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Nutritional Profile for Senior Citizens

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ABSTRACT: In this study elderly people were selected and to assess their nutritional status in terms of dietary pattern, anthropometric measurement and health problems. Nutrient intake was determined of the selected subjects. Data were analyzed statistically.

KEYWORDS: Dietary pattern, anthropometry measurements, health problems.

I. INTRODUCTION

The age which qualifies for senior citizen status varies widely. In governmental contexts, it is usually associated with an age at which pensions or medical benefits for the elderly become available. In commercial contexts, where it may serve as a marketing device to attract customers, the age is often significantly lower. (Ahn Shin-Hyun, 2011) Elder abuse occurs increasingly when caregivers of elderly relatives suffer from mental illness. These instances of abuse can be prevented by engaging these individuals with mental illness in mental health treatment. Additionally, interventions aimed at decreasing elder reliance on relatives may help decrease conflict and abuse. Family education and support programs conducted by mental health professionals may also be beneficial for elderly patients to learn how to set limits with relatives with psychiatric disorders without causing conflict that leads to abuse. (Labrum T, 2017) The world population is ageing, and with this, interest in understanding what constitutes healthy ageing is growing. Globally, the population of people aged 60 years and above is expected to double by 2050 reaching 2.1 billion from its current number of 1.4 billion in 2015. (United Nations, 2015)

II. MATERIALS AND METHODS

a). Selection of Subjects

The sampling design adopted here was simple random sampling. Ten from each paid and unpaid homes were selected. As the investigator faces problems in conducting the study in all the selected homes, Senior citizens both male and female in the age group of 60+ to 80+ years randomly selected. It constituted 200 subjects. A structured questionnaire was used to elicit the functioning of the old age home from the respective heads of the institutions. The medical records maintained by the various old age homes and by the senior citizens in non institutions served as a secondary data to understand the health problems of the elderly.

b). Analysis of dietary pattern:

Understanding the current dietary pattern of elderly persons, recommending changes and counseling them about better eating habits is a vital aspect of the study. The details included were type of diet, number of meals, frequency of food consumption, role of elders in menu planning, preference of taste and form of food, preference of food choice and frequency of eating out. In the 24 hour recall survey was conducted to assess their food intake.

c). Assessment of Anthropometric measurements:

Using the standard procedures the height and weight measurements of the selected elderly sample were recorded. For measuring height, a non stretchable fiberglass measuring tape was used. For taking weight of the subject a bathroom scale weighing balance was used. Body mass Index (BMI) was computed by following the formula

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$$\text{BMI} = \frac{\text{Weight in Kg}}{\text{Height in } M^2}$$

III. RESULT AND DISCUSSION

Frequency of food consumption by elders

Food Items	Daily		Alternate days		Weekly		Occasionally		Never	
	M%	F%	M%	F%	M%	F%	M%	F%	M%	F%
Rice	100	100	-	-	-	-	-	-	-	-
Wheat	17	16	14	11	40	41	29	32	-	-
Ragi	19	30	2	1	6	9	18	17	55	43
Pulses	66	58	18	19	15	17	1	6	-	-
Greens	12	12	15	13	69	68	4	7	-	-
Roots and tubers	3	2	1	1	56	47	23	34	17	16
Other vegetables	85	72	3	4	11	20	1	4	-	-
Eggs	3	1	3	2	22	22	41	51	31	24
Sea foods	-	-	1	1	20	16	48	59	31	24
Flesh foods	-	-	1	1	20	16	48	59	31	24
Fruits	47	55	12	13	12	11	22	18	7	3
Milk and Milk products	82	69	-	-	-	-	13	21	5	10
Nuts	13	19	13	12	18	19	48	45	8	5
Sugar and jaggery	69	77	-	-	-	-	13	15	18	8
Fat(Saturated)	14	9	-	-	3	4	21	20	62	67
Fat(Unsaturated)	84	77	-	-	-	-	-	-	16	23

As in institutions, on institutionalized elderly consumed rice daily. While majority (40-41%) of the urban elderly consumed wheat weekly, 43-46 percent of the rural elderly did so only occasionally. A greater percent of rural elders consumed ragi (73-78 percent) while only 45-57 percent of the urban elderly consumed the same.

Mean nutrient intake of the elderly men

Nutrient	RDA	Paid(n=11)		Unpaid (n=7)		Rural		Urban	
		Mean± S.D	't'	Mean± S.D	't'	Mean± S.D	't'	Mean± S.D	't'
Energy (K.cal)	1800	1502 ±103.88	2.74*	1523 ±108.2	2.39*	1504 ±42.37	6.58**	1567 ±94.89	2.37*
Protein(g)	60	38 ±4.31	4.88**	36.6 ±3.78	5.79**	35.9 ±3.79	5.99**	53 ±4.03	1.68NS
Fat(g)	20	23.7 ±4.77	0.74NS	22.6 ±5.56	0.43 NS	23.1 ±5.64	0.52 NS	28.43 ±3.91	2.08*
Calcium(mg)	400	343.9	0.65 NS	334.7	0.85 NS	317.8	1.01 NS	637.86	2.10*

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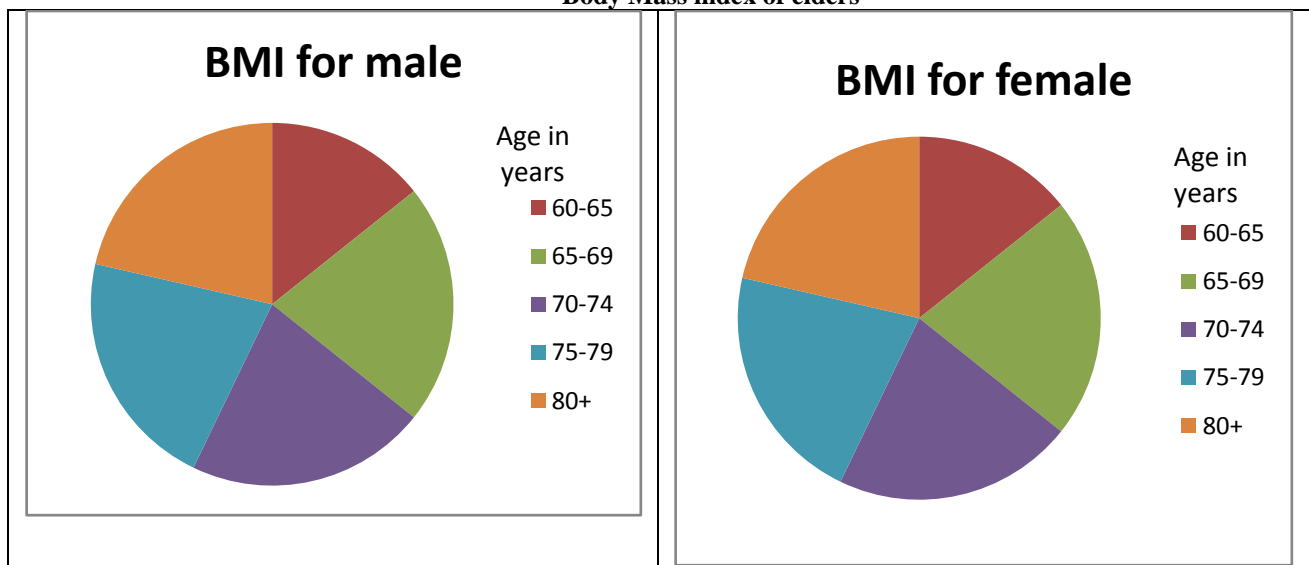
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		±82.72		±71.55		±76.77		±109.4	
Iron(mg)	28	13.8 ±3.42	3.96**	13.4 ±3.20	4.25**	15.1 ±1.35	8.95**	20.43 ±4.20	1.74NS
Carotene(µg)	2400	642.1 ±184.6	9.12**	806.3 ±87.43	17.05**	780.8 ±88.35	17.28**	1691.6 ±241.9	2.83**
Thiamine(mg)	1.2	0.66 ±0.14	3.77**	0.56 ±0.09	6.16**	0.59 ±0.11	5.13**	0.99 ±0.18	1.13 NS
Riboflavin(mg)	1.4	0.90 ±0.38	1.25 NS	0.86 ±0.48	1.05NS	0.81 ±0.21	2.55*	1.1 ±0.39	0.74 NS
Niacin(mg)	16	7.1 ±0.70	12.17**	6.86 ±0.69	12.39**	7.75 ±0.88	8.77**	9.57 ±2.06	3.01**
Vitamin C(mg)	40	26.6 ±5.71	2.24*	27.6 ±6.99	1.66NS	26.63 ±5.90	2.14NS	40.07 ±4.10	0.02NS

** Significant at 1% level * Significant at 5% level NS – Not Significant.

The study shows that all the nutrients barring fat, calcium and riboflavin were significantly lower in all the groups. The intake of protein, carotene, iron, thiamine and niacin were found to be significantly lower ($P < 0.01$) in all groups except the urban elders. The nutrient intake of elderly men of all the income groups revealed lower consumption of energy, protein, iron and carotene as compared to the RDA ($P < 0.05$). In addition, older adults have been reported to consume less than the recommended intake of fruits and vegetables, making them predisposed to the onset of chronic diseases as age advances. (Nicklett E.J, 2013)

Body Mass index of elders



IV. SUMMARY AND CONCLUSION

With regard to frequency of consumption of foods, the consumption of greens was normal in both the homes, with a majority consuming them only weekly. The mean intake of all nutrients except calcium, iron, thiamine and vitamin were lower among women in paid homes than in unpaid homes. Over weight was predominant among urban males and rural females. Grade I obesity was seen among institutionalized female elderly. 'F' value revealed that the BMI of the selected elderly within the group and between the group varied significantly ($P < 0.01$).



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A dietary pattern consistent with current guidelines to consume relatively less amounts of vegetables, fruit, whole grains , and low-fat dairy products may be associated with moderate nutritional status, quality of life and survival in older adults.

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