CHAPTER – I

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PHYSICAL FITNESS

Physical fitness is the capacity to carry out every day activities not only without feeling excessive fatigue but also keeping in reserve more energy to be used in times of emergencies. Naturally this definition is not accurate and concrete for the level of energy spent by individuals in carrying out every day activities is not uniform. Hence physical fitness should mean differently from individual to individual depending upon the nature of his regular activities.

Physical fitness has been defined as the development and maintenance of a sound physique and soundly functioning organs, to the end that the individual realizes in an optimum measure his capacity for physical activity as well as for mental accomplishment unhampered by physical drains or by a body lacking in physical strength and vitality. Mathews\textsuperscript{1} opines that the physical fitness is the capacity of an individual to perform given physical tasks involving muscular effort. Williams\textsuperscript{2} opines that physical fitness is the capacity of an individual to perform physical work. In the words of Will Goose\textsuperscript{3} physical fitness is the capacity of an activity which must be enough to perform the given task. Physical fitness is the entire organism's ability to function efficiently and effectively. R. Riedman\textsuperscript{4}.
Types Of Fitness

According to current thinking on the physical education profession, physical fitness is either health related or performance related. Physical fitness which is concerned with the development of those qualities that often protect against diseases and frequency are associated with physical activity.

Health Related Physical Fitness.

Certain physiological and psychological factors often effected by physical activity are thought to cause some degenerative diseases such as obesity and coronary heart disease. Thus, health related physical fitness is important to everyone and should be other physical activities such as those requiring strength, endurance, agility and speed.

The components of both health related and performance related physical fitness are similar. For example cardio vascular function, body composition, strength and flexibility. However the degree of development of each varies with the two types of physical fitness compared to health fitness a more extensive development of these components may be required to achieve an appropriate level of performance related fitness. Performance related fitness is often associated with sport. For example athletes may need to develop fitness component of Strength to a greater degree (Performance relate fitness) than average citizens interested in improving and maintaining their health, Bucher5.
Performance related physical fitness

The performance depends largely on physical fitness, that is strength, speed and endurance. Flexibility and various Coordinative abilities are not possible without these motor abilities. Then the improvement of physical fitness is a principle arm in sports training.

The physical fitness can be differentiated into general and specific physical fitness. Each sports activity demands different types and levels of different motor abilities. When a sports person possesses these abilities it is said to have the specific physical fitness. General physical fitness is the level of various motor abilities regardless of any sport which the sports person possesses.

The contribution of general physical fitness towards sports performance is indirect but it should never be over looked, that physical fitness depends largely on the general physical fitness.

Knowing more about the nature of children and the nature of fitness may help us. Find ways of promoting active life styles for every child. Hardayal Singh.

Use of norms

Norms are developed by transforming raw scores of a given norm group into some types of desired scores so that they may be interpreted more easily. Raw scores can be converted into percentage. Correct scores in which the score actually obtained on the test is
decided by the highest possible test scores. This type of conversion is useful for tests of motor skills and abilities. But cannot be used for comparison among tests. Safrit7.

**Construction of Norms**

A norm is a standard point of reference that can provide a basis for judgment. Norms are used to interpret related standing to compare scores or group and either to combine of average scores. Norms imply a large number of cases. One hundred is more desirable.

Norms are derived scores that determine from the raw scores obtained by a specific group on a specific test. A norm should not be believed as a standard against students to be judged. Whenever norms are determined for a given group of pupil, half of the pupil will fall above the middle of the distribution and half will fall below it. There is no inherent value attached to any given norm score. A norm identifies a person in relation to a given sample whose norm has been determined. Any judgment made about the norms is made by the person using the norm score; Barrow and Mc Gee8.

**Criteria for Selecting Norms**

Even though there are many tests to measure the ability of individual, attempt should be made to construct norms. Norms are very useful in classifying the students in particular activity according to their ability. Norms are also used to grade the students.
Educationists have also been interested in this function of measurement. One way of knowing how much a student has achieved is to examine his scores in relation to the scores of others on the same test. In essence the scores of a student can be compared with the scores of other students. Here individual differences are anticipated because some students are expected to perform better than others. This function identifies the test as norm reference.

In professional physical education colleges the AAHPERD youth fitness test variables are being measured for the candidates who seek admission in various courses in Andra Pradesh and in other States of India. Based upon the performance of the candidates they are ranked and admitted in the physical education colleges.

**Reasons for the selection of test**

There are multifarious reasons why a physical educationist should attempt to construct norms in the existence of numerous tests. As the change is the only permanent thing in this universe the existing test may not give exactly what is necessary at the moment to the physical Educator. Hence the attempt to construct norms is very useful in classifying the students in particular activity according to their ability. Apart from that norms are widely used to diagnose the needs and weaknesses of the students to grade the students.

High level of performance might depend upon individuals physical makeup and it is recognized that physical proficiency is
needed for high level of sports performance physical variables which include speed agility, power, strength and endurance that are needed for a good physique as well as excellence of the performance in all activity. Generally sports performance depends largely on physical variables.

**Statement of the Problem**

The purpose of the study was to construct the physical fitness norms for the boys of the higher secondary schools in KADAPA DISTRICT.

**Significance of the Study**

This study would make the following significant contributions.

* This study would help to estimate the present physical fitness status for the boys of the higher secondary Schools in KADAPA District.

* In the Changing Sinario if Physical education has been included in the regular curriculum of secondary schools and marks are being awarded for the examination in Health and physical education. These marks are to be considered for promotions too. The marks thus awarded are to be based on the following aspects.

Knowledge
Physical fitness

Skills

General playing ability

Attendance, discipline etc.,

Physical fitness norms are important aspect in physical education and as such it has assessed and granted on the basis of reliable valid and objective tests. Evaluation can be possible only through valid norms or standard scores for these fitness tests. There is no standard scores for these fitness tests. There is no standard norms available at present for the assessment and grading purpose.

So construction of norms for the reliable and varied test battery, AAHPERD youth fitness test battery – revised 1976, may be of great value to the physical education teachers, students and school administrators.

* Physical fitness norms evolved out of this study would also serve as a guide for the other schools.

* On the basis of the results of this study proper physical education program can be planned effectively for the higher secondary school boys in future.

* This study would provide good opportunity to physical education teachers and coaches in spotting out young talents and for the selection of potential boys for different sports and games.
The relationship among fitness variable would enable to assess whether a boy good in one fitness variable is also good in other variable or not.

**Delimitations**

- This study has been conducted for 500 higher secondary school boys in KADAPA District and their age group has been 16-18 years.

- To find out the physical fitness the AAHPERD youth fitness test has been used. The following items have been taken into account for the test.

  - a. Pull-ups - For muscular strength
  - b. Bent knee sit-ups - Abdominal / his muscular endurance
  - c. Shuttle run - Speed and change of direction
  - d. Standing broad jump - Explosive power of leg / extensor.
  - e. 50 yard dash - For speed.
  - f. 600 yard run / walk - For circulatory endurance walk.

**Limitations**

- Certain factors like habits daily routine diet which may have an effect on the result of the study have not been taken into consideration.
The students belonging to different economic and educational background which might effect their performance have not been taken.

**DEFINITION OF THE TERMS**

**Physical Fitness**

Physical fitness refers to the functional capacity of the individual to perform tasks requiring muscular activity.

Physical fitness can be defined as a state of the organism in which all body systems are functioning optimally in terms of individual requirements those involving great muscular effort, Kennedy Andrian Josef.  

According to Mere House and Miller physical fitness is the quality of the whole body in terms of the state of adoption to physical activity. A physically fit person has good neuro muscular coordination, strength, strong connective tissues and good cardiorespiratory endurance.

However the motor fitness components such as speed, agility, flexibility, muscular power and coordination fall under the broad term physical fitness.

**Norms**

According to Chamber Dictionary, norm is an authority's standard.
Roger had defined norms as standard points of reference to provide basis for judgments or for the determination of relation.

According to Ebel\textsuperscript{11} A norm as the term is used in relation to test scores is the average or typical test scores (or other measure) for number of a series of different homogenous groups such as students in a grade or students in a given age.

This definition is considered for the purpose of this study.

\section*{Muscular Endurance}

Hebbelinck and James Day\textsuperscript{12} have defined muscular endurance as the ability of muscular groups to exert repeatedly on sub maximal amount of force (dynamic) or to maintain a sub maximal contraction over an extended time period.

Muscular endurance is the ability of a muscle to maintain sub maximum force levels for extended periods.

\section*{Agility}

Agility refers to the controller ability to change position and direction rapidly and accurately. James and William\textsuperscript{13}.

According to Cratty and Hutton\textsuperscript{14} “Agility can be defined as the accuracy and speed with which an individual integrates his body parts in various ways.”
Muscular Strength

Muscular strength may be defined as the force exerted by an individual during a single maximal effort\textsuperscript{15}.

Muscular Power

Muscular power is the ability to release maximum muscular force in an explosive manner that is the shortest possible time\textsuperscript{16}.

Power

Power has been defined, as the capacity of the individual to release maximum force in the shortest period of time\textsuperscript{17}.

Speed

Speed has been defined as the capacity of the individual in the rate of making successive movement of the same kind\textsuperscript{18}.

Circulatory — Respiratory Endurance

Clarke\textsuperscript{19} defines circulatory-respiratory endurance as the moderate contraction of large muscle groups for relatively long period of time.
REFERENCES


Cont....


