

Body composition and physical fitness of girl students of physical education

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■ ABSTRACT

The present study was carried out to assess the physical fitness and body composition of the girl students of physical education. Thirty students within the age range 22-25 years without any kind of major illness of cardio-vascular problems were selected for each activity as sample of the study. The mean age of girl students was 23.06 years with the mean height of 155.70 cm and mean body weight 51.10 kg. The blood pressure and pulse rate of the respondents were found to be normal. The selected age group subjects had high average to very good range of oxygen consumption *i.e.* $\text{VO}_2 \text{ max}$ (ml/kg. min.). Majority of the girl students (96.67%) had mesomorph body type as per Quetelet's Index. Highly significant and positive correlation was observed between weight, body mass index, per cent fat and lean body mass. While body density and per cent of fat had shown perfectly negative correlation.

■ **Key Words** : Physical fitness, Aerobic capacity, Body composition, BMI

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Human body is composed of four basic chemical constituents, which are water, protein, mineral and fats. Body size and composition are constantly changing throughout the major stages of life. An understanding of the direction and magnitude of changes in body size, composition, health implication are necessary and to provide approximately health care and nutritional support. Measurements of body composition are more complex than body size. It is important in many human metabolic and physiological studies. For many purposes, anthropometric measurements such as body mass index provide satisfactory information but for detailed studies, more precise method for analysis of body composition is required.

Body composition includes information concerning the amount and distribution of human subcutaneous fat. It is the direct measurement of fat deposits on various parts of the body. It assumes that the total body mass is composed of two major components *i.e.* body fats and the fat free mass (Jayashree, 1999). Fat is one of the basic components built

into all models of body composition. Fat has also received much emphasis for determining physical fitness. Methods to measure body fat can be considered either reference or prediction techniques. The reference methods are body density, total body water and some physical properties of body. Prediction method considers the skin fold thickness. The measurement of skin folds is the most commonly used indicator fatness and is used to describe the subcutaneous fat distribution. The skin fold measure consists of a double layer of skin and subcutaneous fat and measured at many sites on the body with the triceps, biceps, sub-scapular and suprailiac being perhaps the most common regions. The most appropriate 'pinch' sites depend on the purpose of the study and age of the population. Fat distribution varies with age, sex, precision in locating the particular site, the relative homogeneity of the thickness of the layer of fat and skin in a given region. The fact is that increase or depletion of the subcutaneous fat stores is not uniform all over the body. Physical anthropometry using skin fold calipers is practicable