can you lift one time” <sup>15</sup>.

## **AGILITY**

Agility is the capacity of an individual as measured by rate of change of his position in space. It is another component it was measured <sup>16</sup>.

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12. *Ibid*, P.262.

13. John. D. Lawthes., “*Psychology of Coaching*”, Englewood Cliffs, N.J : Prentice - Hall, 1951, P. 279.

14. *Ibid*, P.262.

15. Hardayal Singh, Ph.D., “*Science of Sports Training*,” D.V.S. Publication, New Delhi,1972 P. 85.

16. Safrit, *Op. Cit.*, P.334.

It is an important ability in any sports activity. According the Johnson and Nelson agility may be defined as the Physical activity, which enables an individual to rapidly change body position and direction in a precise manner.

## **POWER**

Power is the capacity of the individual to bring into play maximum muscle contraction at the fastest rate of speed.

"Power is the ability to generate maximum force in minimum amount of time".

Power may be identified as the ability to release maximum force in the fastest possible time as is exemplified in the vertical jump, broad jump, shot put, and other movements against a resistance in a minimum of time.

## **SIGNIFICANCE OF THE STUDY**

- 1) This study would help to create awareness of physical fitness.
- 2) This study would help to suggest the physical education programme to achieve the object of student.
- 3) This study will motivate to rural and urban high school girls to participate in physical activities.