

RELATIONSHIP OF BODY MASS INDEX WITH MUSCLE MASS OF ADULT MALE WORKERS FROM SERVICE AND MANUFACTURING SECTORS

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ABSTARCT

The purpose of the present study was to find a relationship between body mass index (BMI) and muscle mass of male industrial workers. BMI and muscle mass of 135 adult males from service sector and 49 adult male from manufacturing sector in the age group of 40-50 years were measured by anthropometric method. The correlation coefficients of BMI and muscle mass of Service and Manufacturing sectors were 0.65 and 0.63 respectively and Mean Square Error (MSE) was 12.45 and 10.83 respectively. In the next step these two group were merged together (135+49=185) and an Experimental group was formed (Phase I). In Phase II Prediction equations for muscle mass was developed from the regression analysis. The correlation coefficient of muscle mass was 0.65 and Mean Square Error was 12.64. In Phase III 100 new subjects (Validation group) were chosen at random from both service and manufacturing sectors. Their BMI was calculated and the Muscle mass was determined by using anthropometric method and also by prediction equation using BMI developed in Phase II. Test retest correlation was carried out using regression analysis of muscle mass obtained by anthropometric method as well by prediction equation. Test retest correlation was high ($r = 0.66$; $MSE = 4.84$). The higher correlation value and lower MSE value show the accuracy of the prediction equation for muscle mass developed in the present study.