

## Assessment of Elderly's Nutritional status in Geriatric Homes at Al-Furat Al-Awusat Governorates

### تقييم الحالة التغذوية للمسنين في دور المسنين في محافظات الفرات الأوسط

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#### الخلاصة:

**الهدف:** تقييم الحالة التغذوية للمسنين من خلال النمط الغذائي ومؤشر كتلة الجسم. **المنهجية:** أجريت دراسة وصفية ومقطعية من الفترة 2014/ 11/1 الى 2015/ 7 / 9 لتقييم الحالة التغذوية للمسنين في دور المسنين في محافظات الفرات الأوسط، واختيرت عينة عشوائية احتمالية (120) مسن من 65 فما فوق من الذين يقيمون في دور المسنين. وجمع البيانات باستخدام أداة الاستبيان والمقابلة وتحليلها من خلال تطبيق التحليل الإحصائي الوصفي والاستدلالي. **النتائج:** أوضحت الدراسة ان الغالبية العظمى من العينة ضمن الفئة العمرية (76-80) سنة وبنسبة (28.3%) وكان أكثر من نصف العينة ذكور (58.3%) والباقي من الاناث، اما مستوى التعليم فكانت الغالبية العظمى خريجي الدراسة المتوسطة والدراسات العليا وبنسبة (28.3%)، الغالبية منهم لا يستخدم طقم اسنان (83.3%)، كما ان غالبيتهم كانوا غير مدخنين (70%)، بينما (63.3%) منهم كانوا يستخدمون الدواء، أما بالنسبة لمؤشر كتلة الجسم ومقياس محيط منتصف اعلى الذراع فقد وجدت ان أكثر من نصفهم لديهم زيادة في الوزن (58.3%) و (55.8%) على التوالي وتشير العلامات السريرية في الاغلبية منهم كانت لتساقط الشعر و ابيضاض الاظافر (26.7%).

**الاستنتاج:** استنتجت الدراسة ان الاغلبية منهم يعانون من مشاكل تساقط الشعر و ابيضاض الاظافر وزيادة في الوزن. وكذلك ان اغلب كبار السن لا يتناولون الفيتامينات والمعادن.

**التوصيات:** أوصت الدراسة بتعزيز النظام الغذائي وتنفيذه لكبار السن المقيمين في دور المسنين، وأجراء التقييم والتقويم الغذائي الدوري للأفراد كبار السن، كذلك توفير غذاء صحي في دور المسنين والرقابة الدورية على دور المسنين.

#### Abstract

**Objective:** Assess the elderly's nutritional status through the dietary habits and anthropometric measures.

**Methodology:** A descriptive (cross-sectional) study is carried out from Nov 1st, 2014 to July 9th, 2015 to assess elderly's nutritional status at geriatric homes in Al-Furat Al-Awusat governorates through a simple random sample of (120) elderly people aged 65 and above who live in geriatric homes. Data were collected through the use of the questionnaire and interview method, and analyzed through the application of descriptive and inferential statistical data analysis.

**Results** The study demonstrated that the majority of the sample at age group (76-80) years old (28.3%), more than half of the sample (58.3%) is males and the remaining is female. Relative subjects level of education, the greater number of them are within middle and high level of education and they accounted for (28.3%). the majority of them did not use dentures use (83.3%), majority of them are not smokers (70%), while (63.3%) of them were using medication. More than half of BMI and MUAC accounted for overweight (53.3%) and (55.8%) respectively.

**Conclusions:** majority of them have signs and symptoms including easy hair loss and bleaching nails. Most of the old residents do not customarily take vitamins and Minerals intake.

**Recommendations:** The study recommended the following: promotion of nutritional system to be implemented for old age residents and routine annual nutritional assessment and evaluation can be done to old age individuals in geriatric homes and a nutritional educational program can be used as a means for nutritional health awareness. Nutritional specialized nurses, nutritionists can make regular visits to provide supervision on the quality of the food introduced to elderly residents. A comparative study should be conducted between elderly geriatric home residents and community elderly nutritional status.

**Key words:** Nutrition, Ederle's, Anthropometric Measures

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## **INTRODUCTION**

Nutrition refers to the processes by which a living organism ingests digests, absorbs and excretes nutrients. Nutrition as a clinical area is primarily concerned with the properties of food that build sound bodies and promote health. a good nutrition for a person is essential to good healthy body and prevents diseases and other health problems, the individual should be provided with knowledge about nutrition and the body nutritional requirement through the life span. The person must take diet that contains carbohydrate, protein, fat, vitamins, minerals, water and fiber in sufficient amounts to meet optimal health.<sup>(1)</sup>

Malnutrition in elderly people is associated with impaired activities and general physical conditions, the development of malnutrition is described as a continuum, starting with inadequate food intake followed by a decreases in the anthropometric measurement, The anthropometric measures have commonly been used to assess the nutritional status in the elderly, the nutritional assessment has been specifically developed to evaluate the risk of malnutrition in elderly people and identify those that could benefit from early intervention.<sup>(2)</sup>

The elderly people are particularly prone to inadequate nutritional status because of factor related –age such as physiological changes, chronic diseases, use of medication and decrease mobility, the elder nutrition may not be easy to recognize or to distinguish from changes resulting from the aging process, if detected could result in more rapid deterioration of health and early death. <sup>(3)</sup>

Nutritional status is defined as the outcome of the balance between intake and consumption of nutrients. Nutritional status is influenced by many factors, such as dentition, neuropsychological problem and mobility and may be related to other health concerns. The mini nutritional assessment remains the most useful screening instrument for use in nursing homes .Height is an important component to assess nutritional status, since accurate measurement of status is very important in determining the body mass index (BMI). Body Mass Index is an indicator for assessing the risk of chronic energy deficiency (CED) and obesity. However, measurement of stature in elderly people cannot be conducted perfectly due to kyphosis and scoliosis, with this population of elderly people, it may be more appropriate to estimate stature from the measurement of other skeletal segments such as knee height, and span and setting height. The ageing does process not influence the length of arm, leg (Knee). Arm span is less influenced by aging. Reduction of arm span is recommended as a parameter for stature prediction setting can also be used to predict the stature of elderly, but tend to decrease along with aging. The prediction of stature in elderly people is considered as quite viald in developing anthropometric and taking an interpretation of the measurement of body compassion.<sup>(4)</sup>

Some nutritional assessment measurements are inaccurate because the physical and metabolic changes that occur in elderly populations. Body mass index may be unreliable

because the difficulty in height measurement in elderly results from vertebral compression and spinal deformities.<sup>(5)</sup>

Measuring arm span and knee height may be more accurate and reliable for body mass index. Skin fold thickness is also ineffective to detect changes in body fat and muscle mass due to a decrease in elasticity and an increase in compressibility of older skin. Mid-arm upper circumference gives a good indicator about weight changes and good sensitivity for any disorder in body weight in elderly.<sup>(6)</sup>

Nutritional assessment involves studying the nutritional status in older adult people and identifying the cause of malnutrition through the use of anthropometric measures, dietary history intake and clinical appearance. The goal of nutritional assessment is to determine that an individual has diet containing all necessary substance amounts appropriate for that person and is accessible and acceptable to the person<sup>(7)</sup>

The elderly people are particularly prone to inadequate nutritional status because of factors related to age such as physiological changes, chronic diseases, use of medication and decrease mobility, the elderly nutrition may not be easy to recognize or to distinguish from changes resulting from the aging process, if detected could result in more rapid deterioration of health and early death.<sup>(8)</sup>

Nutrition needs change through elderly. These changes may be related to the normal aging process, medical condition or life style. Assessment of nutrition status is essential for preventing health problems in older adults and identifying the causes of nutrition disorder and understanding the person's nutritional status. Nutritional assessment as a clinical study is used to determine the nutritional status, risk factor and food related to older adults. The assessment can be useful to evaluate the status of the elderly individual and identify the prevalence of certain health and nutrition risks among old adults.<sup>(9)</sup>

## **METHODOLOGY**

A descriptive (cross-sectional) study is carried out between Nov 1st, 2014 to July 9th, 2015 to assess elderly's nutritional status in geriatric homes at Al-Furat Al-Awsat governorates through a random sample of (120) elderly people aged 65 and above who live in geriatric homes through permission from written official permissions were obtained from the Ministry of Planning (Central Council of Statistical System) for the acceptance of the study questionnaire draft (Appendix D). As well as a formal permission was obtained from Ministry of Labor and Social Affairs prior to the initiation of the study.

An assessment tool was constructed in a form of questionnaire after reviewing the relevant literature and studies for the purpose of assessing the nutritional status of older adults. Data collection was conducted through interview with every person included in the present study that includes Dietary patterns.

Dietary patterns were composed of (7) items; rated on (3) Point Likert Rating Scale whereas (always, some times and never).<sup>(10)</sup>

Anthropometric measures

This part was composed of (2) items Body Mass Index taken by weight Kg divided on height (m) the high measures by Knee height and calculated by (USA equation).

Measurements were taken by using the Electronic Scale (Seca-Australia) for recording weight per kg and the height was taken by knee height tape measure with a sitting position and the knee and ankle of one leg at a 90 degree with sitting on a table.<sup>(11)</sup>

**RESULTS:**

**Table (1) Distribution of the Study sample by their Demographic Data**

Demographic Data	Classification	Frequency	Percent	Cumulative Percent
Province	Najaf	30	25	25
	Babylon	30	25	50
	Diwaniyah	30	25	75
	Karbala	30	25	100
Age / Years	65-70	18	15	15
	71-75	24	20	35
	76-80	34	28.3	63.3
	81-85	20	16.7	80
	86 And More	24	20	100
Gender	Male	70	58.3	58.3
	Female	50	41.7	100
Levels Of Education	Illiterate	34	28.3	28.3
	Write And Reading	17	14.2	42.5
	Primary School	28	23.3	65.8
	Secondary School	7	5.8	71.7
	High School	6	5	76.7
	Institute	15	12.5	89.2
	College And Above	13	10.8	100

**F: Frequency, %: Percentage**

Table (1) shows that the study sample is distributed equally between the provinces (25%) for each one. With regard to the age groups for the study sample, (28.3%) of them at(76-80) years old. Concerning the gender more than half of the study sample (58.3%) is males Furthermore, the study results indicated that the high percent of the study sample (34.1%) is highly educated.

**Table (2) Health problems of the study sample**

Health problems	Frequency	Percent	Cumulative Percent
Don't have signs and symptoms	4	3.3	3.3
Easy Hair Loss	8	6.7	10
Bleaching nails	4	3.3	13.3
pallor	8	6.7	20
Conjunctiva pallor	20	16.7	36.7
Easy Hair loss and pallor	4	3.3	40
Easy Hair loss and conjunctiva pallor	8	6.7	46.7
Bleaching nail and pallor	8	6.7	53.4
Bleaching nail and conjunctiva pallor	20	16.7	70.1
Easy Hair loss and bleaching nails	32	26.7	96.7
Pallor and conjunctiva pallor	4	3.3	100

Total	120	100
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Table 2 revealed that the high percent of the study sample have hair loss (26.7%) and bleaching nails,

**Table (3) Elderly Responses regarding Dietary habits**

Dietary habits	Rating	Frequency F	Percent %	Cumulative Percent	m.s	Assessment
1-I don't take enough food every day	Never	28	23.3	23.3	1.82	Fail
	Sometimes	85	70.8	94.2		
	Always	7	5.8	100		
2-Usually don't eat anything one day or two days a month	Never	83	69.2	69.2	1.3	Fail
	Sometimes	33	27.5	96.7		
	Always	4	3.3	100		
3-Address the vegetables twice or many times a day	Never	65	54.2	54.2	1.6	Fail
	Sometimes	38	31.7	85.8		
	Always	17	14.2	100		
4- Take milk or milk products once a day	Never	14	11.7	11.7	2.15	Pass
	Sometimes	77	64.2	75.8		
	Always	29	24.2	100		
5- I eat fruits or fruit juice once per day	Never	5	4.2	4.2	2.3	Pass
	Sometimes	72	60	64.2		
	Always	43	35.8	100		
6- Take the bread and rice or other grains	Never	7	5.8	5.8	2.5	Pass
	Sometimes	45	37.5	43.3		
	Always	68	56.7	100		
7-Take tea, coffee and drinks immediately after a meal	Never	10	8.3	8.3	2.4	Pass
	Sometimes	52	43.3	51.7		
	Always	58	48.3	100		

This table shows the study results concerning dietary habits. It was found that more than half of the study sample passed the test with regard to (4,5,6,7) items others where as they failed in (1,2,3) items.

**Table (4) Showing Overall Nutritional Assessment of the Study Sample by Their Anthropometric Measures (BMI and MUAC)**

Anthropometric measures assessment	Rating	Frequency	Percent	Cumulative Percent	Assessment
BMI	Normal	22	18.3	18.3	Overweight
	Obesity	34	28.3	46.7	
	Overweight	64	53.3	100	
MUAC	Underweight	1	0.8	0.8	Overweight
	Normal	20	16.7	17.5	
	Overweight	67	55.8	73.3	
	Obese	32	26.7	100	

Total	120	100
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Table (4) depicts the results of the study that which are concerned with overall anthropometric measures assessment includes (Body Mass Index and Mid upper Arm Circumference)) for the study sample. The results showed that more than half of the study sample (53.3% and 55.8%) respectively is overweight.

With regard to the age group of the study sample (76-80) years old, this result agrees With a previous study who studied the anthropometric measures with the age group (75-85) years old.<sup>(12)</sup>

Concerning gender, more than half of the study sample is male (58.3%). This result is supported by a study conducted by Another study to assess the Anthropometric indicators inthe nutritional assessment of the elderly in Palestine, their results indicate that most of the elderly residents are male.<sup>(13)</sup>

Regarding the level of education, it was found that the majority of the study sample (34.1%) is between middle and high level of education with previous study their result contradicted this study result in that they found most of the elderly residents are illiterate.<sup>(14)</sup>

Concerning the use of dentures, the study results indicate that most of the study subjects do not use of dentures.

In addition, the study results indicate that more than half of the study subjects take medications. These results come along with previous study, their results indicate that most of the residents are do not use dentures, and they take medications.<sup>(15)</sup>

In addition, the study results indicate that the study subjects are suffering from(Easy hair loss and bleaching nails) and other signs and symptoms of mal-nutrition including (hair loss, bleaching nails, & pallor). These results agree with previous study whose resultsindicate that the old residents are suffering from signs and symptoms of mal-nutrition including easy hair loss and bleaching nails.<sup>(16)</sup>

Regarding the residents' dietary habits, the study results indicate that more than half of the residents have good dietary habits. In addition, the study results indicate that the majority of the study subjects have a good nutrients intake during 24 hours, that means their nutrients intake involve the 4 basic nutritional elements. As for the nutritional assessment by using the anthropometric measures (BMI & MUAC) Mid Upper Arm Circumference, the study results show that more than half of the residents are overweight (53.4%) and (55.8%)respectively. Many studies which discussed the nutritional status for nursing home residents<sup>(7)</sup>, and showed high agreement with these results, they found that the majority of the residents are overweight, due to the lack of a physical activity. In addition,The same study found that the residents mostly have a gooddietary habit and a good dietary intake during the 24 hours.

## CONCLUSIONS

Majority of sample health problems of the study were including easy hair loss and bleaching nails. Most of the old residents do not customarily take vitamins and Minerals intake.

### RECOMMENDATIONS:

1. Promotion of nutritional system be implemented for old residents.
2. Routine annual nutritional assessment and evaluation be presented to old individuals.
3. A nutritional educational program can be used as a means for nutritional health awareness.
4. Nutritional specialized nurses or nutritionists can make regular visits in each elderly home resident to provide supervision on the quality of the introduced food to the elderly residents.
5. Collaboration between Ministry of Health and the Ministry of Labor and Social Affairs is necessary to provide a programmed system to follow-up a health status for old age
6. A comparative study should be conducted between elderly nursing home residents and community elderly nutritional status.

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