Assessment Dietary of Geriatric Male Residing in Old Age Home: A Case study of Udaipur India

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ABSTRACT

A human's life is normally divided into four main stages: infancy, childhood, adulthood and old age. Every year, on October 1st, "World Day of the Elderly" is celebrated all over the world. From 1990 to 2025, the elderly population in Asia has increased from 50% of the world's elderly to 58%. The present study was conducted to assess the health and dietary intake of elderly residents of a nursing home in the city of Udaipur. For this reason, the sample of elderly people aged 59 to 75 were randomly selected. The total sample of the present study was made up of 100 elderly men from nursing homes in Udaipur city. Therefore, the total sample size was 100. Nutrition is considered a fundamental part of the individual or the family. A dietary survey was conducted using the 24-hour recall method to find out the daily dietary pattern and dietary nutrient intake of the elderly (men) selected for the study. The results of the research of the dietary survey show that the diet of elderly men compared to balanced diets was substantially inadequate in cereals 43.75%, pulses 64.25%, roots and tubers 3.97%, green leafy vegetables 10. 38%, fruits 14.76%, milk and derivatives 77.8%, sugar 81 65.12% and fats and oils 99.75%. The food intake of institutionalized older males was lower than the RDA, a significant difference was found between grains, legumes, fruits, roots and tubers, green leafy vegetables, milk and dairy products, sugar and fat, and oil.

Keywords: Assessent, Elderly, Nutrients, Recommend dietary allowance, Geriatic

INTRODUCTION

Aging is an irreversible biological change that occurs throughout an individual's life and continues until death (Toricelli et al., 2021) old age varies from person to person. Singh et al., (2004) defined aging as those changes in structure and function that occur after reaching reproductive maturity, result in a decrease in the ability to do the work required to overcome environmental or internal challenges, and result in an increase in deaths. in time. The cutoff point is the age of 60, above which all individuals are known as elderly. This age group is known as the "geriatric age group" (Anand, 2004). Aging is the phase of the progressive deterioration of various physiological systems. Certain physiological and structural changes affect nutrients and food intake such as: reduced metabolism, including reduced BMR, lack of physical activity and poor appetite. This occurs mainly due to a lower interest in food; tooth loss and difficulty chewing; atrophy of the taste buds; some digestive problems, etc (Amarya et al., 2015). From 1990 to 2025, the elderly population in Asia will increase from 50% of the world's elderly to 58%. There are approximately 600 million seniors living on this planet. By 2050, this figure is expected to reach a quarter of the two billion (Kumar,1997). In 2012 he said that India has around 100 million seniors and that the number is expected to rise to 323 million by 2050, making up 20% of the total population (HelpAge India, 2014). According to the 2011 census, the population density of the Indian state revealed that Kerala ranks first with the highest percentage of elderly people accounting for about 12.6% of the total population

In the Indian family system, the elderly is now forced to stay in nursing homes due to modernization and globalization, so families are falling apart. The family is the most important institution for the elderly because it provides them with the help, love, affection and care that are really needed at this stage of life (Rathi et al., 2017). Today, nursing homes are set up on the initiative of governmental and non-governmental agencies that provide shelter and support to the destitute elderly. Currently, 1018 nursing homes in India. Some are paid, some are free, and some are both.

Good nutrition can make a significant contribution to the health and well-being of older people and their ability to recover from the disease. In India, older people suffer from the dual medical problem of both communicable and degenerative diseases. There are a variety of factors that

influence the dietary intake and nutritional status of older people. The causes of nutritional deficiency in the elderly are likely to be multi factorial and reflect physical and physiological deficiencies as well as psychological influences. The National Nutrition Monitoring Bureau (NNMB) Survey (1996-97) on Diet and nutritional status of the older population reported that the percentage of older people who met 100 percent of the recommended dietary allowance (RDA) for all nutrients was 2.8 percent and only of 4 percent of the elderly, the intake of macronutrients such as energy, protein, and micronutrients iron and calcium was equal to or greater than the RDA.t Therefore, study aims to assess the dietary and nutrient intake of male who aged between 59 to 75 year and also residing in old age home.

METHODOLOGY

The present study was conducted in the city of Udaipur among the age group 59-75 years old male residing in the nursing homes in the city of Udaipur. Interview schedule was distributed among 100 elderly men living in three nursing homes in the city of Udaipur, beside nursing home data was also collected from the elderly people living locally. Figure 1 shows the nursing home
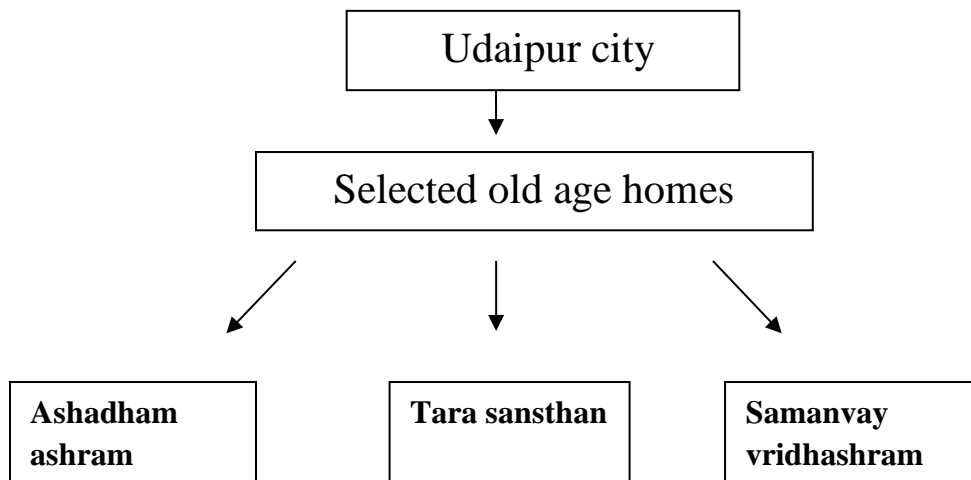

Figure 1: Flow chart depicting old age homes taken under study

A total of 100 old people (male) of fifty-nine years and above were selected by random sampling technique. Sample selection was based on the feasibility and level of cooperation. A well-structured interview schedule was developed for data collection and the interview technique was used. The relevant data and information from interviewees were collected. Subjects were contacted at the workplace and in nursing homes.

Diet is considered a critical part of the individual or family. A dietary survey was conducted using the 24-hour recall method to find out the daily dietary pattern and dietary nutrient intake of the seniors selected for the study. Information on each person's food consumption pattern was collected through interviews. All subjects who agreed to participate had to fill out a diet form. This record was used as a reference method. Participants were asked to accurately describe their 24-hour food intake. Each of the listed foods featured a full description of their usual portion sizes. Nutrient intake was calculated using the nutritional value indicated in the food consumption tables (Gopalan et al., 1971).

RESULT AND ANALYSIS

The results obtained during the survey were subjected to an adequate statistical analysis, tabulated and systematically presented through classified and supporting material which allowed the survey to interpret the complete results. In the present study, information on the eating habits and eating patterns of the elderly (men) was noted and the adequacy of the diet in terms of food intake and nutrition was assessed by the booster method.

Meal Pattern: The general meal pattern of the elderly revealed that most of the elderly followed a four-meal pattern. Both groups of respondents drank morning and afternoon tea. Main meals mostly included chapatti or khichdi / rice or both with seasonal vegetables or dal or kadhi.

Food intake: Food is the carrier of nutrition for a healthy life. The nutritional status of each individual is directly influenced by food intake. A proper diet consists of various nutrients.

In the present study, food intake was assessed in terms of various food groups, including grains, legumes, fruits and vegetables, milk and dairy products, sugar, fats and oils. It was compared with the recommended dietary intake (RDI) provided by NIN (2010) (Table 1)

Cereals: The main cereals consumed in India are rice, wheat, maize and bajra. In the Indian diet, cereals provide 70-80% of the energy intake (ICMR, 1990). Wheat and rice were the main cereals consumed by the subjects. Wheat and rice were consumed in the form of chapatti, snakes, etc.

It can be deduced from Table 1 that IM consumed respectively 144.39 ± 20.52 g of cereals per day, which turned out to be lower than in RDI et. 43.75% in IM. There was a significant difference ($p > 0.01$) in the group.

Pluses: Pluses and Legumes are the main source of protein in the vegetarian diet. Proteins are useful for growth and maintenance. Table 1 shows that only 64.25% of MI consumed legumes. The mean NIM intake was 38.55 ± 2.72 g of MI, respectively.

Green leafy vegetables: Green leafy vegetables are rich good sources of calcium, iron, β-carotene, vitamin –C etc. the mean intake of GLV in IM 10.38±11.88. The intake level of GLV in IM was significantly low because of less consumption and low availability in institution.

Milk and Milk products: Milk is good source of protein, calcium and riboflavin. The mean intake of milk and milk products in IM were 233±56.23 ml. Table 1.1 shows that 77.86% of RDI was taken by of RDI. There is significant difference ((p>0.01) between IM consumption and RDA.

Roots and tubers: Roots and tubers are richest source of energy among vegetables. The mean intake of roots and tubers in NIM was 6.18±10.26 g/d.

Other vegetables: Vegetables other than green leafy vegetables and roots and tubers are categorized as other vegetables. This group of vegetables not only adds variety to the diet, but also provide vitamin, minerals and dietary fiber. The mean intake of other vegetables in IM, it was 107.36± 36.46 g/d. which was significantly higher than RDA.

Fruits: Fruits are generally good source of vitamin C. It also contains pectin, which provides bulk to the diet. The mean intake of fruits of NIM was 53.33±59.36 g/d which was 26.66% of RDA.

Sugar: Sugar and jiggery are sweetening agents and consumed by almost all people in varying amounts. Table 1.1 revealed that the mean intake of sugars IM was 16.28±7.94 g/d which was only 65.12% of RDA.

Fats and oil: The visible fats commonly consumed in India were hydrogenated fats, oils and butter and ghee. Fats and oil provide essential fatty acids like linoleic and linolenic acid which are essential fatty acid for health. The mean intake of fats and oils of IM was 29.18±13.88 g/d which was99.75% of RDI and There was significant difference ((p>0.01) between fats and oils intake.

Nutrient intake: Mean nutrients intake of 100 elderly male were calculated by using Food Composition Table (Gopalan et. al., 1989), and compared with Recommended Dietary Allowances

(NIN, 2010). Major intake of nutrients like protein, fat, carbohydrate, energy, calcium and iron were calculated. The mean intake of protein, fat, carbohydrate, energy, calcium and iron of IM were 34.59± 7.9, 37.91±14, 146.6±26.4, 1123±212.56, 530±201.45 and5.6±1.4 respectively. Table 1 shows that there is no significant difference between the energy intake of IM.

Table 1: Mean nutrient intake and percent to RDA of institutionalized male respondents

NUTRIENTS	GROUPS	MEAN OF NUTRIENT INTAKE/ PER DAY	RDA	PERCENT TO RDA	'T' VALUE	P VALUE
ENERGY (KCAL/D)	IM	1380.4	2320	59.50	2.209	.029
PROTEIN (G/D)	IM	29.57	60	49.28	4.036	.000
CARBOHYDRATE (G/D)	IM	171.98	348	49.42	5.348	.000
FAT (G/D)	IM	33.32	50	66.64	2.011	.047
CALCIUM (MG/D)	IM	324.75	600	54.13	11.403	.000
IRON (MG/D)	IM	3.93	17	23.12	9.024	.000
BETA-CAROTENE (µG/D)	IM	2134	4800	44.60	0.55	.603
ASCORBIC ACID (MG/D)	IM	13.96	40	34.90	10.239	.000
THIAMIN (MG/D)	IM	0.57	1.2	47.50	8.232	.000
RIBOFLAVIN (MG/D)	IM	0.51	1.4	36.43	9.175	.000
NIACIN (MG/D)	IM	4.46	16	27.88	11.583	.000

Source: Field data

CONCLUSION

The above results show that the food intake of the elderly institutionalized male, there was a significant difference found in between cereals, pulses, milk and milk products, green leafy vegetables, roots and tubers, fruits, sugar and fats and oil. Results reveal that the intake of energy, protein, carbohydrate, iron was significantly lower in elderly males whereas no significant difference was found in intake of fat, and calcium by subjects as compared to RDA. There are so many reasons for this lack of consumption like less physical activity, stress, improper availability of food, lack interest in food because of less taste etc.

Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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