Nutritional status and dietary pattern in elderly population of Allahpur block in district Bijnor

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Abstract

The objective of this study was to assess the nutritional status of rural elderly population in Allahpur in district Bijnor and find out the dietary habits, clinical signs and symptoms and existing ailments of the selected respondents of rural areas of Allahpur Block. Six villages were selected. A sample of 100 respondents out of which 50 were males and 50 females, aged 60 years and above were selected. Respondents were personally interviewed with the help of pre-tested interview schedule by visiting the six villages. The schedule collected the data regarding the anthropometric measurements, food habits, dietary pattern and clinical sign and symptoms of the respondents. Height in cm and weight in kg were measured with the help of weighing machine and measuring tape.

Keywords: Nutrition, dietary pattern, Bijnor, food habits.

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Introduction

The ageing is a physiological process. Old age is defined as the age of retirement. It is known that the elderly are at risk for nutritional disorders and malnutrition, including under nutrition, nutrient deficiencies and imbalances. A number of age-related physical, clinical, economic and social factors can influence nutritional status; furthermore, changes in the body composition of elderly people and sedentary lifestyles reduce energy requirements and daily energy intakes. Nutrition is an essential determining factor of elderly over the age of 60 years.

Nutritional status is the condition of the body which majorly influenced by the diet; the levels of nutrients in the body and the ability of those levels to maintain normal metabolic integrity. Dietary patterns are defined as the quantities, proportions, variety or combinations of different foods, drinks and nutrients in diets, and the frequency with which they are habitually consumed. After 60 years there are many metabolic and physiological changes which lay impact on the nutritional needs of an individual. Aging is associated with decreased physical activity and

metabolism thereby, the changes in the nutritional requirements of older adults. Balanced nutrient is very important for overall wellbeing. It becomes very important in the perspective of elderly due to physiological changes in the body. Immunity weakens with proceeding age which is influenced by lack of nutrients and differed dietary habits. Elderly are more prone to infections. Good nutrition is important at every stage of life for maintaining good health and personal productivity, and it is especially important to the elderly because of the physiological changes that occur in the body. Even in the best of circumstances, aging weakens the immune system. Insufficient calories, lack of protein, and micronutrient deficiencies in the elderly further weaken their immunity and expose them to infections that may reduce absorption of essential nutrients, thereby compounding the cycle of under nutrition and infection. Age-associated changes like dentition, taste and smell also influence food intake.

Smoking, alcohol consumption, and excessive use of medication are main causes of malnutrition in males. Nutrition is found to be a key factor for successful aging (Arulmani

and John, 2004). Protein energy malnutrition is associated with an increased predisposition to illness, morbidity and mortality; this may change the quality of life (Omran and Hotley, 2000). Encouraging better nutrition and physical exercise is a cost-effective way of decreasing progression of age-related diseases (Fiatarone *et al.*, 1994). Dentition, taste, smell, loss of memory and Parkinson disorders also influence food intake. A lower food intake among those who live alone may be affected by both functional capacities (including fatigue and mobility) and loneliness. A study revealed that elderly people living with their partners living in a better way than those without partner (Barette *et al.*, 2006). As people age, adequate nutrition propels the maintenance of health, physical performance and psychological wellbeing (Bates *et al.*, 2002; Nijs *et al.*, 2006). Poor nutritional status refers to an inadequate or even excessive intake or utilisation of the nutrients to meet the body's requirements (Joshi, 2010). Malnutrition is a common problem among older people living in geriatric nursing homes (Saeidlou *et al.*, 2011).

Materials and Methods

Area of study: Allahpur Block in district Bijnor was purposively selected due to the presence of more number of elderly people. Six villages namely Sherpur Kliya, Bakashanpur, Hariyana, Buapur Nathu, Ajitpur Dasi and Jaitra were selected due to easy approachability and elderly population.

Selection of respondents: The study was conducted among 100 respondents aged 60 years and above. Among them 50 were males and 50 females.

Study Design: Cross-sectional study

Data Collection Tool and Instruments: Pre-tested interview schedule, Weight Machine, Height Scale were used to collect the data and anthropometric measurement. A pre-tested interview schedule was used for collecting the data. The respondents were personally interviewed and information regarding general profile, diet, anthropometric measurements was gathered.

Results and Discussion

Table 1 shows the socio-demographic data of the respondents. Out of 100 respondents 50 percent were male and 50

percent were female. Majority of male respondents 70% and female respondents 74% were 60-70 years old. 22% males and 20% females were 71-80 years old. Minimum number of male 8% and females 6% were 81 and above.

Maximum respondents in both male and female were hindus, whereas 22% males and 22% of females were Muslims. 24% were labourer and most of the males were labourer (32%) and 20% males do other occupation like shopkeeper, sweepers, rikshaw-chalaks, kedars and guard etc. About 24% of male respondents were agriculturist. Maximum respondents among the males 26% and females 50% were illiterate, males 28% and 24% females had primary education, 26% males and 18% females had high school education. 6% of male respondents were graduate. Maximum activity level of 43% was moderate. 68% males and 58% females lived in nuclear families whereas 32% males and 42% females lived in joint family system.

Table 2 revealed that among 100 respondents maximum females 76% and 46% males were vegetarian, whereas 24% males and 12% females were Ovo-vegetarians. 34% males and 38% females were using mustard oil for cooking food.

48% male and 60% female respondents didn't include salad in their diet, and whereas 52% males and 40% females include salad in their diet. Tripathi *et al.*, (2017) suggested that green vegetables should be included in the diet of elderly to increase the iron and calcium intake and elderly people should increase their activity level and decrease the fat content to get rid of pre-obese conditions and weight management. Sweets were preferred by 70% males and 74% female respondents. In rural areas people are usually hard working so water intake of 48% and 28% males was 6-10 and 11-15 glasses respectively. If we look for females, 58%, 24% and 18% drink water around 6-10, 11-15 and 1-5 glasses water respectively. As, Allahpur block is a leading producer of milk and have good quantity of milk cattle so in the study it was concluded that 76 % males and 82% females consume milk and milk product daily. Ghee consumption was found 66% males and 62% females.

Table 1: Socio-demographic data of rural elderly people in the Allahpur block in Bijnor district.

S. No.	Particulars	Male	%	Female	%	N=100	%
1.	Gender	50	100	50	100	100	100
2.	Age(Years)						
	60-70	35	70.00	37	74.00	72	72.00
	71-80	11	22.00	10	20.00	21	21.00
	80 and above	4	8.00	3	6.00	7	7.00
3.	Religion						
	Hindu	39	78.00	40	80.00	79	79.00
	Muslims	11	22.00	10	20.00	21	21.00
4.	Occupation						
	Laborers	16	32.00	8	16.00	24	24.00
	Agriculturist	12	24.00	5	10.00	17	17.00
	Others	10	20.00	15	30.00	25	25.00
	No Occupation	12	24.00	22	44.00	34	34.00
5.	Education						
	Illiterate	13	26.00	25	50.00	38	38.00
	Primary	14	28.00	12	24.00	26	26.00
	High School	13	26.00	9	18.00	22	22.00
	Intermediate	7	14.00	4	8.00	11	11.00
	Graduation	3	6.00	-	-	3	3.00
6.	Activity Level						
	Light	18	36.00	15	30.00	33	33.00
	Moderate	21	42.00	22	44.00	43	43.00
	Heavy	11	22.00	13	26.00	24	24.00
7.	Family						
	Nuclear	34	68.00	29	58.00	63	63.00
	Joint	16	32.00	21	42.00	37	37.00

It is evident that 88% males and 10% females use bidis and hukkas. Chewing of tobacco was done by 58% males and 4% females. None of the women consumed alcohol whereas 70% males did (Table 3).

Table 4 showed that 34% female and 24% males had loss of subcutaneous fat. 50% respondents were found normal in appearance whereas 21% of total respondents were with extra fat or chubby in appearance. Nails of 74% males and 64% females were appeared normal. 22% males and 34% females were having transverse lines on their nails. Out of 100 respondents 45% had broken teeth whereas 28% and 27% had carries and normal teeth respectively. 78% females and 76% males were having normal appetite. 72% females and 64% males were suffering from joint pain. Shaking of body parts like hands

and head was found in 18% of total respondents. Weakness was found in 68% males and 62% females.

It is evident from Table 5 that 49% respondents were with Body mass index of normal range of 18.50-24.99 whereas, 27% were in the pre-obese range of 25-29.99. Very few were found moderately underweight i.e. 5% and 11% elderly were mildly underweight. 6% were found to be obese and 2% was found severely underweight in rural area of Allahpur Block.

A study by Drewnowski *et al.*, (2013) assessed dietary variety in a sample of healthy older adults (age 60-70 years) as it has been reported ageing has been associated with nutritionally inadequate diets.

Table 2: Frequency distribution of respondents according to their food habits.

S. No.	Particulars	Male n=50	%	Female n=50	%	N=100	%
1	Food habits						
	Vegetarian	23	46.00	38	76.00	61	61.00
	Non-vegetarian	15	30.00	6	12.00	21	21.00
	Ovo-vegetarian	12	24.00	6	12.00	18	18.00
2	Meal type						
	Small frequent	24	48.00	21	42.00	45	45.00
	Heavy Meal	26	52.00	29	58.00	55	55.00
3	Water intake(glasses)						
	1-5	12	24.00	9	18.00	21	21.00
	6-10	24	48.00	29	58.00	53	53.00
	11-15	14	28.00	12	24.00	26	26.00
4	Salad inclusion						
	Yes	26	52.00	20	40.00	46	46.00
	No	24	48.00	30	60.00	54	54.00
5	Milk/milk product consumption						
	Yes	38	76.00	41	82.00	79	79.00
	No	12	24.00	9	18.00	21	21.00
6	Sugar/sweet consumption						
	Yes	35	70.00	37	74.00	72	72.00
	No	15	30.00	13	26.00	28	28.00
7	Fat consumption						
	Ghee	33	66.00	31	62.00	64	64.00
	Mustard oil	17	34.00	19	38.00	36	36.00

Table 3: Frequency distribution of respondents according to consumption of harmful substances.

S. No.	Particulars	Male n=50	%	Female n=50	%	N=100	%
1	Consumption of Bidis, Hukka						
	Yes	44	88.00	5	10.00	49	49.00
	No	6	12.00	45	90	51	51.00
2.	Consumption of Tobacco(chewing)						
	Yes	28	56.00	4	8.00	32	32.00
	No	22	44.00	46	92.00	68	68.00
3.	Consumption of Alcohol						
	Yes	35	70.00	-	-	35	35.00
	No	15	30.00	50	100.00	65	65.00

Table 4: Frequency distribution of respondents according to clinical assessment

S. No.	Particulars	Male n=50	%	Female n=50	%	N=100	%
1	<i>General appearance</i>						
	Loss of subcutaneous fat	12	24.00	17	34.00	29	29.00
	Normal	27	54.00	23	46.00	50	50.00
	Chubby	11	22.00	10	20.00	21	21.00
2	<i>Nails</i>						
	Spooning	2	4.00	1	2.00	3	3.00
	Transverse lines	11	22.00	17	34.00	28	28.00
	Normal	37	74.00	32	64.00	69	69.00
3	<i>Teeth</i>						
	Broken teeth	21	42.00	24	48.00	45	45.00
	Carries	17	34.00	11	22.00	28	28.00
	Normal	12	24.00	15	30.00	27	27.00
4	<i>Skin quality</i>						
	Dry	10	20.00	11	22.00	21	21.00
	Pale	12	24.00	10	20.00	22	22.00
	Normal	28	56.00	29	58.00	57	57.00
5	<i>Appetite</i>						
	Normal	38	76.00	39	78.00	77	77.00
	Anorexia	12	24.00	11	22.00	23	23.00
6	<i>Joint Pain</i>						
	Present	32	64.00	36	72.00	68	68.00
	Absent	18	36.00	14	28.00	32	32.00
7	<i>Parkinson syndrome(shaking of body parts)</i>						
	Present	12	24.00	6	12.00	18	18.00
	Absent	38	76.00	44	88.00	82	82.00
8	<i>Weakness</i>						
	Yes	34	68.00	31	62.00	65	65.00
	No	16	32.00	19	38.00	35	35.00

Table 5: Frequency distribution according to the clinical assessment

BMI (kg/m ²)	Results	N=100	%
<16	Severe underweight	2	2.00
16-16.99	Moderate underweight	5	5.00
17-18.49	Mild underweight	11	11.00
18.50-24.99	Normal range	49	49.00
25-29.99	Pre- obese	27	27.00
>30	Obese	6	6.00

Conclusions and Recommendations

From the study it was concluded that maximum respondents were healthy and very few were malnourished. The food habits of elderly population were found to be efficient. Maximum respondents were appearing healthy however; many had joint pains as many were lightly or moderately active. Majority of

respondents had tooth caries and decay due to excessive use of Bidis and Hukkas. The Allahapur block of district Bijnor has healthy environment in terms of elderly. Green vegetables should be included in the diet to increase the iron and calcium intake. Healthy lifestyle and food habits should be maintained through adopting healthy lifestyle practices. Consumption of harmful substances such as

cigarette, drinking tobacco etc. should be avoided or restricted. Elderly people should increase their activity level and decrease the fat content to get rid of joint pain. Bidis, hukkas, tobacco and alcohol should be consumed in limit to maintain teeth, regulate digestion and prevent respiratory problems. Small meals should be taken instead of heavy meals to control diabetes, obesity and indigestion. If possible, Regular doctor check-up should be taken in every 1 year to keep an eye for any disorder and proper functioning of organs of the body.

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