

## 1.1 Introduction

The common people should put an emphasis on sports for a variety of reasons, not just for fun. It assists people in staying healthy and fit so they may get employment and establish themselves in their lives. Sport, without a doubt, plays the biggest role in modern culture when it comes to leisure time usage. Everyone, regardless of age or gender, is generally in favor of sports.

Today, sports are a global trend. Performance in sports has become increasingly necessary and significant over the past few decades. Sports have never been as prevalent, organized, or significant as they are today. It plays a well-known role in contemporary society. It matters greatly to a person, a team, a country, and even the entire globe. Compared to United Nations participation, more nations compete in the Olympic Games.

Sport is a valuable component of the physical education curriculum. Physical education gives students the chance to develop physically, socially, emotionally, and morally in a competitive setting. The most effective means to get social acceptance and prestige in contemporary culture are through sports and games. The terms "motor ability" and "general athletic ability" are interchangeable. Successful athletic skill performance is influenced by a variety of elements. In the majority of advanced and developed nations, the understanding of how children learn and develop motor skills is very scientific and extensive, which may have aided them in reaching a level of general fitness with the development of essential player skills like power, speed, agility, balance, reaction time, etc. **(Clarke, 1976).**

Sports and games have been a part of human life virtually from the beginning of time. Consider it a requirement for his survival. Hunting has been essential to humanity and has become a part of his culture. Whether it was for food, housing, safety from wild animals or other adversaries, or just for fun, games and sports have become an integral component of human society. Sports and games act as a powerful unifying factor and have a significant impact on both national and global integration **(Singh 2004).**

Games and sports are irreplaceable gifts for every person alive today. It promotes a healthy lifestyle that resolves many of the health problems we face in daily life. Many

people choose to pursue this job and become well-known on a global scale. Sport participants now have new options to reach their sport's top performance through the use of advanced technologies in sport training.

Sports provide a purpose in society. Sports change along with culture. Early games were simplistic and had few options. As the cities evolved, clubs were formed, and interclub rivalry started, the roles are currently shifting based on the number of participants and the area. Finally, as transportation improved and long distance travel times were shortened by steamboats and railways, cities competed against one another. In the end, there was competition on a local, national, and worldwide level with corresponding governing bodies. Publicity for a performance at its highest level is one of the sports that provide the most enjoyment. Achieving the highest level requires skill development, mental rigidity, years of dedicated practice, and devotion.

All physical activities that attempt to use, maintain, or enhance physical fitness while also entertaining individuals through informal or organized involvement are considered sports. Sport may be competitive, with the ability to choose a winner or winners through objective criteria, and it may also involve some skill, especially at higher levels. There are several sports, from those with only one player up to those with hundreds of players participating at once, either in teams or individually. Although some non-physical pursuits, such as card and board games, are occasionally referred to as sports, a sport is typically understood to be founded in physical athleticism (**Wuest, 1987**).

Physical education is a vital type of nonverbal communication, much like any other kind of art, and is defined as "the art and science of movement." Primitive people's physical education was informal and unstructured, with survival as its primary goal. The first people to offer physical instruction some structure were the Greeks. Plato, a Greek philosopher, is quoted by Bucher as saying the following about physical education. Except incidentally, they are not meant to train the body; rather, they are meant to ensure proper harmony between initiative and energy on the one hand, and reason on the other, by tuning to the appropriate pitch (**Seidal and Reick, 1974**).

Physical education, which has a lot to do with the human body in addition to the intellectual and sociological aspects of life, is now referred to as the "human

engineering" process. Because of this, physical educators need to have a firm grip on the physical performance of the body to recognize its best application. The application of current scientific knowledge of the relevant regulation is currently necessary for the physical educator or coach to be effective in the fields of athletic training and high performance games and sports.

The ability of the heart, blood vessels, lungs, and muscles to function at their best is known as physical fitness. The best health possible is necessary for enthusiastic and enjoyable involvement in daily activities and leisure pursuits, which is what is meant by optimal efficiency. Fitness at its peak enables a lifestyle that the unfit are unable to live. The entire body must exert strong effort in order to build and sustain physical fitness. The USA Council of Physical Fitness and Sports states that one should have "enough physical capacity to deal with [life's] physical requirements." Sports performance is correlated with physical fitness. "Sports performance is the unity of execution and result of a sports action or a complex sequence of action measured or evaluated according to socially determined and agreed upon norms," **Schanbal (1987)**.

Any physical exercise causes changes in the body's physiology, biochemistry, and psychology. A physical activity's volume, repetitions, intensity, and density—the frequency with which it is performed—all influence how effective it is. These elements, also known as the training variables, should be taken into account when planning the dynamics of training. A competition should be modeled after its psychological and effective traits. Describe the component to emphasize during the training phase prior to a competition to achieve the desired performance goal. It is important to highlight the laws of volume for endurance sports and speed and power sports. Ultimately, training difficulty is essential for sports that call for complex talents.

Physical fitness can be defined as a person's capacity to satisfy the demands of a given task. It is supported by particular sciences such as pediatric and adult physiology, biochemistry, biomechanics, and sports medicine. It generally comprises of components related to physical strength, flexibility, and anaerobic and aerobic fitness. All competitors use one or more of these components of fitness during their daily practice, regardless of performance level, sex, or age. Depending on the nature and demands of the sport, different levels of fitness are required. Consequently, the

most crucial components of physical fitness for each activity must be covered in training programs.

"Physical fitness is the cornerstone of dynamic and creative intellectual activity. It is not only one of the most important keys to a healthy body." This remark emphatically conveys the value of physical fitness. However, you are doing yourself a disservice if you have previously led a sedentary lifestyle and unhealthy eating habits. As a result, maintaining physical fitness requires not only a good diet but also a proper exercise routine.

Physical fitness is the ability to enjoy life and achieve our goals without putting too much pressure or exhaustion on ourselves. It serves as a barrier against age-related diseases and the desire for youth even as we become older. It enables a person to go about their daily activities with enthusiasm, confidence, and lack of anxiety or fatigue.

Since ancient times, training planning has been employed for the Olympic Games or for military goals, albeit in a primitive form. The first competitor who is known to have applied the concept of periodization in the sixth century BC was the Greek athlete milon from the city of Croton. He trained a bull calf by carrying it around on his back every day until it was old enough to be trained. A higher degree of exercise stress is required to induce overload and promote physiological adaptations as levels of a certain fitness component rise.

### **Training:**

Training is a methodical technique designed to increase a sportsman's skill level and build his or her character for a better performance in a certain game or sporting event.

Sports training is a process that takes time and is progressive in nature; it cannot be completed in a single day. Additionally, it fosters a player's overall development and empowers him to make significant societal contributions. Performance in sports is mostly dependent on motor abilities and strategies specific to that activity or game.

Training is a program of physical activity intended to enhance an athlete's abilities and boost their energy capacity for a specific event; as a result, training is crucial for the development of physical fitness components **(William and Sperryn, 1976)**.

Training is a systematic, scientific program of physical activities and conditioning exercises intended to increase a participant's athletic ability and physical fitness. Training is the process of becoming ready for an occasion or cause, such as an athletic competition, a nursing career, or operational performance in military conflict (**Kerr, 1982**).

With the aid of physical exercises, sport training involves participation on all three levels—physical, technical, and intellectual. To perform at the highest level, athletes and players participate in a planned process. Thus, the means and methods of training as well as the overall planning, organization, implementation, and assessment of training are greatly influenced by the type and structure of sports performance. Understanding the nature and structure of athletic performance must be regarded as the first and possibly most crucial step in successfully preparing athletes for higher performance. This information must also serve as the foundation for the process of identifying and developing athletic talent.

In order to achieve a goal, complicated sports motor performance, ability to act, and behaviors are changed by measurements of content, methods, and organization throughout sports training (**Sing, 1991**).

Training for games and sports is no longer a myth, and they do not appreciate a carefree attitude, but they do offer chances for scientific application and validation. It is acknowledged that training is a highly specialized science. With the aid of electromyography, experts working in physical education are attempting to comprehend the numerous aspects impacting skeletal and muscular activity throughout a variety of human actions. They are also engaged in analyzing the biomechanics of the study of sports skills. They are constantly researching the variables that affect these movements and performance, such as strength, limb length, mass, inertia, proportions, and angular and linear velocity (**Millar and Nelson, 1973**).

Physical training refers to the techniques used to improve the physical fitness components, such as how to increase arm and shoulder strength, improve aerobic endurance, strengthen and relax muscles, and match workouts and programs to the demands of particular sports. Sports training, on the other hand, strives to improve performance in athletic competition. Sports training is done in a planned and organized

way to obtain high performance. Sports instruction is based on organized facts and ideas. First, a system that will best enable high performance must be created based on the intended sports training. It is always evaluated, planned, coordinated, and carried out by a coach, a sports teacher, or another individual. The goal of sports training is to uncover latent potential and make the athlete aware of it. It also wants to develop these reserves further. The athletes manage their daily schedules in order to be able to work out once or twice a day with maximum effectiveness.

**Effects of Training:**

Training enables the body to develop strength and endurance over time, enhance skill levels, and increase motivation, ambition, and self-assurance. Athletes can learn more about their sport through training, and they can also learn the value of maintaining a healthy body and mind.

According to **Hardayal Singh, 1984** - Vigorous exercise increases blood flow, blood and lymph flow through the muscles, supplying the cells with oxygen and nutrients and eliminating waste. Accelerated workout and strengthening of the heart's own fibers. Exercise also promotes growth and strengthens tendons, ligaments, muscles, and bones.

Training necessitates a correct assessment of the sportsperson's capacity, strengths, and weaknesses, which must then be planned and formed so that his strengths are further developed and his weaknesses are identified and eliminated. While practice primarily focuses on enhancing the control of muscle action by the neurological system, training enhances the functions of the circulatory, respiratory, and muscular systems. To raise the players' standards of performance and their level of physical condition, many training techniques have been used frequently.

**Bodyweight Training:**

Bodyweight workouts and bodyweight exercises are both forms of strength training that make use of the body's own mass as a source of resistance against gravity. A variety of biomotor skills, including strength, power, endurance, speed, flexibility, coordination, and balance, can be improved with bodyweight exercises. Sports enthusiasts and professional athletes are increasingly embracing this type of strength training. Simple movements like pushing, pulling, squatting, bending, twisting, and

balancing are used in bodyweight training. Among the most popular bodyweight exercises are the sit-up, the push-up, and the pull-up.

According to research in the journal *Physiology and Behavior*, body-weight exercises are a type of resistance training that contribute to muscle growth "independent of an external load." It does, however, more than that. A small sample of young women participated in a 10-week body-weight workout program, and Polish researchers observed increases in seven out of nine physical fitness criteria. With a 33% rise, aerobic capacity saw the highest gains. Lower-body power saw a 6% rise, while muscle endurance—particularly in the core—rose by 11%. Even flexibility improved as a result of the workout.

### **Advantage of Bodyweight Training:**

While certain workouts might require equipment, the majority can be done with just your body weight. Common household materials, like as a bath towel for towel curls, often suffice for exercises needing equipment, or alternatives can be devised (for instance, using a horizontal tree branch to perform pull-ups). Since access to a gym or specialized equipment may not be possible while traveling or on vacation, bodyweight exercises are convenient. Bodyweight exercise also has the benefit of being free.

Bodyweight exercises demonstrate that getting healthy does not have to be difficult. Bodyweight exercises are the best if you're wanting to improve your general health, flexibility, and strength. Here are some advantages that might help you create a complete bodyweight workout schedule for yourself.

Weight training, on the other hand, concentrates on one or two muscular groups at once. Compound exercises are used in a calisthenics training because they work numerous muscular groups simultaneously. As a result, it is better for burning calories than weight training, which includes isolated motions that don't demand much effort.

### **Resistance Training:**

Resistance training, often known as strength training or weight training, involves applying resistance to the muscular contraction in order to increase skeletal muscle size, anaerobic capacity, and strength.

Resistance training is founded on the idea that when needed, the body's muscles will strive to overcome a resistance force. Your muscles get stronger when you perform resistance training frequently and regularly.

The fundamentals of weight training are largely the same as those of strength training, and they involve adjusting the reps, sets, pace, exercise types, and weight moved in order to produce the desired increases in strength, endurance, and size. The objectives of the person completing the exercise will determine the precise combinations of reps, sets, workouts, and weights. Both sets with higher reps and sets with lower reps can be performed using different weights.

Programs for resistance training have generally emphasized one plane of motion (usually the sagittal plane) while stressing the development of a muscle's maximum strength. Training plans should be created using a progressive approach that emphasizes the right exercise selection, all muscle actions, and repetition tempos because all muscles function eccentrically, isometric ally, and concentrically in all three planes of motion (sagittal, frontal, and transverse) at different speeds. Strength must be viewed as a result of activating the neuromuscular system rather than as a function of muscle because muscle is controlled by the central nervous system.

Muscles or groups of muscles are overworked during strength training, the muscular tissue is given time to adjust, and then the muscle is overworked once more. This is effective at the cellular level because overloading results in small rips in the muscle cells. Your body quickly repairs the injury, and the harmed muscles renew and get stronger. In order to assist your muscles heal and get stronger after working out, testosterone, insulin like growth factor, growth hormone, proteins, and other nutrients rush there.

A great way to promote gains in muscular size, strength, power, and local muscular endurance is through resistance exercise. Gains from training, however, are reliant on performing the necessary amount of training at a relatively high intensity, and these parameters typically need to rise as training advances for gains to persist (**Alcaraz, et al., 2008**).

The biggest benefit of weight training is that it targets particular muscle groups to enhance their explosive power. In order to increase the explosive strength of his calf



and leg muscles, for example, a raider who employs his leg muscles in footwork and leg thrusts during the raid can use weight training. Weightlifting not only improves fitness but also boosts injury resistance.

Exercises known as resistance trainings force the muscles to contract against an external resistance in the hopes of gaining more strength, tone, mass, and endurance. In addition to boosting muscle strength and bone density, resistance training can also help you lose body fat. Resistance training, often known as weight training or strength training, involves pitting muscles against a weight or resistance in order to increase skeletal muscular strength, anaerobic endurance, and growth. A well-rounded exercise regimen should include both aerobic and weight training to build athletes' heart and lung capacity and fitness, as well as strength training to enhance bone, bone density, joint function, muscle, ligament, and tendon strength (**Kraemer, 2003**).

For new clients, strength gains can happen quickly with strength training and can rise with an organized, progressive resistance training regimen. An increase in the number of motor units recruited, especially early in a training program, is one element in increasing strength. Up until a recruitment plateau is achieved, using greater loads increases neural demand and the recruitment of more muscle fibers; thereafter, further gains in strength come through fiber hypertrophy.

### **Importunes of Resistance Training:**

As weaker wounded muscles can be strengthened to their pre-injury state with the help of weight training exercises, this training is also advantageous for injured sportspeople who can use the appropriate sort of weight training exercises under professional guidance to recover from the injury. There are several ways to lift weights, including multi-gyms with various exercise stations, lifting with free weights like medicine balls, sandbags, dumbbells, and barbells of varying weights, etc. The athlete should begin with modest weights and gradually add weight. To achieve the optimum benefits, he should progressively raise the weight as the workout becomes easier.

The advantages of weight training for athletes, both competitive and leisure. Resistance training programs frequently have positive effects on athletic performance, muscle size growth, and improvements in strength and power. Resistance training has additionally been proposed as a way to lower the likelihood of musculoskeletal

injuries, or perhaps even to lessen the severity of such injuries. Although there aren't many studies showing how resistance training reduces injury rates directly, the physiological changes it causes in bone, connective tissue, and muscle suggest that people who engage in such training programs will be better protected against harm. The majority of these workouts don't require any special equipment. These workouts automatically correlate one's own body weight with the load intensity. When using workouts that use one's own body weight as resistance and other situations where weight training equipment is not available **(Singh, 1991)**.

### **Combining Bodyweight and Weight Training:**

Bodyweight training is often believed to be the more natural way to exercise in the fitness community. But humans have been using heavy weightlifting for fitness goals for a very long time. So the question is, is weight training or bodyweight training better?

The truth is that none of them can be done better on their own unless you have a specific goal in mind, like increasing your muscle mass, losing weight, improving your fitness solely, etc. In actuality, it will be more advantageous to combine the two methods. Absolutely nothing is wrong with doing that.

Calisthenics by themselves can be helpful for developing a great physique, but they won't give you a massive bodybuilder's physique; instead, they will give you a lean, sexy gymnast physique. There are many people with respectable, attractive bodies who merely perform calisthenics. The ability to control strength, volume, and mass makes heavy weightlifting more effective while trying to develop a muscular physique. In contrast, with calisthenics, you must rely more on your muscles growing primarily from muscle strength. Therefore, combining the two methods would be the best choice if your goal is to have a muscular body with the most strength, speed, and endurance.

Here, I'll discuss the benefits of mixing calisthenics with weight training as well as any potential drawbacks. I will also instruct you on what to do and how to do it.

*"Train your body by paying close attention to weightlifting and calisthenics.*

*You will receive strength, beauty, and conviction as a result."*

**Advantages of Combining both Methods:****Flexibility and Strength**

With various bodily motions, calisthenics aims to improve overall body strength, fitness, and flexibility. However, lifting weights can aid to increase the strength and size of skeletal muscles. You gain both flexibility and strength at the same time when you combine the two techniques in harmony.

**Agility and Stamina**

In the gym, you can activate your fast-twitch muscle fibers by lifting big weights. You gain strength and speed as a result. Calisthenics can help both aerobic and muscular conditioning. Your slow-twitch muscle fibers are engaged, which contributes to an improvement in your stamina.

**Relaxation**

You must mentally prepare for each workout if you want to mix the two techniques. Heavy weightlifting aids in the regulation of your arousal. Calisthenics postures, on the other hand, cause you to perspire and promote relaxation. This aids in reducing tension.

**Training the body and the mind**

Both your physical and emotional health will benefit from using a well-balanced blend of the two approaches. Combining the two techniques keeps you active all day and boosts your confidence.

**Maintenance**

Your metabolism will be boosted by weight training, which will aid in weight loss, bone density growth, and joint flexibility preservation. Calisthenics, however, gives you a superior appearance in terms of your body's shape and muscle balance.

It's important to balance the use of both approaches. It's important to think about HARMONY. If not, you risk overtraining by performing one type of exercise at an excessively high intensity, volume, concentration, or frequency.

The majority of bodyweight exercises are complex or whole-body workouts. It's difficult to locate exercises that exclusively target certain muscles. When you lose fat, your body gradually loses resistance and muscular mass, so it does not grow in proportion to strength. (For example, you do not grow 5 pounds of muscle mass for

every additional 5 pounds lifted on average). To improve resistance, do increasingly intense variations of exercises for each muscle group.

Don't be too sure of yourself. You should gradually incorporate weights into your calisthenics workout. You can perform 50 sets of overhead press and triceps pushdowns, but it doesn't mean you'll be able to accomplish a single handstand pushup.

You must maintain perfect control of your body during workouts or you will pull or damage some muscles. When you use large weights when you aren't ready, you will always injure that specific region of your body. Another disadvantage of overtraining with bodyweight is that you lose flexibility and develop an uneven or disproportionate body structure.

Although combining both methods is good when done in proportion, it necessitates sufficient information, direction from a trainer, appropriate machines, timings, and so on. Otherwise, you risk being harmed or suffering an interior or external injury.

### **Kabaddi:**

Kabaddi is a contact sport that began in Ancient India and is now practiced by thousands of people in towns and villages around the country. Kabaddi is derived from the Tamil phrase Kai - pidi, which literally means "(let's) Hold Hands," which is an important component of the game. In India, it is the state sport of Tamil Nadu, Punjab, and Andhra Pradesh (Roy et. al. 2014).

Kabaddi has grown in popularity around the world. Kabaddi is both an offensive and defensive sport. The attack, in particular, is an individual endeavor, whereas defense is a collaborative one. Physical fitness is an essential component of athletic performance and achievement. The level of performance is directly linked to the quality of a utilization value. That is, the higher the level of fitness. The greater a person's ability to achieve a better level of performance (Williams, 1962).

Kabaddi is a classic outdoor game that is played with minor variations throughout India and most of Asia. It's a traditional backyard and homegrown game. Kabaddi is a sport that reaches out to the masses. The fact that it has become a popular televised sport reflects the shifting tastes of India's sporting audiences. Not only has kabaddi impacted the Indian athletic environment, but it has also transformed the lives of the sport's players and other stakeholders. The league is just going to get bigger. The once-

modest kabaddi is now a vibrant and exciting property and brand that has the potential to develop into a full-fledged sport and entertainment package.

### **Physical Ability of Kabaddi Players:**

The ability of the neuromuscular system to complete specified tasks is referred to as motor fitness. Fundamental motor skills are common motor tasks that follow precise patterns. The majority of sports and movement skills are improved versions of fundamental motor skills. Motor fitness is a broader phrase that encompasses five motor performance components that are essential for athletic success: power, speed, agility, balance, and response time. To achieve their goal in kabaddi, players must have motor, physical, and physiological components.

Kabaddi is a fighting sport in which agility is required for both offensive and defensive techniques; speed and aggression, respectively. Height is definitely an advantage, especially when it comes to increasing offense (**Sundarrajan 1979**). Kabaddi is a team sport that requires speed, stamina, endurance, strength, and ability. Although it is a team event, individual health is critical to the team's performance (**Pandey & Sardar, 2016**).

The game demands agility, muscular co-ordination, breath holding capacity, explosive power, upper and lower body strength, speed, aerobic and anaerobic endurance, flexibility, core strength, quick response and a great deal of presence of mind.

In Kabaddi, specific fitness in terms of strength, sprint, and agility is required, which prepares the athlete to meet the physiological and psychological difficulties that come his way during his professional sport career. Both attackers and defenders must have remarkable physical stamina, aerobic fitness, anaerobic fitness, dynamic balance, agility, individual proficiency, neuromuscular coordination, lung capacity, quick reflexes, intelligence, and presence of mind.

The researcher, who is a kabaddi player, competed at various levels. In this event, the researcher also serves as a qualified Coach and official. The researcher aimed to investigate the effects of resistance training, bodyweight training, and combination training on physical fitness components among kabaddi players based on his expertise and interaction with specialists in the area. Furthermore, relatively little research on kabaddi players has been conducted. As a result, the study concluded that it.

## **1.2 Statement of the Problem**

The purpose of this study was to investigate the effect of resistance training, bodyweight training and their combination on selected physical fitness components of kabaddi players.

The study also indicated that there was a difference in selected physical fitness components such as speed, endurance, agility, flexibility, muscular endurance, upper body strength, and lower body strength among male kabaddi players between the three experimental and control groups.

## **1.3 Objective of the Study**

- To study the effectiveness of resistance training on selected physical fitness components among kabaddi players.
- To study the effectiveness of bodyweight training on selected physical fitness components among kabaddi players.
- To study the effectiveness of resistance training on selected physical fitness components among kabaddi players.
- To study the combined effect of resistance and bodyweight training on physical fitness components.
- To find out which experimental training will be more effective in improving the selected physical fitness components of kabaddi players.

## **1.4 Delimitation**

The following factors were delimited of the study:

- The subjects for the present study were delimited to men Kabaddi players only.
- Only hundred (100) inter collegiate kabaddi players were selected from colleges affiliated with Veer Narmad South Gujarat University, Surat.
- The subjects' ages ranged from 18 to 25 years old.
- The selected subjects were divided at random into four groups of twenty five each (n=25). Group I underwent resistance training, Group II underwent bodyweight running, Group III underwent combined resistance training and bodyweight training, and group IV acted as control group.
- The study was delimited to the following dependent variables.

**Physical Fitness Components:**

- Speed
- Endurance
- Agility
- Flexibility
- Muscular Endurance
- Upper body strength
- Lower body strength
- The duration of the training period was restricted to twelve weeks.

**1.5 limitation**

The following limitations were considered when interpreting the study's findings.

- Some factors such as reasonable behaviors such as living style, daily routine, food, and climatic conditions were not considered in the study.
- Past experience of the subjects in the field of sports and games, which could influence training and data, was not taken into account.
- It was not determined whether the subjects participated in other physical activities and benefited from them.
- Another limitation of this study is that no particular motivating strategy will be employed when collecting before and post test data, which may affect performance.

**1.6 Hypotheses**

The following hypotheses were developed for the purpose of the study based on the findings of previous research and the investigator's understanding.

1. There would be a significant improvement on selected physical fitness components due to the effect of resistance training programme.
2. There would be a significant improvement on selected physical fitness components due to the effect of bodyweight training programme.
3. There would be a significant improvement on selected physical fitness components due to the combined effect of resistance and bodyweight training programme.

4. There would be significant difference on selected physical fitness components among resistance training, bodyweight training and combined training (resistance and bodyweight training) groups and control group.

### **1.7 Definition and Explanation of the Terms**

#### **Physical Fitness**

Physical fitness is the capacity to do daily chores with speed, without undue effort, and with enough energy to enjoy leisure activities and deal with emergencies.

- **Hockey, 1989**

#### **Resistance Training**

Resistance training is a common sort of strength training for increasing skeletal muscle strength and size. It employs gravity's weight force to counteract the force created by muscle through concentric or eccentric contraction.

-**Wikipedia**

#### **Bodyweight Training**

Bodyweight exercises are a sort of strength training in which you utilize your own weight to produce resistance against gravity.

#### **Speed**

It is the ability to realize the functional capacity of the engine under certain conditions in the shortest possible time.

#### **Endurance**

Endurance refers to your body's capacity to perform a workout for an extended amount of time.

#### **Agility**

The capacity to control the body's ability to shift position and direction rapidly and accurately is referred to as agility.

- **Consul, 1997**

#### **Flexibility**

Flexibility is an individual's capacity to move the body and its parts across as wide a range of motion as possible without causing damage to the articulations and muscle attachments.

- **Barrow and gee, 1979**



**Muscular Endurance**

It is a muscle's ability to repeat identical actions or pressures or to sustain a given level of tension over time.

- **Johnson and Nelson (1982)**

**Upper Body Strength**

Upper body strength is the body's ability to produce maximal force on an external object with a single maximum effort of the upper body muscles.

**Lower Body Strength**

Lower body strength is the body's ability to produce maximal force on an external object with a single maximum effort of the lower body muscles.

**1.8 Significance of the Study**

1. The study could help physical education teachers discover the level of physical fitness of their students.
2. This study was bring new information to combined training with bodyweight and resistance programmes.
3. The study aided coaches, sports experts, and physical educators in developing a better training program for game performance and player progress.
4. The study was useful for sports administrators, physical educators, and coaches since it revealed the impact of training on physical fitness components.
5. The findings of this study may serve as a foundation for additional intense research in this field in a large population.
6. The results of this study may be used to bring out the effective players among the college students.