Original Article

The Study of the Nutritive Condition of the Elderly Resident of Sari Sanatorium

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Abstract

Background and purpose: The elderly resident of Sari sanatorium is vulnerable in terms of nutrition. This study has been conducted to investigate the nutritive condition of the elderly resident of Sari sanatorium in 2011.

Materials and Methods: The method of the present study is periodic and descriptive type. The 104 elderly were studied. The samples' anthropometric indices were measured, and mini nutritional assessment (MNA) questionnaire of the elderly was filled. At last, the total scores of nutritional state were calculated according to MNA and the relationship between the investigated factors and MNA scores were analyzed.

Results: The result of the study showed that according to MNA, 38.62% of elderly under the investigation suffered from malnutrition and 40.38% were subject to malnutrition. In addition, the analysis of the data showed that there was a meaningful statistical relationship among the elderly nutritive states based on MNA, daily consumption of drug ability to move, neuropsychiatric problems, personal idea about their nutritive state, and health condition.

Conclusion: There is an urgent need to include some nutritional interventions due to a high-degree of malnutrition and being subject to it in elderly sanatorium.

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Key words: Mini Nutritional Assessment, Nutrition, Elderly, Sanatorium

1. Introduction

The epidemiological refractory of diseases resulted in an increase in the hope of life and increase in the number of elderly, and subsequently, it has been added to the number of elderly who need medical services (1).

From the view of World Health Organization (WHO), the elderly are considered as new powers in the process of development. Since 6.11% of people in Iran include the elderly, according to the census in 1385, it is estimated that during 10 years later, it will reach about 10% (2,3). Potentially, the elderly are a vulnerable group for malnutrition[2] according to some reports, more than 50% of elderly who reside in hospital and institutes caring the elderly are afflicted with degrees of malnutrition (4,5).

Mini nutritional assessment (MNA) is a comprehensive and valid (previously assessed) instrument which is codified for elderly nutritional assessment (6,7).

By nutritional conditions, we mean the quantity and quality of the received eating material in the elderly (6).

The malnutrition is a risk factor for many clinical disorders, increase in disease and death, decrease in life quality and increase in the length of hospitalization in the hospitals which cants be usually identified despite being widespread among the elderly, so it will not be cured (8-10).

Spreading malnutrition in the elderly has been reported from 4% in the free senior resident in the society to 50% in the hospitalized elderly and those residents in the elderly caring centers (4,11).

In the study of Ishaghi and colleagues in Esfahan, 40% of the elderly had inappropriate nutritional condition (12).

In other studies, the malnutrition of energy–protein has been reported to 15% in free senior in the community and to 62% in hospitalized elderly in hospitals and to 85% in elderly of sanatorium and elderly caring caters (6,7,11).

Therefore, based on the importance of assessing the elderly's nutritional condition and the use of its results for planning and performing the appropriate interventions for reducing the nutritional problems, this study was conducted to investigate the nutritional condition of the elderly resident of Sari sanatorium in 2011.

2. Materials and Methods

This study is a descriptive type. The sample includes 104 elderly residents of Sari Mehravaran Shomal and Sarayemehr sanatoriums. The entrance factors of the elderly to the study included: the age above 60 years, ability to answer the questionnaire and the physical measures.

To collect the data, the MNA standard questionnaire has been used. Also in Iran, this instrument has been translated to Farsi and after standardization for Iran population; it has been identified appropriate (13). The reliability was estimated through Cronbach's alpha reliability. The estimation of from the questionnaire has been 0.8.

The 18-item questionnaire includes: the anthropometric indices (body mass index [BMI], round of arm, round of legs, and weight loss) diet, (the number of daily meals, food receive, liquids, and unappetizing), overall assessment (life style, drugs, mobility personal assessment, personal opinion about health, and nutrition) by questionnaire.

Based on the questionnaire scoring, the score below 17 means malnutrition, the scores of 23.5-17 are at malnutrition risk and the scores above 23.5 show good nutritional state. The weight anthropometric indices, round of middle arm, round legs, height, and BMI have been measured and calculated.

Ten measures weight fixed scale with the accuracy of 0.1 kg and to measure the height, a cloth height gauge with the accuracy of 0.1 cm have been used around the middle arm and around the back foot muscle by 1 m with the

accuracy of 0.1 cm in order to do the statistical tests, information through descriptive analytic statistics (χ^2) using SPSS for Windows (version 19.0; SPSS Inc., Chicago, IL, USA).

3. Results

This study showed 43.3% of the elderly were men and 56.7% were women. The average age was 70.27 with the standard deviation of 6.7 and with the maximum age of 90 years and minimum age of 60 years. Based on the overall rating of MNA, 34.62% of the elderly were in the group with malnutrition (with the score of under 17) and 40.38% of the elderly were in the group at the risk of malnutrition (with the score between 17 and 23.5). Also, 25% of the elderly were in the natural nutrition group (with the score of 24 and more).

Concerning variables of anthropometric measure, BMI was 4.8% less than 19 and 44.2%, 19-21 and 12.5% was less than 23 and 38.5% was 23 and more. About 65.9% of those whose back foot muscles environment was <31 cm had malnutrition based on WHO classification. There was a meaningful relationship between the elderly back foot muscles environment and nutritional state (P < 0.0001). There was a meaningful relationship between the elderly's middle arm environment and nutritional condition. About 91.7% of the elderly whose middle arm environment was <21 cm were afflicted with malnutrition (P < 0.0001).

Concerning diet variables, 90.9% of those who had severely lost their appetite were afflicted with malnutrition. There was a meaningful statistical relationship between Miss Appetite and malnutrition (P < 0.0001). The elderly who had used fruits and vegetables more than twice a day, 68% had malnutrition and 20% were at the risk of malnutrition.

There was a meaningful relationship between the use of fruits and vegetables and malnutrition (P < 0.0001). About 100% of the elderly who could not eat food helplessly, had malnutrition while 87.9% of those who could eat food alone but with difficulty had malnutrition. There was a meaningful statistical relationship between these two states (P < 0.0001).

Concerning overall assessment variables, 86% of the elderly who did not have the ability to walk had malnutrition and 13.3% of them were at the risk of malnutrition. There was a meaningful statistical relationship between the elderly ability to move and malnutrition (P < 0.0001). About 40% of the elderly who had acute illness were afflicted with malnutrition. There was a meaningful statistical relationship between acute illness and malnutrition among the elderly (P = 0.0040). Among the elderly who used more than three prescript drugs daily, 47.7% had malnutrition and 30.8% were at the risk of malnutrition. There is a meaningful statistical relationship between the daily use of more than three drugs and elderly malnutrition (P = 0.001).

Concerning personal assessment variable, among the elderly who have malnutrition in their opinion, 80% had malnutrition and 20% of them were at the risk of malnutrition. There was a meaningful statistical relationship between the elderly's feeling about his/her own nutritional state and his/her assessment of health condition and the nutrition condition (P < 0.0001). In the way that most of the elderly who had an unfavorable opinion about their health condition, were afflicted with malnutrition (P < 0.0001).

4. Discussion

In the present study, based on MNA, 34.62% of the elderly residents of Sari sanatorium were afflicted with malnutrition and 40.38% of them were at the risk of malnutrition.

In similar studies in Tehran, 12.8% were afflicted with malnutrition and 56.7% were at the risk of malnutrition (14). In Khorasan

Provenience, 12% had malnutrition and 45.3% were at the risk (13). In Kermanshah, 38.7% had average malnutrition and 45.9% were at the risk of malnutrition severely (15). In GUIGOZS study, the spread of nutrition among the elderly living in the community was 5-10% (10). In Kuzuvas study in Japan, 19.9% of the elderly livings in the community were afflicted with malnutrition and 58% were at the risk of malnutrition (16). The results of the present study are similar to those studies about the affliction with malnutrition and being at the risk of malnutrition among the elderly resident of sanatorium, but in the present study a larger number of the elderly were afflicted with malnutrition. The reason of the difference can be related to the residence of the elderly under study in the community in some of the studies and the cultural and social differences of the societies.

In the study of the questionnaire items based on the MNA, in daily drug consumption section, there is a similarity between the results of this study and similar studies about the daily drug consumption as a nutritional risk factor in the elderly (17).

The results of a study on the Danish elderly also shower that there is a meaningful relationship between ability movement and the elderly nutritional state based on MNA, which is similar to the results of this study (18).

In a study in Tehran and Shemiranat, the people who have had the experience of acute illness or stress in the recent month, are more at the risk of malnutrition. It is similar to the result of the present study (14).

In a study in Kermanshah (15), the consumption of fruits and vegetables was less than the recommended amount of fruits and vegetables in a day, which is similar to the results of this study.

In a study in Tehran (14) which is similar to the result of the present study, there was a meaningful statistical relationship between the elderly's feeling about his/her own nutritional state and his/her real nutritional state.

The results obtained from the nutritional assessment indices show the inappropriate nutritional state of the elderly resident of Sari sanatorium. Therefore, it is necessary to plan for appropriate nutritional interventions to improve the elderly nutritional state.

Acknowledgement

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