

COMPARISON OF ANTHROPOMETRIC MEASUREMENTS IN NORMAL SUBJECTS WITH SUBJECTS HAVING DIABETES MELLITUS AND HYPERTENSION

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ABSTRACT

Background

Methods for direct assessment of abdominal fat include ultrasound, dual energy X-ray absorptiometry, magnetic resonance imaging and computerized tomography. However, these methods are expensive and, in case of computerized tomography, the subjects are exposed to ionizing radiation. The mass screening of population especially in rural areas of India require methods which can be adopted in health camps and OPD settings. Measurements of anthropometric variables such as sagittal abdominal diameter (SAD), waist circumference, hip circumference, waist to hip ratio (WHR) and different measures of skin fold thickness are simple, inexpensive and commonly used methods for indirect assessment of the body fat distribution. (4)

Objective

The present study aims to compare anthropometric measures such as SAD, waist and hip circumferences, WHR ratio, Body mass index, sub scapular skin fold measurements in healthy controls, subjects with diabetes mellitus and subjects with hypertension, in area in and around MGM medical college Kamothe Navi Mumbai

Methods

The conducted study is a cross sectional descriptive study performed in Department of Anatomy, MGM Medical College and Hospital, Kamothe, Navi Mumbai, as per the study design under the supervision of the Guide. The study was conducted in year 2011-12. The material consisted of 300 subjects (100 without diabetes mellitus and hypertension, 100 with diabetes, and 100 with hypertension), in the age group 25-65 years.

Ethical clearance was obtained from IERC (Institutional Ethical Review committee) before starting the study.

Informed consent of participants was taken. Age, sex, history of duration of diabetes mellitus and hypertension was noted.

Results

Anthropometric parameters were compared among controls, diabetics and hypertensive. WC, WHR and SAD were found to be significantly higher in hypertensive and diabetics than in controls

Conclusions

The ethnic origin of the population studied influences the predictive power of various anthropometric indices. Hence, population specific anthropometric indices are needed to identify subjects at risk for hypertension and type 2 diabetes. WC, WHR and SAD are simple, inexpensive anthropometric measurements. It is therefore suggested that WC, WHR and SAD are important markers to be used clinically for screening and to identify people with high risk of diabetes and hypertension.

KEYWORDS: SAD, Waist and Hip Circumferences, WHR Ratio, Body Mass Index, Sub Scapular Skin Fold, Body Fat Distribution, Diabetes Mellitus and Hypertension