

Assessment of Nutritional Status of Elderly People in Baghdad

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Abstract:

Background: The health of the elderly is an important issue defining the health status of a population. Nutritional problems are one of the most common ailments faced in aging, and malnutrition, secondary to inadequate food consumption. Failure to diagnose malnutrition can raise the risk of illnesses and death.

Objective: Assess the elderly's nutritional status by Mini Nutritional Assessment(MNA).

Method: Cross-sectional study was carried out among a convenient sample of elderly people aged 60 years and over who attended geriatric clinics of Baghdad teaching hospital in Medical City, and Al-Yarmouk teaching hospital besides four age-friendly Primary Health Care Centers in Baghdad from 15th of March until end of July 2018. The data was collected via direct interview using structured questionnaire in addition to Mini Nutritional Assessment tool (MNA) which used for the assessment of nutritional status.

Result: The total number of elder persons enrolled in the study was 250. According to the MNA, 24% of study participants were classified as malnourished and 48.8% were at risk of malnutrition. Age factor was negatively influenced the nutritional status. Malnutrition was significantly higher in upper age group of geriatric (80 years and above). Malnutrition was more prominent in females (30.6%) as compared to the males (17.5%).

The elderly social characteristics that were associated with unsatisfactory nutritional status were low education, unmarried, not working as well as low income.

The study pointed out that 49.8% of the elderly with chronic diseases were malnourished, but this factor had no significant association with nutritional status. The number of medications used, together with the number of meals eaten in a day, all shown statistical significant link with nutritional status.

The highest rate of malnutrition and being at risk of malnutrition found among old aged who were depressed and had memory impairment.

Conclusion and recommendation: The study results emphasized the close connection between health status and malnutrition. The identification of probable predictive causes may permit better prevention and management of malnutrition in aged people.

Key words: Assessment, Nutritional status, Elderly, MNA.

Introduction:

Elderly people are the fastest growing population subgroup globally; it estimated that by the year 2025 the number of people worldwide aged 60 and over would exceed 1.2 billion. ⁽¹⁾

Some serious problems faced by the elders throughout the world that have to be addressed comprise poverty, social insecurity, food insecurity and health problems including malnutrition, which is seen at an alarming rate. ⁽²⁾

The prevalence of malnutrition shows a varied international range. In developed countries, the prevalence of malnutrition and risk of malnutrition may range from 4.2% to 52.1% in elderly living in nursing homes ⁽³⁾. In developing countries, the phenomenon remains less explored although some papers suggest higher rates of malnutrition among elderly. ^(4, 5). The findings of previous studies conducted in Iraq documented the following results. 26.5% of elderly attending outpatients' clinic in Babylon city were malnourished and 43.2% were at risk of malnutrition. ⁽⁶⁾ While in Baghdad 68.4% and 3.6% of elderly lived in home nursing center were malnourished or at risk of malnutrition. ⁽⁷⁾.

Nutrition in old age group has emerged as a concern because of the manifold consequences of malnutrition on the overall health, well-being and autonomy of older persons. ^(8, 9). Diet and lifestyle, coupled with maintenance of a healthy body weight are important in the maintenance of health for all age groups but are vital for healthy aging. Preserving a good nutritional status has substantial implications for health and wellbeing, delaying and reducing the risk of developing disease, maintaining functional independence and thus promoting continued independent living. ⁽¹⁰⁾.

The study conducted aiming to estimate the rate of malnutrition among elderly according to Mini Nutritional Assessment (MNA), and to determine the influence of some socio-demographic features and health conditions on nutritional status.

Method: A cross sectional study with analytic elements conducted in Geriatric Clinics of Baghdad teaching hospital in Medical City, and Al-Yarmouk teaching hospital. In addition to four age-friendly PHCCs in Baghdad. During the period extended from 15th of March to end of July 2018. Convenient sample of elderly people aged 60 years and over who attended the designated geriatric clinics and PHCCs during the period of study and agreed to join in the study were included.

Data collected through direct interview with each participant or their caregiver to avoid misinterpretation and ensure clarity on all issues. Using a structured questionnaire, which constructed for the purpose of the study. In addition, a modified Mini Nutritional Assessment (MNA) questionnaire used for the assessment of nutritional status of study participants. This form included set of (16) questions. Each question had a weighted point that subsidizes to the total score was 28 points as maximum.

Accordingly, the study participants categorized depending on total score achieved into:

- Malnourished <17.
- At risk of malnutrition (17-23).
- Normal nutritional status =>24

Mini Nutritional Assessment (MNA) is one of comprehensive and valid tools develop for assessing and determining the nutritional status among elderly.⁽¹¹⁻¹³⁾

Data Analysis: Microsoft Excel used for data entry. Data analyzed using Statistical Packages for Social Sciences (SPSS), version 25. Chi –square test used to evaluate the association between the study variables and nutritional status according to MNA. A p-value of less than or equal to 0.05 was considered statistically significant.

Results:

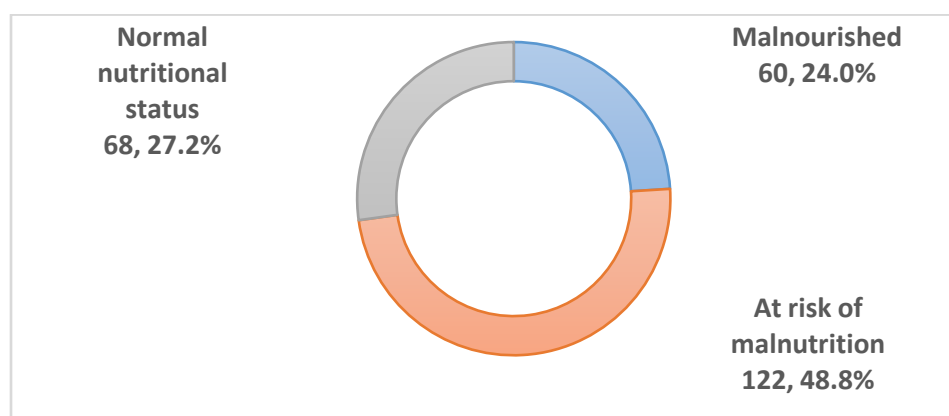


Figure-1: The nutritional status of study group according to MNA.

Table-1: The distribution of study group according to the nutritional status based on MNA and socio-demographic characteristics.

Socio-demographic characteristics.		Nutritional status						P value
		Malnourished		At risk of malnutrition		Normal		
				No	%	No	%	
Age (years)	60-69	30	18.8	88	55.0	42	26.3	0.0001*
	70-79	15	21.7	31	44.9	23	33.3	
	=>80	15	71.4	3	14.3	3	14.3	
Gender	Male	22	17.5	59	46.8	45	35.7	0.003*
	Female	38	30.6	63	50.8	23	18.5	
Marital status	Unmarried*	37	35.2	51	48.6	17	16.2	0.0001*
	Married	23	15.9	71	49.0	51	35.2	
Level of education	Illiterate	31	40.3	42	54.5	4	5.2	0.0001*
	Primary	11	25.0	24	54.5	9	20.5	
	Secondary	8	15.1	30	56.6	15	28.3	
	College and higher	10	13.2	26	34.2	40	52.6	

Received 15 December 2020; Accepted 05 January 2021.

Work state	Working	-	-	7	58.3	5	41.7	0.121
	Not working	60	25.2	115	48.3	63	26.5	
Source of income	Current work	1	4.2	15	62.5	8	33.3	
	Siblings	23	35.9	32	50.0	9	14.1	
	Retirement salary	33	21.6	70	45.8	50	32.7	0.010*
	Social affair payment	3	33.3	5	55.6	1	11.1	
*Significant association using Pearson Chi-square test at 0.05 level.								

Table-2: the distribution of study group and nutritional status based on MNA and the chronic disease and number of medication.

Chronic disease and number of medication.		Nutritional status						P value
		Malnourished		At risk of malnutrition		Normal nutritional status		
		No	%	No	%	No	%	
Chronic disease	Yes	51	24.9	102	49.8	52	25.4	0.37
	No	9	20	20	44.4	16	35.6	
Number of drugs per day	<3	27	19.7	63	46	47	34.3	0.015*
	=>3	33	29.2	59	52.2	21	18.6	
*Significant association using Pearson Chi-square test at 0.05 level.								

Table-3: The distribution of study group according to the nutritional status based on MNA and depression and memory impairment.

Depression and memory impairment	Nutritional status						P value
	Malnourished		At risk of malnutrition		Normal nutritional status		
	No	%	No	%	No	%	

Depression	Yes	55	30.4	110	60.8	16	8.8	0.0001*
	No	5	7.2	12	17.4	52	75.4	
Memory impairment	No	40	17.5	120	52.6	68	29.8	0.0001*
	Yes	20	90.9	2	9.1	-	-	

Table-4: The distribution of study group according to the nutritional status based on MNA and number of meals per day.

Number of meal per day		Nutritional status						P value
		Malnourished		At risk of malnutrition		Normal nutritional status		
		No	%	No	%	No	%	
Less than three meals	yes	39	52.7	31	41.9	4	5.4	0.0001*
	no	21	11.9	91	51.7	64	36.4	

The study group comprised 250 elderly persons. The age of study group ranges from 60- 92 years with a mean of (68.3 ± 8.6) years; 126(50.4%) of them were males.

According to AMN, 60(24%) the elderly people enrolled in this study were malnourished, and 122(48.8%) of them were at risk of malnutrition. Figure1.

Table- 1 presented the distribution of study participants according to nutritional status and some socio-demographic characteristics.

The result revealed statistically significant association between age and nutritional status. Fifteen (71.4%) of those aged eighty and more were classified as malnourished in comparison with 30(18.8%) of those aged less than 70 years.

Significant association also demonstrated between gender and nutritional status.

When marital status was, consider in relation to the nutritional status, the result showed a statistically significant impact. Highest rate of malnutrition 35.2% was detected among those who were not married, while only 15.9% of married participants were malnourished.

The educational level showed a statistically significance influence on the nutritional status. Among illiterate elderly only 5.2% of them had normal nutrition status in comparison with 52.6% of those with higher education.

Out of 205 elderly participants with history of chronic diseases, 51(24.9%) of them were categorized as malnourished compared to nine (20%) of those with no such history. Despite that, history of chronic diseases failed to reveal a statistically significant impact on nutritional status. The number of medications used per day showed a statistically significant effect on nutritional status. Table-2

The result in table-3 revealed that substantial proportion (72.4%) of elderly enrolled in the study had depression.

When nutritional status was analyze in relation to depression, the highest percentage of malnutrition 30.4% and at risk of malnutrition, 60.8% were observed among depressed elderly.

The relationship between memory impairment and the nutritional status shows statistically significant association, as demonstrated in table-3. Among 22 participants with memory impairment, 20(90.9%) of them were malnourished and 2(9.1%) were at risk of malnutrition.

The finding emanating from table-4 indicated that number of meals eaten per day revealed statistically significant effect on nutritional status. Where 39(52.7%) of those eat less than three meals per day were malnourished in comparison to 21(11.9%) of those eat three and more meals.

Discussion:

The health of the elderly is an important issue outlining the health status of a population. The rate of malnutrition is promptly growing in analogous with the growth of the worldwide elderly population. As malnutrition increases morbidity and mortality among elderly. The use of nutritional screening tests among the aged population would direct the application of health measures to be taken in this direction.⁽¹⁴⁾

The study results showed that the rates of malnutrition and at risk of malnutrition according to MNA scoring among elderly enrolled in the study were comparable to the results reported by previous studies from Iraq⁽⁶⁾ and elsewhere. Malnutrition was ranged from (7.8%-45.4%), while the rate of at risk of malnutrition was between (11.8% - 64.4%).⁽¹⁵⁻¹⁷⁾ ongoing deterioration of the health status besides body function caused by aging; may be an important determinant for high rate of malnutrition among older individuals.

The study result pointed out that the rate of malnutrition gradually increases with increasing age. This result was also reachby other studies carried out in Saudi Arabia⁽¹⁶⁾ and Lebanon⁽¹⁸⁾. Aging may expose the elderly to illnesses and their complications, increased medication intake or might be due to the natural ageing process. All these factors might predispose elderly to the risk of malnutrition, other potential factors are social problems related to social and financial living.⁽¹⁹⁾

The higher rate of malnutrition reported among females. Such outcome previously stated in the literature.^(14, 18) This finding could be attributed to that women may be disadvantaged in multiple areas due to their position in the society, economical dependency and discriminatory practices,

as well as multiple pregnancies and lack of attention to health. In addition, women live longer than men do; all these factors might ultimately affect female's nutritional status.⁽²⁰⁾

The results of current study designated a statistical significance association between nutritional status and educational level. Previous studies from Turkey⁽¹⁴⁾ and Lebanon⁽¹⁸⁾ have confirmed the impact of education on nutritional status; a higher educational level contributes to a better nutritional status.

An amplified likelihood of suffering from one, or more, chronic diseases accompany aging. These conditions may disrupt appetite, functional ability or ability to swallow, all leading to altered food intake and impairment of nutritional status. In addition, medications used in the treatment of chronic illness can also have negative effect on nutritional status.⁽²¹⁾ The current study result demonstrated that three quarter of elderly with history of chronic disease were malnourished and at risk of malnutrition. This finding also reported by other studies from Iraq⁽⁶⁾ and Turkey⁽¹⁴⁾.

Depression is common health problem in aged persons that may extensively cause malnutrition and poor quality of life. This may be due to lack of appetite, decreased interest in self-care and physical weakness.⁽²²⁾ The present study result demonstrated significant association between poor nutritional status and depression. Furthermore, the result indicated the elderly people with memory impairment had poor nutritional status. A similar outcome also obtained by studies conducted in Iraq⁽⁶⁾, and Lebanon⁽¹⁸⁾. These studies concluded that depressed and memory impaired elderly patients are more likely to have worse nutritional status.

In this study, the result found that lower MNA scores recorded among aged people who had less than three meals daily. Previous studies cited that the most common reason for low food intake was decreased appetite. Decreased appetite might be attribute to physiological changes during aging as well as medical conditions in the elderly, in addition to difficulty in chewing and swallowing. The inability of elderly to take decisions about food intake, difficulty preparing or eating full meals other reasons cited for inadequate food intake.^(23, 24)

Recommendation: Nutritional assessment is need to be routinely performe as part of health care provides to elderly at health care facilities.

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