CHAPTER I
INTRODUCTION

I.1 - BACKGROUND

Today, a growing emphasis on pretty well and have a long life. Gradually more and more scientific evidence tells us the keys to a fitness and exercises to achieve these principles because it is a challenge to moving. There are many small jobs that require physical exertion. Depending on the muscles than the machines we get around, mechanically mobile society have changed. In total, we continued the rest of the total spending their leisure time (including children) and more people have become a national audience. Accordingly, the point of obesity and excess weight, etc., to show that the problem increases. But statistics vaccine that pays off, so his / her doctor will have to wait until the final returns. The idea is to get everyone to take action now.

Quality Physical is the human body what fine tuning the engine. It helps us to present to our. Exercise is the best appearance, pleasurable sensation who described the situation that helps us do our best. More specifically, it's leisure time activities enjoyed and urgent demands of the energy, excitement and alertly daily tasks to do."It's an unfit person could not continue the scenario process, stress tolerant, stand up, stand is capable of, and being of good health and it is based on a key."

"Physical exercise undue fatigue or impressive strength and energy to meet the demands of any emergency is a sudden he is on the everyday life of ordinary work without fatigue, which refers to the ability to separate organic." Nixon

"Fitness person can act as any characteristic that is the state. Fitness is a personal thing. That his future most effectively live in every person's potential marks. Functional capacity each other mutual associated with all exercise, physical, mental, depends." (Kirchner)

Involves the muscles of the body, heart and lung function and physical fitness. Also, what we do with our physical, mental alertness and emotional stability that we have some degree of such qualities in our minds, affects what you can do with exercise controls.
Health and physical fitness in the lives of men since time immemorial and has a very important role. To the development of the nation and the people who are healthy and physically fit, is in the hands. Everyone wanted to create a happy and efficient living and physical fitness. In order to have a physical to participate in physical fitness activities. Physical function, mental, physical, social and spiritual aspects as well as the opportunities offered by the growth that depends on the personality development of a child is important to the overall growth.

So well planned and properly organized physical education program for school children is very important. Physical activity, health and entertainment throughout the ages is approvable. It was fun and enjoyable. It offered youthful cheerfulness and the elderly. Physical activity and movements, is as old as human life. It has played many roles in the struggle for existence of the fighting.

A sport is an activity in our lives where pursuits of different movement achieved through the total exploration of neuromuscular co-ordination. In this modern era, we can see that each and every individual directly or indirectly related to sports. Modern Physical Education commonly known as there is sports where pursuit of discipline freely formed such as biological, social and physical sciences.

Over decades, the society in general has understood the need for keeping fit and health through organized physical activity program. Scientific proof has made with a clear and that unless man engages himself in organized vigorous physical activity program. The real benefits would not come.

Many researchers strongly support the regular exercises helps one to keep a fit and vessels per beat at rest. As a result of regular exercises and individual’s capacity to use oxygen is improved systematically energy production depends on internal chemical / metabolic change. Health, fitness and performance are poorly connected events. Health is generally defined as freedom from disease, exercise is definitely a man's ability to meet the performance demands of his environment and a better connection.
According to sunderrajan (1983) physical fitness is an intrinsically individualized index. It expresses the individual bio dynamic potential, comprising functional and metabolic components and growth factors buildup and maintained by exercise.

It can be said that Physical exercise, be healthy, enjoy the rest of the immune and deal with emergency situations, is the ability to operate efficiently. Physical fitness of the body, age and gender at work, individuals size, shape varies according to the nature of. For physical fitness we require an efficient motor mechanism, efficient organic mechanism and an efficient mental functioning. A physically fit individual should possess a sufficient reserve of energy to meet the demands of emergencies in which a person is unexpectedly called upon to perform activities demanding unusual expenditure of strength, strength, energy and adaptive ability under unfavorable environment.

Importance of physical fitness

Lead a happy and balanced life is very important for physical exercise. Everyone must maintain a physical exercise, one can easily do the job. Physical fitness, running, walking, lifting, carrying important in daily activities. Exercise also improves body posture and personal appearance. Physical fitness, muscle tissue, reducing the risk of injury and back pain keeps dropping. They also assert that muscular problems usually arise due to lack of physical fitness. Research in the field of physical education in early life to the physical fitness of children who are likely to be active in the future indicate that.

Factors affecting physical fitness

1. Regular exercise
2. Amount of training
3. Rest and relaxation
4. Stress and tension
5. Age
6. Gender
7. Illness
8. Postural deformities
9. Heredity
10. Environment
11. Standard of living
12. Diet
13. Drugs
14. Lifestyles

Health related physical fitness
For better living in day to day life, Health related physical fitness is very important for each person.

Functional or metabolic efficiency of a living being is a state of health. In humans, the disease is common, to be free from injury or pain, a person's mind, body, and spirit is the general condition. The World Health Organization (WHO) as a resource for everyday life, not the purpose of life "is defined as the health. Health, social and personal resources, as well as a positive concept emphasizing the body's ability to."

Maintence and health promotion, health care providers are paid by the health, mental health, social and health issues that prevent or treat together and in some cases better health for humans to improve the "health triangle" of that achieved by a variety of planned activities referred to. Healthy term widely as healthy communities, healthy cities or healthy environments for the benefit of humans in the context of their implications for many types of non-life companies, is used in the context.

Participate in activities your health in many ways. To be a good athlete, you must take care of your body.

To develop this fitness program proper planning and disciplined timetable along with proper diet is required.

I.1.a. Meaning of Physical Fitness

Most authors define ‘physical fitness’s the capability to carry out every day activities without extra. Emphatically this definition is not enough for a modern way of life. By such a definition almost anyone can classify himself as physically fit. Satchel (1977)

Clark (1971) according to physical training and without undue fatigue and lack of energy, and energy and alertness enjoy leisure time pursuits and meet unforeseen emergencies is the ability to carry out everyday tasks.

Fitness is a broad term indicating dynamic qualities that allow satisfying the needs related to mental, emotional balance, special consciousness and adoptability spiritual and oral fear and organic health are steady with heredity. Physical fitness means that organic system of the body is healthy and function efficiently vigorous tasks and leisure activities beyond muscular strength and stamina. Physical fitness implies efficient performance in exercises Bucher and Prentice (1985)
I.1.b. Importance of Physical Fitness

Everyone must know the importance of physical fitness. In other words, one must have a fundamental knowledge of anatomy and physiology. This fundamental knowledge helps person to understand physical fitness. Physical fitness is the capability of a person to function constantly and smoothly when situations arise.

Physical fitness makes you feel mentally sharper, physically comfortable and more with your body and better able to adjust with the demands that every day life makes upon you. Increased physical fitness not only develops health but improves your work performance. Hundreds of American companies have backed with idea financially by employing full time directors of fitness for their work. Gordon Jackson (1985)

The benefits of physical fitness are many. The person who is physically fit has better strength, energy and stamina an enhanced sense of well being better protection from injury because strong well developed muscles defend bones, internal organs as well as joints and keep moving parts limbers and superior cardio respiratory function. Bucher and Prentice (1985)

It is essential for everyone to be physically fit to perform their daily work with ease and to take part in various activities. Everyone should be fit enough through participation in physical activities to develop the different physical fitness components.

I.1.c. Physical Education and Physical Fitness

The main aim of physical education is not to develop star athletes, winning team of expert performance but a national strength with character values and physical fitness. It aims to develop youth into citizen who have the capacity to enjoy vigor and interesting life. Mathews (1967)

According to Falls, (1971) “Physical fitness is a main objective of physical education program and the program is directed toward achieving the objectives through precise development exercises as well as games and activities that help to improve physical fitness”.

5
Harrison Clark (1971) opines “Neuromuscular coordination of individual which include his ability to learn new skill finally to reach competency in physical activities in essential to all phase of physical education”.

I.1.d. Need for Fitness Education

The degree to which a person's ability to function effectively in the treatment of the condition that is characterized. Exercise is a personal thing. It refers to the ability of each person to live efficiently within his potentialities. Falls (1980)

Physical activities help a man achieve high degree of physical conditioning. In schools there is a compulsory physical activities program for all boys and girls, so it would be exciting to find out which of the components have better physical fitness. There are many physical fitness tests to evaluate the ability of the students to carry out daily tasks without unnecessary fatigue.

I.1.e. Physical Exercise and Physical Fitness

Exercise means to an art, energetic and lengthy life, inactivity will kill you. Many people say that exercise makes them feel better and more relaxed number of studies has shown that people develop psychologically as well as physically as a result of running program. There is a lot of circumstantial proof to suggest that this relaxing effect is caused by the release of endorphin, morphine – like substances which occur naturally in our brain. “If you make a savings in exercise it makes you conscious of other reasonable health habits. You are not about to waste your savings” Morehouse and Brass (1975)

According to Lumpkin (1986) “Exercise means using or exerting body play” refers to the resultant action or what the participants do during physical exertion. “Games” range from diversions to competition with important outcomes governed by rules. Freedom from work or duties describe “Leisure” which may or may not be used for physical activity similarly “Recreation” refers recharge one’s strength and spirits after toil again with or without activity. “Sport” encompasses all these diversions and physical activities that are doing for pleasure and success”

I.1.f. Physical activity and physical fitness are important concepts:
I.1.f.i. Physical activity:
It will increase energy costs, defined as body movement produced by muscle activity.

I.1.f.ii. Physical exercise:

It is a specific term and often improve or maintain physical fitness goal, structured, repetitive and purposeful physical activity, including planned.

I.1.f.iii. Physical fitness:

It is based on the daily tasks of living, a degree of protection against chronic diseases and well-being that provides the basis for participation in the game is a physiological condition.

I.1.f.iv. Health:

The overall physical, mental and social well-being is an image. This is more than the absence of disease. Health is not constant in time, and adaptive physical activities close to his poor health may vary with the kind, which is a virtue.

I.1.g. Physical Activity and Fitness Main Descriptors

Physical activity that a person gets the "dose" "FITT" principle is dependent upon factors that may include:

- Frequency: 1 times the amount of physical activity that engages.
- Intensity: how hard is the physical activity?
- Duration: the Physical activity and the duration of the session.
- Type: In particular mode of exercise, which was 1.

These factors, physical activity, "dose" can handle differ. This amount is often spoken of in terms of the cost of energy. If a physical activity difficult, A set amount of calories to reduce the amount of time required to write, which can cost a high proportion of calories can appreciate that.

I.1.h. Clarification of Moderate Amount of Physical Activity
FITT principle is perhaps difficult to measure the intensity of all the factors involved. At least moderate intensity Both adults and youth physical activity guidelines make reference to the importance of exercise. Generally, a person would think that what moderate intensity activity as follows:

- A rate of improvement in breathing, but the conversation is still possible.
- This easily wrist, neck or chest should be felt at the point where the improvement in heart rate.
- Reform is a feeling of warmth, possibly hot or humid day, with sweat on.

It is essential to understand that. For example, as a fitter and features a moderate intensity activity increased respiration, heart rate, and temperature in order to feel sensations such as a high-level intensity activity than an unfit one to do.

- After the intensity of physical activity in so many ways. The following are the most used:

  - The Talk Test:
    - Lecture method of measuring the intensity of the test is a very simple test:
      - Light intensity: Function when operating at low density level of a person's ability to perform or continue to be a formal speech.
      - Moderate intensity: Operating at a moderate intensity level for a person with a speech, but when the function should be capable of taking some of the strain.
      - Vigorous intensity: If a person becomes fighting for Respiratory activity may be a terrible idea, to easily talk.

  - Heart Rate:
    - Radial pulse or heart rate in beats per minute is called the carotid pulse in the wrist called the number to be converted easily to test one. In a short period of time for a full minute or to measure heart rate in beats per minute change can multiply relevant factor.
A resting heart rate and maximum heart rate should be the ability to measure the intensity of the exercise of knowledge most effectively. A unique and completely (ie after morning awakening, or sat quietly for a few minutes) rest / really best measured during the resting heart rate. Women -"age- 200" men - "age-220".

The best way to Target heart rate monitor to find out about the range of the power of exercise Heart rate (RHR) and maximum heart rate (MHR) is subtracted from the rest, and in this way Karvina method. In known (HRR) in a process called, having to use HRR (MHR – RHR = HRR).

- Work considered using a Borg scale rating:

  When you exercise in an effort to experience the physical sensations perceived in terms of how hard it is to work.

- Metabolic equivalent (MET) level:

  Digest (1 mile) of 1 is equal to the total energy your body (oxygen) while reading a book, for example, uses as sitting quietly. Pressure value can be defined as a multiple of. Hard your body is working during physical activity, higher user level met.

I.1.i. Physical Fitness in Ancient India

The reflective tradition of physical fitness in India could be traced back to thousands of years. It has been closely related with the religious practices, traditions & culture of India. The then Indian Physical Education was nothing but contributing to physical fitness.

The physical fitness program was in the type of physical activities like Yogasan, Pranayama, Dand-Baithak, Mallkhamb, Lei, Lathe, Calisthenics, Combative, Dumbbells and the games like, Khabaddi, Kho-kho and Atya-patya have been in trend from time immortal, but the names of the inventor and the dates of their origin are not clearly known. Yet we are aware of the fact that a scientific system of Physical fitness program was in existence in India and it was practiced by the people from time of yore. These physical fitness programs were planned and practiced in ashrams and the temples. The age of oral Vedas have also sounded that the strength as
1 unit of the physical fitness program. This could be reviewed in the following words
“Barona Via Prithivi Testate, Balkan Pasture” (The world stands protected by
strength, worship strength).

Medical authorities of ancient India, such as charka and suhsruta, suggested
physical exercise (Vietnam), oil bath & message for preserving and restoring health.
Suhsruta defined Vietnam as movements of the body that produced sufficiently
dynamic circulation of the blood and rapid respiration to fatigue the individual.
Charaka suggested various exercises to area of disease reduce weight and activate
digestion and delay the advancement of old age. Van Daley and Bennett (1971)

Dance requires a great contact of physical fitness. It has a systematic history
in India and is closely associated with religion. A figure dancing girl of bronze found
in the ancient city of Mohenjo-Daro shows the antiquity of the art and the early
literature reveals the people’s dancing love and important role played in their religion.
In fact, Shiva- one of the trinity of Hindu God was known as ‘the Lord of Dance’. The
growth of physical fitness and motor skills was incorporated in the vocational aims of
particular groups of people especially that of the Kshatriyas. Dancing girls were also
trained to give face to religious concepts and to provide recreation for spectators. The
great epics the ‘Mahabharata’ and ‘Ramayana’ have considered physical fitness as a
very important factor in all welfare. It was promoted through involvement of
Indigenous system of physical activities. Tirunarayanan and Hariharasarma (1985)

The great Nalanda & Takshashila Universities famous in Ancient and
Medieval India had physical fitness program for 12,000 students at one time in the
form of Indigenous activities and gymnastics of Indian origin.

I.1.ii. Physical Fitness in Pre-independent India

The responsibility of education in the year 1833 was in the hands of British
and hence they never paid any interest to the inclusion of physical fitness system in
the school education program. Kamlesh and Sangria (1991)

The Indian independence war of 1857 had suppressed the physical fitness
program of Indigenous physical activities and it was replaced by Westernized type
because the whole country was under the control of the British. The fire of patriotism was injected into the minds of strong Indians to refuse the physical fitness program of Westernized system of physical activities, but in vain. Then rulers themselves were lovers of gymnasium. They patronized some wrestlers – to develop strength and Mallkhamb to develop flexibility as components of physical fitness. Tirunarayanan & Hariharasarma (1985).

In 1870, the education was made a state subject keeping the supervisory power at the centre. Even then, physical fitness program was given no room in the school programs. Kamalesh & Sangral (1991).

The foreign rulers had the attraction of promoting Western games in schools and colleges and thus degraded the indigenous physical activities. To give more impetus, Britain had introduced in India, the gymnastics system of Maclaren’s adopted from the German system, Swedish drill, military drill as adapted by Ling system, Marching & rhythmic exercises adapted from the Danish system & the modern British games like Football, Cricket, Hockey and so forth, to aim at fulfilling the desired components of physical fitness. Tirunarayana & Hariharasarma (1985).

The excellent development of physical fitness program in pre-independence days in India goes to YMCA College of physical education founded in 1920 by Mr. H. C. Buck at Madras (Chennai). The arrangement of Such strength, endurance, flexibility, physical fitness,, speed, agility and so forth, were found a place in the games of Volleyball & Basketball introduced in India by YMCA with the influence of America. Afterwards several institutions, namely, Government College of Physical Education, Hyderabad (1931), Christian College of Physical Education, Lucknow (1932), Training Institute of Physical Education, Kandivali (Mumbai) (1938) sprang up basically to serve the cause of the physical fitness program in India.

The Olympic movement in India resorted to promote participation in high level competition and also to create a interest of participation in games and sports among mass. It was in the year of 1920 that 6 competitors were sent as a Indian team for the first time to represent in Athletics and wrestling in the world Olympic Games held at Antwerp (Belgium) after having made them physically fit and also fit in the skills for the high level performance.
With a view to feed players and athletes for the high level competitions, many physical fitness training programs were launched in order to develop strength, endurance and agility.

I.1.iii. Physical Fitness in Post-independent India

The impact of World War II made to develop physical fitness in the youth of the nation. The need for the national programs of physical fitness was felt by Indian administrators because young people were not in good physical condition for selective services and professional preparation programs. Physical fitness program was very much necessitates for rehabilitating the war sufferers and it was also used in the educational & training institutions in the form of physical therapy, occupational therapy and physical re-training.

After achievement of Independence, maximum importance was given by the Indian Government for the promotion of physical fitness programs to keep the citizens fit, both in body as well as mind for the national security, individual welfare and efficiency in production. The Government launched various measures for the betterment of physical fitness among youths and improved performance of the Indian sportsmen at International level. The development of physical fitness programs was started with the establishment of Rajkumari Sports Coaching Schemes (1953), All India Council of Sports (1954) and National Discipline Scheme (1954).

Many programs with an idea of developing the physical fitness at grass roots level were launched. Each student was given an opportunity to assess the physical fitness level as to develop skill and understanding that will enable him to enjoy productive presence in the school. The physical fitness programs in schools were at the start placed at the hands of retired army officers. There were no special periods allotted for physical fitness; it was expected that students would develop a certain amount of physical fitness through participation in some physical activities.

The Central Advisory Board of Physical Education has made further progress with the ongoing programs on scientific lines by introducing specific schemes like
National Discipline Scheme, National Physical Efficiency Drive, Auxiliary Cadet Corps, Youth Services Camps, Scouts and Guides, National Cadet Corps.

A National Plan of Physical Education and Recreation sponsored by the Ministry of Education finalized in 1956 recommended norms for physical efficiency tests. Government of India, Ministry of Education (1956), one of the programs of National Physical Efficiency Drive as specified above, was sponsored from the year 1959-60 with a particular purpose to create consciousness among the citizens of our country regarding physical welfare, which would help them to achieve a better healthful living and increase the efficiency of work. The factors that normally contribute to the physical efficiency of an individual are nothing but physical fitness components. To assess these factors, batteries of tests in certain physical performances were framed. These are known as “Physical Efficiency Tests”. These tests are as follows: 100 meters run, 800 meters run, Long jump, High jump, and Shot-put. These tests were based on certain standards as per the age group and sex.

In 1959, the tests were conducted in 269 centres of 10 States and Union Territories. The participants were 77,109; out of which 42,357 people got merit certificates and medals. In 1968-69 the tests were administered in 5,500 centers of 12 States and 10 Union Territories and 10,50,000 people took part in it. Out of which 4,10,000 people were qualified for merit certificates and medals and 12 people won national awards. To make it more suitable and specific, the arrangement of National Physical Efficiency Drive had been changed as National Physical Fitness Scheme. This scheme was in process for some years. While managing the batteries of test under this scheme, some difficulties were experienced such as:

(i) Technical events involving substantial training which were to be given in mastering over the performance.

(ii) Over - highlighting of neuromuscular skills.

Besides, there were other essential factors like loose organization, disinterestedness on the part of conductors and Bureaucratic mismanagement in
Education from the ‘State list’ was brought under ‘concurrent list’ by the 42nd Amendment to the Constitution of India in 1976 [The Constitution (42nd) Amendment Act, 1976, Section 57 (c)]. The role of education has become very important instrument on the part of the State and Union Governments. The National Physical Fitness Scheme has become collapse in the State and Union Territory because of the reasons mentioned above. Still the Physical fitness Program is exists only in Andhra Pradesh. The Government of Andhra Pradesh taken wholehearted interest to promote physical fitness, health fitness as well as sports & games related fitness. The Government of Andhra Pradesh has formed a Sports Authority of Andhra Pradesh (SAAP) in the year of 1987 to recommend ways and means to develop physical fitness, health fitness as well as sports & games performances which is missing in the State among the both rural and urban youths. The Governments have been very wholehearted to develop the State at grass root level as “Kreeda Anandhra Pradesh” as a model State in Sports & Games, but there is no standard norms and follow-ups. Therefore, the need for developing physical fitness and raising the performance level in various sports has been considered very important. In order to assess the physical fitness, there is a need to set up norms on the basis of the standard tests. In this direction, an important step has been taken to set up the norms by research boys of the Rayalaseema Region, Andhra Pradesh.

Norm’s referred as standard which is based on statistical procedure for judge the individuals’ performance with reference to others in same age, sex and at particular ability. Hence, physical fitness norms are quite necessary in order to understand the test scores, results and to develop a standard procedure.

The New Educational Policy treats, Education as a unique asset in the present and the future. It states that “Sports and Physical education are a fundamental part of the learning process and will be included in the evaluation of performance” it will have noticeable impact on student’s motivation to take part in sports activities. Hence, however, certain nuisance like the weight, age to be assigned to sports activities in the curriculum of school and college education for making sports performance. The
National Sports Policy in India (2001) has confirmed that sports activities, in which the country has potential and competitive advantage, need to be vigorously encouraged.

I.1.j. Types of Physical fitness

Sense of duty at the end of a century in the form of increased, it was clear that a number of specific parts of the human impact on the level of general fitness. Quality of physical classified among Health-related physical fitness motor quality and fitness for a particular.

I.1.i.i. Health Related component of Physical Fitness

Without undue fatigue of daily life is the ability to work, beginning with health related components of wellbeing contract with health-related quality of disease. The run Hypo muscle strength, muscle strength, cardiovascular endurance is to provide a low-risk, suppleness flexibility, neuromuscular co-ordination and body composition.
Muscular strength

Muscle strength to a maximum force against resistance is the ability of a muscle. Increased muscle strength, muscle contraction force (Kansal D. K. 2008).

Muscular strength is your strength and muscle can apply against resistance for a short duration, anaerobic means without oxygen. Resist the combination of external such as free weights or household items and the weight of your own body. Physiologically, muscular strength is your body's ability to supply ATP (Triphosphate Tri-Phosphate) to your muscle fibers for labor in times of short stories, which range from 0 to about 15 seconds.

The importance of muscular strength: the strength of the muscles may be subjective, a major reason why muscle strength is important for your Daily Living efficient functions. DLAs the most significant reason why they have no ability to sections 6 of fitness are important. At least, to be physically fit to exercise the basic power of the muscles needed for effective Daily Living Activities. While DLAs vary from man to man, you might also consider activities such as push-ups, pull-ups.

Although each of the 6 of stability depend on one another, poor muscle strength can also affects the quality of Aerobic endurance and muscular injury. You can use all kinds of training to better match the power of your muscles. If your strength is you're the weakest of the 6 of physical fitness you need to start weight training.

Wind energy in the muscles of your body in a short period of time by the muscle strength and the ability to produce great amounts of force. Energy, wind energy, and does not require oxygen, provides short-term. Wind energy alternative energy comes from burning carbohydrates, and a short rest, after which time the system needs to fill in a few minutes, can continue. Wind energy, low-impact sports such as tennis and golf. When energy is needed to supplement the fast wind energy is used in aerobic workouts centered.

Improved muscle strength or muscle building muscle and connective tissue, enlarging the cell size and density is formed. One side of their aesthetic value, big muscles and connective tissue injury and long-term weight control have been less than helpful. Muscle tissue, fat, while the rest burns more calories.
**Tips for Building Muscular Strength**

- Focus on your exercises. Concentrate on activities that work precise muscle groups & use a program that divides the routine into precise muscles groups each day more willingly than a full body workout.

- Lift weights slowly & concentrate on using the best technique rather than the most weight. Your workout needs to be well-organized first.

- Lactic acid control. Anaerobic activities create lactic acid build-up in muscle, which can guide to muscle soreness and cramping. Doing some light post cardio workout & stretching before and after workouts can assist remove the lactic acid.

- Gradual development is important. It is more essential to get the proper technique first than look to maximize the weight you can lift. Development of the stress placed on a muscle is essential for continued gains in muscle strength. Averaging 3 sets of 6 – 8 repetitions is an excellent way to increase muscle strength.

- Warming up. A warming up set or light cardiac activity can help to prepare the body & mind for a complex workout without injury.

- Recovery. With more complex workouts & more damage to the muscles as a result, 1 or 2 days of recovery time is necessary. Permitting the muscle to recover fully will also help avoid overtraining injuries.

The muscular strength is normally measured with respect to individual muscles group which are acting together. It is produced by four types of muscle contraction. 1) Isotonic muscular strength, 2) Isometric muscular strength, 3) Isokinetic muscular strength and 4) Eccentric muscular strength.

- Isotonic muscular strength: It is the maximal force used to execute a complex movement by isotonic contraction. It is also known as concentric muscle action or dynamic contraction.
- **Isometric muscular strength**: It can be simply understood by its name only that there is no visible change in muscle’s length.

- **Isokinetic muscular strength**: It’s a maximal force production by a subject with constant speed as well as range of motion. A good example of this type of strength is the strength used in arm stroke for free style swimming.

- **Eccentric muscular strength**: In this type the center of movement is different. The development of active tension during lengthening of a muscle due to some external force in muscular contraction is known as eccentric muscular strength.

- **Muscular endurance**

  The muscular endurance is the 2\textsuperscript{nd} essential factor of health related physical fitness. This term is synonymous with stamina.

  The muscular endurance or stamina allows executing sustained work by muscles over a period of time. The muscular endurance may define as, The ability of a muscle to maintain a certain level of tension or to repeat identical movements or pressures over the maximal period of time with one’s maximal effort (Kansal D. K. 2008).

  Muscular endurance, physical fitness is associated with a significant health unit. Muscular strength is defined as the ability / capacity of a muscle group through a full range of motion, and 1 times the maximum force against opposition effort; muscular endurance is may defined as one’s ability to execute many repetitions with a sub-maximum resistance over a given period of time.

  You have the ability to oppose fatigue when you hold a position or carry something for an extensive period of time. You also have the ability to repeat a movement without getting exhausted. Muscular endurance prevents unnecessary fatigue from work & other daily activities, and allows better success and enjoyment in athletic and recreational endeavors.

  Muscle strength, muscle deals in the shortest time. Less than about 90 seconds, followed by muscle and muscle strength contracts anaerobic activities.
**Importance of Muscular Endurance**

Muscle strength and cardio-respiratory endurance is the link between muscle strength. In order to be fit cardio-respiratory, muscular strength you need to show.

Physiologically while the muscular strength is about type of II, Fast-twitch muscle fibers, muscle strength, and I deal with a particular type of slow twitch muscle fibers need. Your body contains around 15 minutes & seconds in the air over the body, but the two under the age of 90 to strengthen your Type I muscle fibers.

Muscle endurance is evaluated Amount of energy and time and again, that we can build the muscles as well keep the job. Muscular endurance is important to daily activities, which often involve low impact movement. It is all the work of the prime, since especially anaerobic weight lifting repetitions to intense Aerobic activities such as running. Muscular endurance join both energy Aerobic and anaerobic.

**Tips for Building Muscular Endurance**

- Gradual development. Like muscular strength, muscle endurance is increased all the way through overload. Overworking the muscle with a lighter weight but more repetitions is the best way to develop muscular endurance.

- Averaging 3 sets of 10 to 15 repetitions is a best way to build endurance.

- Keep in mind that a spotter should still be needed for the final 1/2 repetitions to get the best benefit.

- Recovery. Rest & recovery is necessary for your muscles but falling the time between sets is a way to force the muscle to have faster recovery rate.

As per the content of the definition, muscular endurance divided into 2 types as follows: 1) Static or Isometric Muscular Endurance and 2) Dynamic or Isotonic Muscular Endurance.
Static or Isometric Muscular Endurance: When the person sustains a certain amount of tension over the period of maximum time as per his stamina, it’s known as Static or Isometric Muscular Endurance.

Dynamic or Isotonic Muscular Endurance: When the person is required to repeat identical muscular movements or pressures through a selected distance for the maximal number of times, it’s known as Dynamic or Isotonic Muscular Endurance.

Muscular Strength and Endurance Activities in Brief

Tension of muscle strength and power to overcome the opponent is capable of muscles. A muscle muscle strength and power to create and maintain a long time. These tension in his wrinkles and strengthen bones and muscle strength and push, lift, pull or carry heavy shopping bags to summon the patience to work muscles.

When a muscle strength and endurance activities, one must put the following in mind:

- With a need to develop the senses - If you are new to this kind of activities away from an unwanted muscle soreness and injuries is to start slowly with lighter resistance.

- There are a lot of muscle strength without using weights of stone steps - the strength to lift weights it is not mandatory. Examples such as push-ups, climbing, handstands include activities such as body weight, elastic tubing and bands, as well as a very simple machine that can muscle strength training and other.

- Body weight or resistance and strength of developing serious adverse childhood and it is possible to grow cartilage and bone damage.

- If there is a doubt, it’s like a PE teacher, physical trainer, doctor.

Cardiovascular Endurance

Cardiovascular endurance meet the demand of the body for a long time to produce a sufficient amount of oxygen to the cells to the lungs, heart, blood's ability.
Cardiovascular exercise, or cardio-respiratory exercise or "cardio" is synonymous with the heart, that lasts longer than 90 seconds in the air is physical activity. If you need to know to understand the word, is cardio respiratory-related heart and lung.

Cardiovascular endurance Your body's ability to maintain aerobic exercise. Physiologically, your body (heart and lung blood vessels of the system) with the potential cardiovascular endurance capacity contracts that lasts longer than 90 seconds oxygenated blood to your working muscles during activity.

**Importance of Cardiovascular Endurance**

You can fit more heart, your lungs, heart and vascular system, cardiovascular endurance is very important because a good health. During exercise, this may be obvious, but there is more. Take your time to show the highest level of cardiovascular endurance exercise you do throughout the rest of it is more efficient when you have the heart, lungs and blood vessels to the computer. The less stress you avoid disease and live a long life and let the sound of your heart and lungs around the clock to keep the material.

- **Flexibility**

  It would bend Seamless stroke of a joint group of to achieve a range of motion. Flexibility is a range of motion, plus the ability to go through. This bending, twisting, lunging, stretching and is very useful for all activities that will entail.

  Flexibility to follow that work: a gymnastics and karate, yoga, and muscle strength, the strength of any such game as muscles, stretching of soft.

  If you work flexibility is important to keep in mind that:

  - One must be patient. It takes a long time to see significant development disorder, usually several days or sometimes months.

  - Never stretch to the point where you feel pain and movement should always be put in areas outside the bouncy or jerkiness.

  - You should never push yourself to copy someone who is flexible than.
- You should stretch regularly.
- A good idea to start exercises for flexibility at a young age.
- Perform stretching when muscles and joints are warm.

It is also essential to know that flexibility exercises are different between boys and girls, and also during the major phases of growth of life.

- **Neuromuscular Co-ordination**

  Nervous integration of Of a muscle or muscle group to a particular work efficiently recruit Related to the capacity of the nervous system. It operates at two levels of neural integration as:

  1) Intra-Muscular Coordination,

  2) Inter-Muscular Coordination.

  Nervous coordination and smooth and precise movements to work together to create a non-serious motor system is the ability of the brain and nervous system.

  The co-ordination activities include following:

  - Adaptation.
  - Balance.
  - Coupling.
  - Differentiation.
  - Orientation.
  - Rhythm.
  - Reaction.

- **Body Composition**

  Body composition means the proportion of fat and non fat components of the human body. That proportion measured by some simple measures. i.e.,

  **Body Mass Index (BMI)**
BMI stands for Body Mass Index. It is a measure of a person's weight and height ratio. It was only a sign of a person's total body fat. In most cases, total body fat, BMI associate with, so an increase in BMI score means that his or her entire body fat. BMI accurate assessment of total body fat in most people, they really are very few exceptional cases. Very muscular healthy people "overweight" category and are always included. On the other hand, an elderly person's "normal" weight category may be coming, but in fact they have little muscle mass with high body fat percentage.

Individual mathematical formulas of BMI, height to weight ratio tables and convenient calculators available on the Internet sites can be evaluated by a number of ways. A normal BMI score is between 18.5 and 24.9. Over a general condition of a person's weight is normal for his or her height. The BMI chart, underweight, normal, overweight or obese are used to classify a person as.

<table>
<thead>
<tr>
<th>BMI</th>
<th>Weight Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 18.5</td>
<td>Underweight</td>
</tr>
<tr>
<td>18.5 - 24.9</td>
<td>Normal</td>
</tr>
<tr>
<td>25.0 - 29.9</td>
<td>Overweight</td>
</tr>
<tr>
<td>30.0 &amp; above</td>
<td>Obese</td>
</tr>
</tbody>
</table>

The BMI or Quetelet index, based on a person's weight and height ratio is a measure. Belgian polymath Adolphe Quetelet during the development of social physics by developed between 1830 and 1850, Their height, divided by the square of a person's body weight is defined as (kg/m2).

BMI as a function of mass and height BMI shows a table or chart that can be determined by using. The BMI is used in a broad variety of cases as a simple way to check the weight of the human body departs from the normal or desirable for a person's height. There is a debate, directly related to the value of BMI measurement is on the. Early in the 19th of the formula known as the Quetelet Index, but after the Key sucking chronic disease in 1972, published in the July issue of the journal paper, a new term 'body mass index' for example popularity, Best Proxy for percent put on body fat, BMI, which. Interest developed in the study of fat in the body due to obesity. Because of its easy, it was broadly used in the hands of the people.
'BMI' provides a simple model of the human body, to allow health professionals to talk about the problems of overweight or underweight open mind. However, BMI is meant to be used as a simple calibration physically inactive people or citizens with an average of body composition. For these people, the following are the current default settings:

- A BMI of 18.5 to 24.9 indicate optimal weight.
- A BMI lower than 18.5 indicate underweight.
- A BMI above 24.9 indicate overweight.
- A BMI above 30 indicate obesity.

For height, BMI is proportional to mass. However, for a given mass, BMI category, height (H2) to inversly. This is a double, and all measurements of body mass measures the natural height of the cube (h3), then twice BMI is. These results in longer having a BMI reported that it is strange compared to their levels of actual body fat. Partnership, Ponderal list is based on the natural scaling with mass m cube (h3). The mathematics teacher Nick Korevaar University of Utah instead the body height or body height class suggests cubing.

It is the real average BMI limit the high BMI. BMI Prime and the weight of the 2 different BMI values calculated at a rate of more than 25 BMI is in the range of the ratio of body weight. BMI Prime Number of measurement is less, but related units. People with a BMI Prime less 0.74 are underweight; Optimal weight between 0.74 and 1.00; At 1.00 or greater. People can not tell at a glance, because BMI Prime percent deviation from their upper weight limits.

BMI is used differently in children. Compared to typical values for other similarly aged children as well as adults then estimated, however. In contrast, a low BMI value of 5 per cent Weight and 95 percentile is considered above is considered obese people,. BMI from 85 to 95 per cent of people under 20 are considered overweight.

BMI is usually associated with the general public as a measure of coordination between the parties has been used to assess and clean as a measure of adiposity can serve. Usually, this index is appropriate for describing trends within the physically inactive or overweight.
Waist – Hip Ratio (WHR)

In a lean waist measured (small) and rounded to the waist may be measured at above the navel (one inch). Greater trochanters hip and buttocks of a vast portion of the measured. Waist-hip ratio (WHR) is the ratio of hip circumference.

According to WHO's data gathering measurements should be:

- Waist circumference: At the top of the iliac crest and the last to feel a stretch-resistant tape between the lower edge of the rib (constant 100 g tension).
- Hip circumference: a wide area around the buttocks, tape (parallel to floor).

Some companies USNIH and NHNE Survey results are usually (lay people), the umbilical cord was obtained by measuring the waist to the top of the ridge iliac. Waist metrics used to measure the use of a little different standards, but research has shown that these rates may underestimate the true waist circumference.

Man to stand with the feet, arms alongside the body weight is distributed evenly and should wear a suit, for both measurements. One must be relaxed and measures must be taken at the end of the regular (at the end). Each measurement should be taken twice; if you value divide by 1 cm from one another, the ratio should be calculated. If the difference between the measurements exceeding 2 by 1 cm, 2 ratings should be taken.

If we think about, the waist is more appropriately measured at small natural waist perimeter (usually just above the belly button) and hip perimeter can be measured at a part of its broader buttocks. If the waist is rounded rather than curved (Ex. Pregnancy and obesity), waist above the navel 1 inch measured in a horizontal position.

I.1.i.ii. Motor Components of Physical Fitness

<table>
<thead>
<tr>
<th>Strength</th>
<th>Endurance</th>
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<td></td>
<td></td>
</tr>
<tr>
<td>Co-ordination</td>
<td></td>
</tr>
<tr>
<td>Flexibility</td>
<td>Speed</td>
</tr>
</tbody>
</table>
Motor fitness, strength, speed, endurance, flexibility and integration. The primary components of a successful sports and motor skills are related to performance.

- **Endurance**: Oxygen and nutrients to the tissues and the ability to deliver an extended period of time to avoid waste. Long Run, and swim method for quantifying this section.

- **Strength**: Time upper body Power for a short period is the ability of a muscle to exert force, for example, Measured by various weight lifting exercises.

- **Speed**: The quickness of movement of limbs whether it is the leg or arm.

- **Flexibility**: The spacious range of motion without the ability to achieve too much fat or muscle tissue.

- **Co-ordination**: Effective movements are achieved, it is the ability to combine the above section.

### I.1.i.iii. Specific physical fitness

![Game and Profession](image)

Specific or work quality is oriented to In sport or profession, for example, with reasonable efficiency, especially to a person's ability to work. Specific training can prepare either an athlete or a worker in their particular field

- **Game**

  Example of athletic training would be training for a 400m sprint in which case a runner performs at ultimate throughout a short distance. In the case of sprinting, the Players in the race locomotively should be trained to run. In a marathon which covers a long distance the athlete must be trained to work constantly for long period.

- **Profession**
All employees to spend at least eight hours a day after work, played a central role in people's lives at work, either on a farm, in the office, factory, etc. Labor power, however, is to become a reality only by its exercise; It's just a job but a human muscle, a certain amount of nerves, the brain will die sets itself in action, and the need to restore."

**Health**

**WHO Definition**

Completion of health, physical, mental and social well-being and the absence of disease or infirmity, not only.

The health of an organism, or metabolic effect on the performance of the stage. In humans, a common condition of the mind and the body is often a State of complete physical, mental and social well-being," he said in 1946 as ill health in its broader approach, to be free from pain or injury.

In general, the background as well as quality of life is of great importance to health status. Keep it that improved health is more and more recognized. Progress through the development and application of health science, but hard work and smart lifestyle choices of society, not only by the person. Who, according to the person's health is an important part of the properties and behaviors, including social and economic environment and physical environment.

More specifically, the following factors have been found to affect the person's healthy or unhealthy condition:

"In the health sector," the idea separate from Medicare, the health of a person on the island report identified the key components of the 3 co-dependent fields Lalonde Report (Canada) came out from. These are:

- **Lifestyle:** Add to personal decisions that can be controlled by the person, or cause, illness or death.

- **Environmental:** In the human body it is the person with little or no control over external and all issues related to health.
• Biomedical: Health (physical - mental) developed in all aspects of the genetic structure of human body are affected.

Safety and health promotion, physical, mental and social well-received by the various combination. In some cases it's "health triangle" referred to. WHO's Ottawa Charter for Health Promotion (1986) in addition to a state of health, but in everyday life, there is a garage. Health, personal and social resources, as well as physical capabilities, highlighting a positive idea.

Is a focus on lifestyle issues and health for people in Alameda functional relationship with survey data, exercise, adequate sleep is a usability regulate alcohol through the development of their health, to keep up a healthy body weight can keep smoking. They said that the central elements of adaptation and self-potential health manages.

A major factor affecting the health status of individuals. It's built, natural and social environment, including the properties. Clean water and air, adequate housing, safe communities and road characteristics, better baby and children's health, contribute to good health.

The genetic organization of parents, and some of the can add person. This health status of the population and play an important role in shaping.

For health care of health care knowledge and practices, as well as individual achievement of the strategy through planned interventions developed and staying healthy is a constant process, and means life style of the management.

A healthy diet is a simple way to maintain your health. A variety of plant and animal based foods are the part of healthy food. Such nutrients give us energy. Nutrients plays important role into building and strengthening bones, muscles and tendons. The pyramid of food is a pyramid-shaped guide of foods separated into parts. Each part shows the suggested intake for each food group (i.e. Protein, Fat and Carbohydrates).

1.2 - STATEMENT OF THE PROBLEM
Comparative Study of Physical Fitness and Health Hazards among the Boarding and Non Boarding Students of Aurangabad District, Maharashtra

I.3 - EMERGENCE OF THE PROBLEM

Growth and development is a lifelong process. Each and every aspect of human being is subject to the process of growth and development. In sports we consider physical and physiological aspects, psychological and social aspects and motor development aspects. Motor development is the most important aspect of growth and development for sports and physical education. It covers the development of motor abilities, sports skills, tactical efficiencies, motor performance and motor behavior.

Here the researcher wants to consider following aspect of motor abilities i.e., reaction time and balance. In this study the investigation is made on the comparative development of reaction time and balance between 14 years and 16 years boys. The researcher is in pursuit to find out if any specific compensatory qualities are found among the boys, which will be beneficial for the development of sports performance in children and also the trainability of reaction time and balance which is the performance prerequisite.

I.4 – OBJECTIVES OF THE STUDY

1. To find out the physical fitness and health hazards among the boarding and non-boarding students of Aurangabad district, Maharashtra.

2. To assess the physical fitness and health hazards among the boarding and non-boarding students of Aurangabad district, Maharashtra.

3. To analyze the physical fitness and health hazards among the boarding and non-boarding students of Aurangabad district, Maharashtra.

4. To study the physical fitness and health hazards among the boarding and non-boarding students of Aurangabad district, Maharashtra.

5. To compare the physical fitness among the boarding and non-boarding students of Aurangabad district, Maharashtra.
6. To compare the health hazards among the boarding and non-boarding students of Aurangabad district, Maharashtra.

7. To understand if any higher or compensatory fitness level among anyone boarding students than others.

8. To observe and evaluate the physical fitness and health hazards among the boarding and non-boarding students of Aurangabad district, Maharashtra.

9. To circulate the collecting data to concern authorities.

I.5 – SIGNIFICANCE OF THE STUDY

1. The study may reveal the physical and health problems of boarding and non-boarding children.

2. Results may prove helpful to establish training system for boarding as well as non-boarding children.

3. Results may also be helpful to enhance sports terminology communication skills with children.

4. Evaluation of development of physical fitness and health hazards may fetch platform for establishing training methodology for children.

I.6 – HYPOTHESIS

1. The research scholar hypothesizes that there will be no significant difference in physical fitness and health hazards among the boarding and non-boarding students of Aurangabad district, Maharashtra.

I.7 – LIMITATIONS

1. Diet and rest of the children was a limitation.

2. Age group is a limitation because the total population of the school is multi aged.

3. Involvement of students during test was a limitation.

4. Physical, mental, weather, school, house and surrounding conditions were a limitation.
5. Organization of the tests was adjusted with the concerned school’s time tables.

I.8 – DELIMITATIONS

1. The study is delimited to both boys and girls.
2. The study is delimited to boarding and non-boarding school children.
3. The study is delimited to the physical fitness and health hazards tests applicable for children.
4. The study is further delimited to the school going children in both categories.

I.9 – OPERATIONAL DEFINITIONS

‘DEVELOPMENT’

- Development is the action of developing or the state of being developed (Oxford Dictionary and Thesaurus, 2005).
- Development is a new stage in a changing situation (Oxford Dictionary and Thesaurus, 2005).
- Development is the act or an instance of developing; the process of being developed (Reader’s Digest Oxford Complete Word Finder, 1992).
- Development is a stage of growth or advancement (Reader’s Digest Oxford Complete Word Finder, 1992).

‘GROWTH’

- Growth refers to quantitative change in the size of the body, for example ‘height’ (TIHANYI, J. 1990). Body segment length and proportions are also direct expressions of the growth process.
- Example of development, height, weight, olive, body refers to a change in the size of measurable (MALINA, R.M. 1988).

‘MOTOR ABILITIES’

The abilities that are responsible for human motor actions are called motor abilities. Strength, speed, endurance, flexibility and coordinative abilities the five motor abilities and their sum total builds physical fitness or condition. These five
motor abilities and their complex form are the basic prerequisites for human motor actions (HARDAYAL SINGH 1991).

General Motor Ability:

This is nerve-muscle coordination skills and hand-eye coordination, eye-foot coordination and motor control through to the entire body, including the integration is defined as motor fitness. Sometimes general motor ability excellent speed, agility, power, balance, coordination and quick reaction time. They are we term the general motor ability, when we're talking about a dramatic motor (muscle) to perform activities of an innate potentials defined by the way various sports athletic gymnastics activities requires basic motor fitness and general physical coordination skills. Hence, the distinction between physical fitness and general sports skills should be made clear to the students. They are must know that a student with poor skill can be physically fit while students who may excel in a sport’s skill, say, throwing may not be physically quite fit.

Physical activity (Department of Health 2004b) associated with a low level of health concern in Britain about the problem is. It has been known that.

In addition, those who are physically active to 50% and 20-30% of premature death (Department of Health 2004b) and type 2 diabetes is a significant low risk. Increasing physical activity levels of the national health policy has become a central focus. U.S. Surgeon General (1996) in the United States in 1996, a report by the health firmly on the agenda of daily physical activity and health to be achieved by 2010, which describes the purpose of Healthy publication in 2000, then was - including the level of physical activity (department of Health and human Services 2000). In the UK, has examined physical activity, which have been a number of reports: a key document at Least Five a Week: effects of physical activity and health published in 2004, its relationship to evidence (department of Health 2004a).

The effect of physical activity on health, cardio-vascular disease research has emerged (Li et al 1995 ;. Paffenbarger et al 1993.). Murray (1996) Lopez activity lost a road crash as ten times as many years of life in developed countries for which was the leading cause of premature death and disability that is found. U.S. Surgeon General (1996) report (after smoking) of preventable death in as the second most
important contribution to the identification of physical activity. Since then, it is affecting the health of ways in which coffee is analyzed and clarified, and its impact, is now better understood. Kahn et al. (2002), an ischemic stroke, non-insulin-dependent (type 2) diabetes, colon cancer, osteoporosis, depression and fall-related injuries were affected by physical activity, the health sector has a review of a number of Booth et al. (2000) at least 17 medical condition, activity has increased as a result of which the identity of the incident. Results Physical activity Health of the World Health Organization's health system and the health of the global society and Fitness (1998 World Health Organization) has threatened to dominate so dramatically recognized in 1998 as a significant contribution to the global obesity epidemic.

Associated with a moderate level of physical activity despite the positive impact, overall levels remain low and a mother-in-law lifestyle is certainly a problem in the west. For example, in England, in 2008, only 38% of men and 28% of the five other women at least moderate intensity physical activity for at least 30 minutes of adult health and increase physical activity (HEPA) recommendation level reached days a week (department of Health 2004a; NHS Information Centre, 2011). Physical activity to promote health-people in a household, gardening, walking and bike as part in during your life, and that includes work. We contribute to the pedestrian and bicycle (or _active travel_) can make to physical

Activity and health has been clearly recognized by the British Government (Department of Health 2009; Department for Transport 2011a). Global Advocacy for physical activity (GAPA) transport policy and system initiative, which has been identified, walking, cycling and public transport to increase the game's systems and applications as a non-transportation investments number, physical activity as one of the seven investment sport for all 'and (the 2011 Global Advocacy for physical activity) across the life span encourages participation.

The purpose of this report for transportation to an increase in the level of physical activity and health can be improved, which is to establish the contributions.

**The contribution of walking and cycling to physical activity**

The introduction to this report, reference Transportation (2011a) increased pedestrian and bicycle, which can produce health benefits that walking and cycling
Department of Health (2004b, 2009), and the Department's idea was to. Walking and
cycling on a variety of health conditions and to establish the effect of travel have also
been a number of studies.

In fact, health researchers studied the interaction will have tended to focus on
the LTPA and as we participate in the game or gym attendance were often dependent
on.

Were able to facilitate this strategy, which was difficult to apply in the area, is
meant. In this very law to get people to participate was particularly difficult. Do not
rely on this facility, as people increasingly turn to walk and style was a natural and
inevitable part of life.

Foot of attention given to support a number of reasons. The health of the
health research can be effective in promoting tourism. Tarara independent random
walks, especially if other major benefits of physical activity, health, safety was
identified as (. Sealers et al 2003 ;; Et Al 2001 Wagner). It (the tarara as a 5 day a half
an hour of moderate intensity activity a week, the government needs to keep fit was
estimated that Ainsworth et al 2000 ;. Ainsworth, 2002; Haskell et al, 2007; .. Et al,
2009 Marshall; pate et al 1995). Day's walk by accumulating small compared improve
fitness and reduce blood as compared to a single row was at least as effective, as there
was growing evidence that in addition, it, in half an hour a day in a competition did
not need to be pressure (Marshall et al, 2009;. Murphy et al, 2009.). Walking or
cycling for transportation of the report that it was a very active way, which showed
that the studies (Adams 2010) were also.

More recent evidence of the need to fit any foot can contribute to the
Government, which has been shown. It is rather critical of the number of steps it is the
intensity of the foot, which is presented. Tudor-seer et al (2011) is the number equal
to 30 minutes of action, a day in vigorous physical activity (MVPA) medium was
collected from a day's goal to translate. Than the 2005-2006 National Health and
Nutrition Examination Survey, collected as part of the Autograph accelerometer-
steps defined and used to detect the number of data (NHANES). They were 20 + years
of age and at least one valid day (ie 24 in the ten hours) for seven days per
accelerometer wore to the 3,523 participants used a statistical model to analyze the
data. 30 minutes to almost 7,900 a day in MVPA translated steps a day for men and 8,300 steps a day for women. All 7 days with valid data on participants (n = 1,197) in a subsample of 150 minutes, about 7,000 steps a day to a week of MVPA translated found. The 7000 collection of weekly MVPA get 150 minutes every day of the week with the same steps a day, while about 8,000 a day together for 30 minutes of MVPA per day is a good proxy measures concluded that.

They, along with health benefits, a very practical focus for intervention has been found to be running. Encouragement of tourism, a mother-in-law of the population (Hills Don 1996) for the promotion of physical activity was found to be the most effective way. the sporty type (Et Al 1999 Zandt) as not to make yourself feel AT evidence of common barriers to physical activity, suggesting that a win. It also said some really short distance (Mokhtarian and Salomon 2001) for non-motorized travel on the priorities that had been found. LTPA in some social groups to understand the level of physical activity was more important, while at the same time, and a more inclusive picture needs to be factored in to. Kerrigan et al. (2006) LTPA and AT education, which differ according to race and income levels showed. Meanwhile, the UK (Adams, 2010) to take part in AT was enormous scope for increase. Tourism to focus on other possible benefits Blamey and Muriel (2004) was described by. The local authorities opportunities for physical activity, and play a major role in the delivery of services, however, they entertain formally obliged by law to provide services that are not explained. Themselves even local authorities are obliged to support the traffic, as falling under, this interaction provides a more effective channel.

Andersen et al. (2000) in the Copenhagen area in Denmark of 20 to 93 (13,422% women and 17,441 men) for a cohort of people aged Mortality rate considered evidence on the influence of various factors. Age, after adjustment for sex and educational level of the bike for three hours a week on average cycle costs and compared to those who do not travel by bicycle to 71% reduced risk of all-cause mortality relative work that is found. Walking in the study was discussed. Proof (2010) prepared for the Department of Transportation Pedestrian and bicycle scheme praised the Web is used in the direction of TAG, the Health Economic Assessment Tool (summer) (ET al. 2008 ‘Ratter) has been used.
Sports specific motor ability

(Sports skills): It's a special game-specific sports skills in public plus special limited motor ability. Thus, the exercise of specific motor ability, talent, ability, motor control and motor educability test is the culmination. Ideally, a person has a good game if the specific and general motor ability, it means that this individual is not only physically fit, but also possesses good motor control and body coordination in addition to excelling in the specific skills of his/her game of specialization.

General Motor Ability

(a) Components of physical fitness: (i) Muscular strength, (ii) Muscular endurance, (iii) Cardiovascular endurance (cardiopulmonary or circulatory respiratory endurance), (iv) Proper body composition (freedom from obesity), (v) Suppleness-Flexibility, (vi) Neuromuscular Co-ordination.

(b) Additional five components of motor performance included in motor fitness: (i) Muscular power, (ii) Agility, (iii) Speed, (iv) Balance, (v) Reaction time.

(d) Three additional components of the motor coordination included in general motor ability. Motor coordination: The harmonious interplay of the muscles strength either with some sensory organ or with another muscle group is known as coordination. However, all muscles work in coordination with one another as well as in coordination with eye. Hence motor coordination is divided into the following three components. (i) Hand-eye coordination: One’s ability of harmonious interplay of hand and arm muscles with visual stimuli is known as hand-eye coordination. (ii) Foot-eye coordination: One’s ability of harmonious interplay of foot and leg muscles with visual stimuli is known as foot-eye coordination. (iii) Whole body coordination: One’s ability of harmonious interplay of all body muscles with one another is known as whole body coordination.

The relational health refers to the one of the levee of the satisfaction with peer, community and mentor deanship (Liang et al., 2002) relational health is an component of healthy psychotically development in this females and is construed through mutual understanding emotional, support,
The health benefits of physical activity include physical, psychological, sociological and mental benefits (Blair and Rodney, 1999; Winkle and Berger1990; Fox, 1999).

1.2 Physical activity and health benefits

The benefits of physical activity have been explored in terms for healthy people, people at risk of some chronic diseases, and people with chronic diseases (Lee et al., 1999; Farrel et al., 2007; Blair et al., 1999; Keelung et al., 2009). In a review of literature, Blair and colleagues (1999) concluded that physical inactivity and low cardio respiratory fitness play roles as mortality predictors as well as overweight and obesity.

Over the last decades the prevalence of overweight and obesity has increased dramatically (Viscera et al., 2002), and this is thought to be partly related to lower levels of physical activity (Jebb and Moore, 1999). Recent evidence suggests the importance of being physically active from an early age such as in childhood. Keelung and colleagues (2009) concluded that even small increases in physical activity may significantly reduce the risk of metabolic syndromes in healthy children. It has been suggested that physical activity in early age such as in childhood and adolescence may help not only to improve choice of a healthy lifestyle in adulthood but will also act to reduce the risk of many cardiovascular and metabolic diseases (Mealy, 2008). Furthermore, the benefit of physical activity in childhood can carry over into adulthood as active children are more likely to be active as adults (Currie et al., 2004).

A recent study by Martins and colleagues (2010) concluded that even among overweight adolescents, participants with higher cardio respiratory fitness were at lower prevalence of cardiovascular disease risk factors.

This highlights the complex interaction between physical activity, adiposity and risk reduction that is not yet fully understood. Given all these findings, the question is: do the public people in Central Scotland engage in a beneficial amount of physical activity for health promotion and is this enough for cardiovascular and metabolic disease risk prevention?
To answer this question, habitual physical activity needs to be assessed using an appropriate method and with valid and reliable objective measures such as accelerometer and heart rate (HR) monitoring.

The concept of physical fitness as old as mankind. Physical fitness every day in the history of mankind has been considered an essential element of life. Ancient people physically, to protect your personal energy, enthusiasm, and depends mainly on the strength. Employed in the hunt for their livings strength, speed, endurance, fitness to run, jump, climb, and like other skills, mastery of basic skills include.

During the last four decades, all of the fourth chapter, age and racial / ethnic groups (Ichinoheet al., 2004) across the adult weight and physical fitness in the fall has been an increase in the prevalence of both individual and degraded physical fitness the range of negative effects and society are serious and multi-dimensional. Coronary heart disease, some forms of cancer, diabetes, hypertension, stroke, gall bladder disease, arthritis, breathing problems, Goût and all cause mortality increases (1999 Catalo) is associated with, including health All risk factors can cause. Adults, physical activity, health-related fitness, and health relationship between the very good (Boucher and Shepherd, 1994) are established. Physical activity, and cardio-respiratory fitness for both low-level and specific disease are associated with a higher risk of death (Thune et al. 1998) .Physical fitness is the joy and the ability to work daily with activity ..