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Nutritional Problems of Elderly Population of Arar City KSA

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Abstract

Introduction: *Demographic data show an increased life expectancy of the world population. Malnutrition is common in elderly persons living in the community. In many cases, this problem arises from interacting physiologic, economic, and psychosocial causes.*

Aim of the study: *The aim of this community based study is to estimate the prevalence of some nutritional problems among the elderly population of Arar city, KSA.*

Subjects and methods: *This community based cross sectional study was conducted in Arar city, the capital of Northern Borders Governorate. Personal interviews with the 100 sampled elderly and filling the questionnaire, which guided us to the socio-demographic data, nutritional problems due to physiological changes, digestive and dental health problems which affect feeding, consumption of drugs for treatment of chronic diseases and daily consumption of water and other drinks.*

Results: *characteristics of the sample showed that 42% of studied group were suffering from problems in food swallowing and salivation, impaired taste and smell was found in 20%. Appetite to food was normal in 38%, intermediate in 36%, weak in 20%. 22% feed themselves without difficulty or help from others. 58% needed help and 20% eat with difficulty, adding salt to food was found in 46% of the sample, 26% had regular times for eating, 26% mostly, 36%sometimes and 12.0% rarely eat in regular times. Ability to shopping was high in 24% but low in 68% of the sample. Feasibility of shopping was enough in 26% only, 38% of the sample sharing food with their families and 32% eat alone. Hyperacidity, distention, constipation and gases affect 72%, 66%, 54% and 68% of the studied population respectively. Dental caries was found in 72.0% and 22.0% had total loss of their teeth and were using dentures. 72% of the studied elderly populations consume daily drugs for treatment of chronic diseases. Who consume 1-3 cups of water and other drinks were 62.0% and 64.0% respectively and who consume 3-5 cups were 26.0% and 30.0%.*

Key wards: *nutritional problems, elderly, physiologic, social, economic, and psychosocial causes.*

1. Introduction

Demographic data show an increased life expectancy of the world population. This increase is more evident in developed than in developing countries. It can be attributed to increased survival of people because of nutrition, medicine, vaccination, and drug development. It is estimated that by the year 2015, people over 65 y-o will be 14.7% of the North American population, and 17.6% of the European, and it is expected to reach 20% and 23.5%, respectively by the year 2030 (Kaiser et al 2010). Nutrition is an important determinant of health in elderly patients. Malnutrition in older patients is regularly underdiagnosed (Gariballa, 2000), and many physicians have expressed their need for more education regarding nutritional status in older patients (Mihalynuk et al 2004). For example, health practitioners may not readily recognize weight loss in the elderly as a morbid symptom of malnutrition because some weight loss may be associated with age-related reductions in muscle mass (Kane et al 1994).Malnutrition is more common in elderly persons than in younger adults. Ageing itself, however, neither leads to malabsorption nor to malnutrition with the exception of a higher frequency of atrophic gastritis in older persons. Malnutrition in elderly people is therefore a consequence of somatic, psychic or social problems. Typical causes are chewing or swallowing disorders, cardiac insufficiency, depression, social deprivation and loneliness. Under nutrition is associated with a worse prognosis and is an independent risk factor for morbidity and mortality. Awareness of this problem is therefore important. For the evaluation of nutritional status, it must be remembered that most normal values are derived from younger adults and may not necessarily be suitable for elderly persons (Pirlich et al, 2001).

Assessment of nutritional status, as a part of screening protocols, is necessary to identify malnutrition, which is a potential cause or an aggravation of morbidity and mortality (Alhamdan and Alsaif, 2011).

Malnutrition is common in elderly persons living in institutions and in the community. In many cases, the problem arises from a highly individual constellation of interacting physiologic, economic, and psychosocial causes that have the common effect of reducing nutrient intake. Protein-calorie and micronutrient under nutrition added to the normal effects of aging can undermine functional independence and diminish the quality of life of the elderly. The spectrum of the elderly is extremely broad, and, consequently, nutritional assessment and support must be highly individualized to be effective (Mobarhan et al, 1991).

Alterations in taste and smell are associated with aging. It is unclear if these normal physiological changes contribute to decreased food intake (Westenhoefer 2005). Other gastrointestinal changes occur with age and may affect oral intake. For example, greater satiation after a meal and a delay in gastric emptying has been shown in older people (Morley 1997). Appetite after an overnight fast is often lower in the elderly. Oral and dental issues, esophageal motility, and atrophic gastritis may also affect nutritional status (Refai and

Seidner, 1999). Dental problems (including poorly-fitting dentures) are often associated with nutrition problems (Morais et al 2003).

In addition to gastrointestinal physiological changes, renal function declines with age. This decreases responsiveness to antidiuretic hormone, which often results in an increased risk for dehydration in older patients. This impaired thirst drive makes it difficult to replete fluid losses by oral intake alone (Morais et al, 2003).

Malnutrition has been associated with compromised cognitive capacity in the elderly. The decreased ability to prepare a meal, which may adversely affect an elderly patient's ability to ensure sufficient nourishment, has been cited as one of the earliest signs of mild cognitive impairment, a pre-Alzheimer disease condition (Borrie et al 2003).

2. Rationale

Malnutrition is common in elderly persons living in the community. In many cases, this problem arises from interacting physiologic, economic, and psychosocial causes that have the common effect of reducing nutrient intake. This study reviewed some issues in nutrition common to community-dwelling elderly. Discussion of the complexity of nutritional problems of elderly including the functional, psychological, social, and economic issues associated with concomitant medical problems which contribute to poor nutrition of elderly

3. Aim of the Study:

The aim of this community based study is to estimate the prevalence ofsome nutritional problems among the elderly population of Arar city, KSA.

4. Subjects and Methods:

a. Study type: Cross- sectional Community based study.

b. Study area: Arar city, the capital of Northern Borders region KSA population size is about 350,000 and distributed in around 22 blocks

c. Study population: People aged over 60 years in Arar city

d. Sample: Hundred elderly people were randomly selected from five blocks which were also randomly selected.

e. Data collection method: Personal interviews with the 100 sampled elderly and filling the questionnaire, which guided us to the socio-demographic data, nutritional problems due to physiological changes, digestive and dental health problems which affect feeding, consumption of drugs for treatment of chronic diseases and daily consumption of water and other drinks.

5. Statistical Analysis

Statistical analysis was performed using the Statistical Package for Social Science (SPSS) version 16. Qualitative data were expressed as percentage. Association between categorical variables was explored by Chi square test.

6. Results:

Characteristics of the sample showed that the majority was 60-69 years (68%) followed by the 70-80 years (26%). Studied population included (52%) widow, only (2.0%) not married and (40.0%) married. Unfortunately, Illiteracy was 100% (table 1).

Table (1) shows the socio-demographic characteristicsof the studied sample.

Age (in years)	No (%)
60-69	68(68)
70-80	26(26)
>80	6(6)
Sex	
Male	44(44)
Female	56(56)
Marital status	
Married	40(40)
Not married	2(2)
Widow	52(52)
Divorced	6(6)
Educational status	
Illiterate	100(100)

It is found in the study (table 2) that 42% of studied group were suffering from problems in food swallowing and salivation, impaired taste and smell was found in 20%. Regarding appetite to food; it was found that it was normal in 38%, intermediate in 36%, weak in 20% and no appetite to food at all in 6% of the sample.

Regarding needing of help in feeding it was found that 22% feed themselves without difficulty or help from others. 58% needed help and 20% eat with difficulty. Regarding adding salt to food it was found in 46% of the sample.

Results also showed that 26% had regular times for eating, 26% mostly, 36% sometimes and 12.0% rarely eat in regular times.

Ability to shopping was high in 24% but low in 68% of the sample. Feasibility of shopping was enough in 26% only and not enough in 68% of the sample. In addition 38% of the sample sharing food with their families and 32% eat alone.

Table (2): The nutritional problems due to physiological changes in the studied sample

Nutritional problems		60-69	70 +	Total	P value
		No (%)	No (%)	No (%)	
Swallowing and salivation problems	Always	32(76.2)	10(23.8)	42(42)	0.025
	Mostly	20(71.4)	8(28.6)	28(28)	
	Sometimes	12(60)	8(40)	20(20)	
	No	4(40)	6(60)	10(10)	
Impaired Taste And Smell of food	Always	10(50)	10(50)	20(20)	0.042
	Mostly	18(64.3)	10(35.76)	28(28)	
	Sometimes	18(69.2)	8(30.76)	26(26)	
	No	22(84.6)	4(15.36)	26(26)	
Impaired appetite	Normal	28(73.7)	10(26.36)	38(38)	0.034
	Intermediate	27(75)	9(25)	36(36)	
	Week	12(60)	8(40)	20(20)	
	No appetite	1(16.6)	5(83.3)	6(6)	
Needing of help in feeding	Needs help	45(77.6)	13(22.4)	58(58)	0.044
	Alone	15(68.2)	7(31.8)	22(22)	
	With difficulty	8(40)	12(60)	20(20)	
Adding salt to food	Always	5(62.5)	3(37.5)	8(8)	0.051
	Sometimes	6(33.3)	12(66.6)	18(18)	
	Mostly	23(60.5)	15(39.4)	38(38)	
	Rarely	30(93.7)	2(6.25)	32(32)	
	No	4(100)	0(0)	4(4)	
Eating in regular times	Always	21(80.7)	5(19.2)	26(26)	0.022
	Sometimes	23(63.9)	13(36.1)	36(36)	
	Mostly	16(61.5)	10(38.4)	26(26)	
	Rarely	8(66.6)	4(33.3)	12(12)	
Consumption of vitamins and minerals	Always	30(60)	20(40)	50(50)	0.001
	Sometimes	10(71.4)	4(28.6)	14(14)	
	Mostly	15(83.3)	3(16.6)	18(18)	
	Rarely	9(75)	3(25)	12(12)	
	No	4(66.6	2(33.3)	6(6)	
Ability to shopping	Intermediate	3(37.5)	5(62.5)	8(8)	0.031
	High	19(79.7)	5(20.8)	24(24)	
	Low	46(67.6)	22(32.3)	68(68)	
Feasibility of shopping	Enough	8(30.7)	18(69.2)	26(26)	0.044
	Not enough	65(95.6)	3(4.4)	68(68)	
	Intermediate	2(33.3)	4(66.6)	6(6)	
Sharing persons during feeding	Alone	24(75.0)	8(25)	32(32)	0.001
	With servant	18(64.3)	10(35.7)	28(28)	
	With family	24(63.2)	14(36.8)	38(38)	

The digestive and dental health problems which affect feeding of the studied sample (table 3) include hyperacidity, distention, constipation and gases which affect 72%, 66%, 54% and 68% of the studied population respectively. Dental caries was found in 72.0% and 22.0% had total loss of their teeth and were using dentures

Table (3) Digestive and dental health problems affecting feeding in the studied sample

Problem		60-69		70 +		total		P value
		No	%	No.	%	No.	%	
Digestive system problems	Hyperacidity	60	83.3	12	16.6	72	72.0	0.031
	Distention	46	69.7	20	30.3	66	66.0	
	Constipation	29	53.77	25	46.3	54	54.0	
	Gases	45	66.2	23	33.8	68	68.0	
Dental problems	Dental caries	62	86.12	10	13.8	72	72.0	0.001
	Partial loss of teeth	38	59.4	26	40.6	64	64.0	
	Total loss of teeth	16	72.7	6	27.3	22	22.0	
	Use of dentures	16	72.7	6	27.3	22	22.0	

Regarding consumption of drugs fortreatment of chronic diseases in the study group(table 4) It was found that (72%) of the studied group consume daily drugs for treatment of chronic diseases. Number of prescriptions ranged from one prescription in 22%, 2 prescriptions in 30% and 3 or more in 20% of the studied sample.

Table (4): Consumption of drugs for treatment of chronic diseases in the study group

Items		60-69	70 +	total	P -value
		No (%)	No (%)	No (%)	
Drugs daily	Yes	46(63.8)	26(36.1)	72(72)	0.007
	No	22(78.6)	6(21.4)	28(28)	
Daily prescribed drugs consumption	One prescription	8(36.4)	14(63.6)	22(22)	0.014
	2 prescriptions	20(66.6)	10(33.3)	30(30)	
	3 or more	12(60)	8(40)	20(20)	

Regarding the daily consumption of water and other drinks (table5).It was found that who consume 1-3 cups of water and other drinks were 62.0% and 64.0% respectively and who consume 3-5 cups were 26.0% and 30.0%.

Table (5): Daily consumption of water and other drinks in studied group

Amount	1-3 cups	3-5 cups	>5 cups	Unknown	Total
	No (%)	No (%)	No (%)	No (%)	No (%)
Water	62(62)	26(26)	10(10)	2(2)	100(100)
Juices and other drinks	62(64)	30(30)	2(2)	4(4)	100(100)

Discussion

Findings of current study represent the nutritional problems due to physiological changes in the studied group. It is clear from the data that 42% of studied group were suffering from problems in food swallowing and salivation, impaired taste and smell was found in 20%. Regarding appetite to food; it was found that it was normal in38%, intermediate in 36%, weak in 20% and no appetite to food at all in 6% of the sample.

Cefalu (1999) in his study indicate that, minor changes in swallow function with normal aging affected by changes in dentition, salivation, loss of alveolar bone, weak oral movement, sensitivity in the trigger of the pharyngeal swallow, respiratory pattern, laryngeal, and upper esophageal sphincter tone.Miura et al (2007) on studying chewing and swallowing disorders among frail community-dwelling elderly individualsrevealed that, most frail community-dwelling elderly individuals with physical impairment or disability had some symptoms related to dysphagia.

These findings were not in accordance with findings of (Hosa M M, 2004) in Riyadh KSA who found that58.9% of studied group were suffering from problems in food swallowing and salivation, impaired taste and smell was found in 65.3%. Regarding appetite to food; it was found that it was normal in 5.3%, intermediate in 54.7%, weak in 21.1% and no appetite to food at all in 6% of the sample.

Regarding needing of help in feeding it is clear from our results that 22% feed themselves without help from others or difficulty. 58% needed help and 20% eat with difficulty.

These findings were not in accordance with findings of (Hosa M M, 2004) in Riyadh KSA who found that91.5% of studied group feed themselves without help from others or difficulty. Regarding adding salt to food it was found in 46% of the sample, but was found in 75.9% in (Hosa M M, 2004) study in Riyadh KSA.

It is also clear from our findings that 26% had regular times for eating, 26% mostly, 36%sometimes and 12.0% rarely eat in regular times.These findings were not in accordance with findings of (Hosa M M, 2004) in Riyadh KSA who found that 29.5% had regular times for eating, 14.7% mostly and 6.3% only rarely eat in regular times.Ability to shopping was high in 24% but low in 68% of the sample. But it was high in 75.8% and low in 13.7% in findings of (Hosa M M, 2004) in Riyadh KSA. Feasibility of shopping was enough in 26% only and not enough in 68% of the sample. But it was enough in 15.8% and low in 13.8% in findings of (Hosa M M, 2004) in

Riyadh KSA which is not in accordance of our study.

Current study showed also that 38% of the sample sharing food with their families and 32% eat alone. But in findings of (Hosa M M, 2004) in Riyadh KSA 84.2% of the sample sharing food with their families which is far higher than our findings.

Findings of this study show the digestive and dental health problems which affect feeding of studied elderly. It is clear from the findings that, hyperacidity, distention, constipation and gases affect 72%, 66%, 54% and 68% of the studied population respectively.

These results are greater than results of (Hosa M M, 2004) in Riyadh KSA who found that hyper acidity was found in 50%, abdominal distention in 32.6%, constipation in 32.6% and gases in 40.0% of studied population.

In the current study dental caries was found in 72.0% and 22.0% had total loss of their teeth and were using dentures. These findings are greater than results of (Hosa M M, 2004) in Riyadh KSA who found that dental caries was found in 62.1% and 25.3% had total loss of their teeth and 12.6% were using dentures. Furthermore, Petersen et al (2010) declared that at global level, a pattern of social inequality is found in the experience of problems with mouth/teeth among the elderly. In low income countries, about 40 % of 65-74 year-olds report oral health problems. The corresponding figure for high income countries isabout 30%, which is remarkable in light of the availability of oral health services

Regarding drug consumption for treatment of chronic diseases in studied elderly population,it is obvious from the current data that 36(72%) of the studied elderly population consume daily drugs for treatment of chronic diseases. Number of prescriptions ranged from one prescription in 22%, 2 prescriptions in 30% and 3 or more in 20% of the studied sample. These findings were far less than findings of (Hosa M M, 2004) in Riyadh KSA who found that 95% of the studied elderly populations consume daily drugs for treatment of chronic diseases. Number of prescriptions ranged from one prescription in 23%, 2 prescriptions in 38.9% and 3 or more in 32.6% of the studied sample. But our findings are greater than findings of (Hassan, 1978) who found 25% of the studied elderly population was taking from 1-4 prescription of drugs daily. Griffiths et al (2004) In study of acommunity nursing intervention showed that,patients were taking an averageof 10.4 drugs, administered in an average of 16.6 doses per day, with an average of 8.1 special administration activities (e.g.beforefood,half tablet,dissolveundertongue)

Our study described the daily consumption of water and other drinks. It is clear from the findings that who consume 1-3 cups of water and other drinks were 62.0% and 64.0% respectively and who consume 3-5 cups were 26.0% and 30.0%. These results are greater than results of (Hosa M M, 2004) in Riyadh KSA who found that consumption of 1-3 cups water and other drinks was 33.7% and 36.8% respectively and who consume 3-5 cups were 22.1% and 4.2% respectively. Claire et al (2009) found that the

total water intake for both the middle-old (75 – 84 years) and the oldest-old (≥85 years) was significantly lower than that for the young-old (65 – 74 years).

The relative contributions of beverages to total water intake were 40.8%, 38.3%, and 36.4% for the young- old, middle-old, and oldest-old, respectively. The relative contributions of plain drinking water to total water intake were 38.1%, 39.4%, and 39.5% and the water contributions of foods were 21.1%, 22.2%, and 24.2% for the young-old, middle-old, and oldest-old, respectively.

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