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Research Paper :

Body composition and physical fitness of farm women

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ABSTRACT

The present study was carried out to assess the physical fitness and body composition of the farm women of younger and older age groups. Thirty agricultural women within the working age range of 25-45 years without any kind of major illness or cardiovascular problems were selected for each activity as sample of the study. The mean age of the agricultural women was 31.27years and 40.33 years with the mean height of 151.03 cms and 153.53 cms and the mean body weight of 47.27 kg and 50.13 kg under the age group of 25-35 and 35-45 years age group, respectively. The blood pressure and pulse rate of the respondents were found to be normal. Both the age group subjects had high average to very good range of oxygen consumption *i.e.* Vo2 max (ml/kg.min). Majority of the farmwomen (46.66%) had ectomorph body type and maximum percentage farm women (46.66%) had endomorph body type as per Quetlets Index. Significant and positive relation was observed between age and weight of the respondents. Highly significant and positive correlation was observed between weight and body mass index and per cent. To conclude, the general health condition of selected farmwomen of both the age groups were found to be normal but the older aged subjects had lower fat free mass. The general health condition of selected farmwomen of both the age groups were found to be normal.

Key words : Physical fitness, Body composition, Body mass index and aerobic capacity

Human body is composed of four basic chemical constituents, water, protein, mineral and fat. 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 chemical components *i.e.*, body fat 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 reasons that, it is the most variable component of the body composition, a concern for overweight and obesity, disease mortality and correlates to excess fatness.

Ageing is characterized by reduction in fat free mass primarily via loss of muscles, loss of bone mineral in women, redistribution of body fat leading to increased deposition of body fat in internal fat depots as opposed to subcutaneous depots. Greatest loss of fat free mass occurs after age of 60 years in females. The amount of fat free mass has functional significance in ageing. Fat free mass is the main determinant of physical strength in elderly people.

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 property of body. Prediction method considers the skinfold thickness. The measurements of skinfolds is the most commonly used indicator of fatness and is used to describe subcutaneous fat distribution. The skinfold measure consists of a double layer of skin and subcutaneous fat and is 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 subcutaneous fat stores is not uniform all over the body. Physical anthropometry using skinfold calipers is practicable in field circumstances.