



Assesment of anthropometric measurements and clinical survey of elderly in fishing communities

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Abstract

Nutritional anthropometry is concerned with the measurements of the variations of the physical dimensions and the gross composition of the human body at different age levels and degree of nutrition. A study was conducted to assess anthropometric measurements and clinical examination of the elderly in the fishing community. The body measurements selected for the present study were height, weight, Body mass Index and waist to hip ratio for all the subjects surveyed. The sample of the study comprised of 100 elderly men and women (50 Men and 50 women) of the fishing community in the age group of 51 to 70 years. All the samples of the fishermen community were examined for signs of deficiency diseases and general diseases. The results of the study reveal that the overall picture of the anthropometric measurements of the fishermen subjects indicated normal mean values of both Body mass index and Waist-hip ratio. The diets of the fishermen were deficient in all nutrients, and ultimately there is effect on the weight of the subjects. The clinical signs of the sample indicate that they are suffering from angular stomatitis, blurred vision, anemia, joint pains red and raw tongue.

Keywords: anthropometry, body mass index, waist-hip ratio, elderly, fisherman

Introduction

Anthropometric measurements are regarded as important indicators of an individual's nutritional status. Malnutrition, either under nutrition or over nutrition gives rise to detrimental alterations of body composition. If the loss of available energy reserve in the malnourished is severe enough, it can result in increased morbidity or mortality. Anthropometry is a convenient and reliable technique whereby changes in the status of nutrition can be evaluated easily. It also provides a means of monitoring the appropriateness of nutritional therapy. Assistant Professor, Dept of Home Science, DK. Govt. Degree College for women (A), Nellore.

The anthropometric measurements most commonly used for assessing nutritional status are height, body weight, mid-arm circumference and triceps skin fold thickness. Physiologic changes in stature and body composition that accompany aging can be detected by means of nutritional anthropometry. Mitchell et.al, 1982. [1] Changes that occur includes height, weight, body composition and lean body mass. Many changes with age that effect skinfold measurements such as reciprocal changes in lean body mass and body fat, changes in the distribution of body fat and alterations in skinfold thickness, turgor, elasticity and compressibility. A decrease in lean body mass is a characteristic of aging regardless of energy intake. Body mass Index (BMI) relates weight (kg) with height (mts) to indicate body composition. The BMI classifies the subjects as underweight, normal, overweight and obese. Waist to hip ratio (WHR) is a quick measure of fat distribution that may help to indicate a persons overall health. People who carry more weight around their middle than their hips may be at a higher risk of developing certain health conditions. Clinical examination is an important method among the various methods used for assessing the nutritional status of a

community. This method is based on an examination for changes, believed to be related to inadequate nutrition, that can be seen or felt in superficial epithelial tissues, especially the skin, eyes, hair and buccal mucosa or in organs near the surface of the body such as parotid glands and thyroid glands.

Objectives

To assess the Anthropometric measurements of elderly people in fishing community.

Methodology

The sample of the study comprised of 100 elderly men and women (50 Men and 50 women) of the fishing community in the age group of 51 to 70 years. The anthropometric measurements like height, weight, body mass index, waist and hip measurements were calculated. Height was measured to the nearest 0.05 cms with an anthropometric rod. Weights of both men and women of the selected groups were recorded three hours after their noon meal to maintain uniformity in the time of weighing all the subjects were weighed at a specific time with the help of weighing machine. The BMI was calculated using formula $Wt. (kg) / Ht. (mts)^2$ and is also known as Quetlets index. Waist and Hip measurements were calculated with the help of a tape. Clinical examination was carried out through observation of the subject.

Results and Discussion

The Anthropometric indices recorded for the fishermen subjects were height, weight, and hip measurements. From the height and weight Body Mass Index (BMI) and from waist and hip measurements waist /hip ratios were calculated. The data of the fishermen is shown in the table.

Table 1: Showing the Anthropometric Data of Elderly Fisherman Population

Sex	N	Height Cms		Weight Kg.		BMI Wt/(H+) ²		W/H Ratio	
		Mean+SD	T	Mean+SD	t	Mean+SD	t	Mean+SD	t
Males	50	160.33±7.4	3.98***	53±8.23	1.87@	20.6±2.87	0.91@	0.89±0.04	2.25*
Females	50	152.07±8.63		48.73±9.43		21.42 ±4.03		0.86±0.06	
Normal						20 to 24.9		<1	

@ Not significant = <1.96 *P<0.05 = >1.96 **P< 0.01 = >2.58 ***P<0.001=>3.29

The mean height of males was 160.33cms and females was 152.07 cms and the difference was significant (<0.001). As age increases the heights of the subjects was slightly decreased in both males and females which is a general character of ageing.

The mean weight of the males was 53 kgs and females was 48.73 kgs and the difference was not significant. The mean heights and weights of fishermen subjects were within normal ranges, when compared with the standard weights of the Indians i.e., 60kgs for males and 55kgs for females.

Based upon the heights and weights of the subjects the body mass index (BMI) was calculated using the formula weight in kg divided by height (m²). Based on the BMI values, the grades of obesity was assessed. The mean BMI of males was 20.6 kg/m² and females was 21.42 Kg/m² which is considered to be normal. Some subjects had less than 20kg/m² which indicates under nutrition and some subjects had > 30kg/m² indicating Grade-II obesity. Females showed higher values than males.

The mean waist Hip ratio for both males and females was 0.89 and 0.86 respectively. These values indicated the normal levels. (< 1).

Conclusion

The overall picture of the anthropometric measurements of the fishermen subjects indicated normal mean values of both BMI and waist Hip ratio. The diets of the elderly fishermen subjects were deficient in all the nutrients. This deficiency ultimately affects the anthropometric measurements such as weight.

References

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