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Dr. Balwinder Kaur
Associate Professor, Govt.
College for Girls, Patiala,
Punjab, India

Prabhjot Kaur
Assistant Professor, Govt.
College for Girls, Patiala,
Punjab, India

Food habits and dietary pattern of the elderly men belonging to different income groups

Dr. Balwinder Kaur and Prabhjot Kaur

Abstract
The present study was designed to know the food habits and dietary pattern of elderly men belonging to different income groups. A sample of 100 elderly males, 50 each belonging to high income group and low income group in the age group of 60 and above were selected from four different villages of district Ludhiana. The method used for investigation was questionnaire-cum-interview method. The questionnaire was formulated according to the requirements of the study. Detailed information on food intake was recorded for three consecutive days by using 24 hours recall method. Dietary survey of older persons provide useful information on the kind and amount of food consumed, food habits, eating pattern and the frequency of use of specific food. For elderly of HIG various lifestyle factors like lack of help with shopping, preparation of food, companionship during meals etc. do play a role in food intake. Some of them did not have regular meal timings as they suffer from acidity or loss of appetite. 28 percent elderly males of high income group and 72 percent of low income group did not have this habit. Biscuit and namkeen were the common food items consumed in between the meals by both income groups, while fruit, panjiri, mathi etc were common food items nibbled in between the meals by high income group. It is suggested that nutritional status of the elderly should be improved through nutrition education and counseling. So family ties should be strengthened for better emotional stability and good health of elderly people.

Keywords: Income group, elderly men, food habits, dietary pattern, nutrition education and counseling

1. Introduction
Nutrition is of prime importance in maintenance of health from cradle to the grave. Our happiness, capacity for rewarding work and even our length of life depends on good nutrition. Nutrition is the science of foods, the nutrients and other substances therein, their action, interaction and balance in relationship to health and disease. Man needs a wide range of nutrients to lead a healthy and active life, and these nutrients are derived through the diet he consumes daily. (B. Srilakshmi, 2009) [5].

Old age is best defined as the age of retirement that is, 60 years and above. Improvement in health care technology has resulted in increased life expectancy. The number of persons in old age has increased. In India, the elderly constitute about 7percent of the total population and by 2016, the number is likely to increase to 10 percent. The number of old age people is expected to cross 177 million by the year 2025. (B. Srilakshmi, 2014) [4].

Ageing is accompanied by a variety of physiologic, psychological, economic and social changes that compromise nutritional status. Nutritional status surveys of the elderly have shown a marked increase in the risk of malnutrition and the evidence of subclinical deficiencies. (Bendich *et al*., 1997) [1].

The dietary pattern and food preferences of the elderly are largely the result of longstanding food habits which are often affected by the individual's social, economic and regional background along with the availability of food at the time when these people were young and their food habits were being formed. (Khanna K *et al*., 2013) [3].

Hence the present study was conducted with the objective to know the food habits and dietary pattern of elderly men belonging to different income groups.

Correspondence
Dr. Balwinder Kaur
Associate Professor, Govt.
College for Girls, Patiala,
Punjab, India

2. Material and Methods

The principle objective of the present investigation was to study food habits, food pattern and dietary intake of elderly men belonging to high and low income groups. The method used for present investigation was questionnaire-cum-interview method. The questionnaire was formulated according to the requirements of the present study. The questionnaire consists a list of questions, which were prepared and arranged in a systematic order to facilitate smooth communication and conversation for collection of data . This included both dichotomous and multiple choice questions on general information, information about family, food habits, food preferences, etc. of the respondents. A sample of 100 elderly males, 50 each belonging to high income group and low income group in the age group of 60 and above were selected from four viallges of district Ludhiana namely, Rajoana, Raikot, Tajpur and Gondwal. The data was collected during the months of February and March in the year of 2016. All the subjects were contacted at their homes. Information about the dietary practices which includes regularity of breakfast, taking tea with meals and frequency of tea consumption was recorded. The daily dietary intake of respondents were recorded for a period of three consecutive days by 24 hour recall method.

3. Results and Discussion

3.1 General Information

The general information of the respondents is given below:

3.2 Age

Table 1: Distribution of respondents according to age

Age group (years)	HIG		LIG	
	Number	Percentage	Number	Percentage
60-70	18	36	14	28
70-80	16	32	22	44
80-90	12	24	12	24
90-100	4	8	2	4

Table 1 reveals that 36 percent respondents of HIG and 28 percent of LIG were of 60-70 years of age and 32 percent respondents of HIG and 44 percent of respondents of LIG were of 70-80 years of age. An equal number of subjects (HIG & LIG) were of 80-90 years of age, only 8 percent respondents of HIG and 4 percent respondents of LIG were in the age group of 90-100 years.

3.3 Educational qualification

Education plays a major role in determining the dietary pattern and its adequacy.

Table 2: Distribution of respondents according to education level

Education	HIG		LIG	
	Number	Percentage	Number	Percentage
Illiterate	6	12	30	60
Primary	12	24	8	16
Middle	8	16	8	16
High school	24	48	4	8

Data in table 2 shows that in the present study 60 percent elderly males of low income group were illiterate, 16 percent were educated up to primary, 16 percent were educated up to middle and 8 percent had studied up to high school. Whereas

in high income group 12 percent elderly males were illiterate, 24 percent were educated up to primary, 16 percent were up to middle and 48 percent had studied up to high school.

3.4 Marital status of respondents

Table 3: Distribution of respondents according to marital status

Marital status	HIG		LIG	
	Number	Percentage	Number	Percentage
Unmarried	-	-	2	4
Married	36	72	28	56
Divorce	-	-	-	-
Widower	14	28	20	40

Table 3 reveals that 72 percent respondents of HIG were married and 28 percent were widower, whereas in LIG 4 percent respondents were unmarried, 56 percent were married and 40 percent were widower.

3.5 Occupation

Occupation affects the food habits and activity patterns of the persons. Therefore data was obtained according to type of occupation.

Table 4: Distribution of respondents according to occupation

Occupation	HIG		LIG	
	Number	Percentage	Number	Percentage
Retired	18	36	-	-
Business	10	20	2	4
Farmer	22	44	30	60
Any other	-	-	18	36

Table 4 shows that 36 percent elderly male respondents of HIG were retired, 20 percent respondents of HIG were businessman whereas 4 percent respondents of LIG were doing menial jobs (like barber, cobbler). 44 percent male respondents of HIG were farmers where as in LIG 60 percent respondents were farmers and 36 percent respondents were doing other works like helping their sons in other daily work like at tea shop, pan-bidi or vegetable shop or doing other works at home.

3.6 Type of Family

Type of family whether nuclear or joint family plays an important role in food intake. As most of the elderly suffer from one or the other disease causing various disabilities and better care can be provided in joint family. Cordial home environment and satisfactory relationships with family members is an important predictor of individual's health.

Table 5: Distribution of respondents according to type of family

Number of family member	HIG		LIG	
	Number	Percentage	Number	Percentage
Joint	28	56	20	60
Nuclear	22	44	30	40

Table 5 shows that 56 percent elderly males from HIG and 60 percent elderly males from LIG were having joint families and 44 percent males of HIG and 40 percent males of LIG having nuclear families.

4 Dietary Information
4.1 Food habits

Table 6: Distribution of respondents according to food habits

Food Habits	HIG		LIG	
	Number	Percentage	Number	Percentage
Lacto-vegetarian	43	86	40	80
Ova- vegetarian	3	6	5	10
Non- vegetarian	4	8	5	10

The present study indicated that majority of elderly males were lacto vegetarians. A few had become vegetarian in old age due to health as well as religious reasons. Table 6 shows that 86 percent elderly males of high income group and 80 percent elderly males of low income group were lacto-vegetarians, 6 percent of high income group and 10 percent of low income group were ova vegetarian while 8 percent of high income group and 10 percent of low income group were non-vegetarian. Ova- vegetarian consumed eggs once a week or fortnightly in boiled, omelete or curry form. Non vegetarians consumed fish and chicken once a week or fortnightly in roasted or gravy form.

4.2 Regularity of meal time

Table 7: Distribution of respondents according to meal timings

Meal timings-regular	HIG		LIG	
	Number	Percentage	Number	Percentage
Yes	46	92	44	88
No	4	8	6	12

In the present study it was found that 92 percent male respondents of high income group and 88 percent of low income group had regular meal timing whereas 8 percent male respondents of high income group and 12 percent of low income group did not have regular meal timings because some of them were suffering from acidity, and poor appetite while some were at work so unable to consume at right time.

4.3 Nibbling in between meals

Table 8: Distribution of respondents according to nibbling in between meals

Nibbling in between meals	HIG		LIG	
	Number	Percentage	Number	Percentage
Yes	24	48	14	28
No	26	52	36	72

Table 8 shows that 48 percent elderly males of high income group and 28 percent of low income group had the habit of nibbling in between meals whereas 52 percent elderly males of high income group and 72 percent of low income group did not have this habit. Biscuit and namkeen were the common food items consumed in between the meals by both income groups, while fruit, panjiri, mathi etc were common food items nibbled in between the meals by high income group.

4.4 Skipping of meals

Table 9: Distribution of respondents on the basis of skipping meals

Skipping of meals	HIG		LIG	
	Number	Percentage	Number	Percentage
Yes	6	12	16	32
No	44	88	34	76

Table 9 indicates that 88 percent elderly males of high income group and 76 percent of low income group did not skip any major meal, where as 12 percent male respondents of high income group and 32 percent of low income group were skipping one or the other meal because of poor appetite. Most often they missed lunch and consume only a cup of tea in the afternoon and had late breakfast and early dinner.

4.5 Keeping Fast

Table 10: Distribution of respondents on the basis of keeping fast

Keeping Fast	HIG		LIG	
	Number	Percentage	Number	Percentage
Yes	-	-	10	20
No	50	100	40	80

None of the subjects in high income group was observing fast while 20 percent of low income group subjects were keeping fast. Religious belief was the main reason for keeping fast. They kept fast on the ekadashi, janamastmi, ramnavmi and during navratras.

4.6 Frequency of eating out

Table 11: Distribution of respondents according to frequency of eating out

Frequency of eating out	HIG		LIG	
	Number	Percentage	Number	Percentage
0ccasionally	36	72	34	60
Never	10	20	10	28
Fortnight	4	8	6	12

Table 11 depicts that majority of subjects of both the groups were going out for eating occasionally, 20 percent of high income group and 28 percent of low income group did not consume anything outside their home.

4.7 Criteria for choosing food items

Table 12: Distribution of respondents according to Criteria for choosing food items

Criteria for choosing food items	HIG		LIG	
	Number	Percentage	Number	Percentage
Availability	30	60	44	88
Convenience	34	68	27	54
Taste	-	-	-	-
Custom	-	-	-	-
Cost	4	8	10	1
Nutrition	14	28	-	-
Doctor or dietician's advice	-	-	-	-
Multiple response	10	20	-	-

Table 12 shows that for elderly males of HIG convenience, followed by availability, cost and concern for nutrition were the major criteria for selecting food items. A few having multiple responses. Availability followed by convenience and cost were the main criteria for selecting food items in elderly male respondent of LIG. None of the respondents kept custom in mind while selecting it.

5 Conclusion

Socio-economic factors including low purchasing power, is major factor in low food intake in elderly of LIG. For elderly of HIG various lifestyle factors like lack of help with shopping, preparation of food, companionship during meals etc. do play a role in food intake. 12 percent male respondents of high income group and 24 percent of low income group were skipping one or the other meal because of poor appetite. Most often they missed lunch and consume only a cup of tea in the afternoon and had late breakfast and early dinner. Only low income group subjects were keeping fast. Religious belief was the main reason for keeping fast. They kept fast on the ekadashi, janamastmi, ramnavmi and during navratras. Majority of subjects of both the groups were going out for eating occasionally. Elderly males of HIG convenience, followed by availability, cost and concern for nutrition were the major criteria for selecting food items. Availability followed by convenience and cost were the main criteria for selecting food items in elderly male respondent of LIG. None of the respondents kept custom in mind while selecting it. It is suggested that nutritional status of the elderly should be improved through nutrition education and counseling. So family ties should be strengthened for better emotional stability and good health of elderly people.

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