

Comparative Study of Impact of Age on Physiological Variables, Body Composition and Blood Cholesterol in Selected Physical Education Professionals

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Abstract

The purpose of the present study was to find out the impact of age on the physiological variables, body composition and blood cholesterol in selected physical education professionals. The study was conducted on 45 physical education professionals who came to attend a National level Workshop on Research Methodology and Statistical Techniques (Funded by Special Assistance Program of UGC) and organized by Mahadev Desai Sharirik Shikshan Mahavidyalay, Gujarat Vidyapeeth, Gujarat. The age of the subjects ranged between 21 to 50 years. The subjects were selected randomly and divided into three ten yearly age groups. Measured physiological variables included pulse rate (PR), diastolic blood pressure (DBP) and systolic blood pressure (SBP). Body composition was measured by Tonika Body Composition Analyzer and Bio-Chemistry Auto Analyzer was used for the measurement of blood cholesterol. Statistically significant differences were witnessed in the body composition profiles between the three age groups. However no significant differences in PR, SBP, DBP and blood cholesterol were observed.

Keywords: Physical education professionals, Age related changes, Physiological variables, Body composition, Blood cholesterol

Introduction

Aging refers to the normal yet irreversible biological changes that occur throughout a person's lifetime. It is a very complex phenomenon and is influenced by genetic, environmental and life style factors (Tuomi, et al, 1997; Guo et al, 1999; Brach et al, 2004). The aging process takes place at all ages, but for those over sixty five; it often becomes more evident with significant changes in quality of life. With aging, there is accumulation of fat and a substantial loss of muscle mass. Comparison between average young and elderly adult suggest a decrease in the fat free mass to the extent of fifteen to thirty percent by age eighty, with the rate and degree of loss varying widely depending on both genetic and life style influences. During middle age there is typically a gain in body fat, and in some individuals, centralization of body fat with its attendant health risk may also

occur. In very old age, both fat free and fat mass are lost as body weight declines. Previous studies of the relation between body fat and aging found 1 of 2 patterns: either an increase in body fat until early old age, followed by a decrease, or a pattern of steadily increasing body fat with aging (Silver et al, 1993 and Going et al, 1995). Some previous studies of the relation between age and fatness used methods such as measurement of skinfold thicknesses (Najjar & Rowland, 1987) or bioimpedance analysis (Silver et al, 1993) that had problems with reliability. All the various components of the fat free mass – muscle and bone mineral mass, and total body water are reported to be decreased in older men and women relative to young adults. The decline in resting metabolic rate with advancing age is primarily due to this decline in fat free mass. The importance of the issue become all the more important when the age related