

# The Role of Nutrition in the Health of Elderly: A Review Article

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## Abstract

**Background and aim:** With the increase in the elderly population and the greater vulnerability of this group to diseases, the study of the elderly nutritional status is a necessary factor in health maintenance and disease prevention. Therefore, the present study deals with the role of nutrition in the health of the elderly.

**Methods:** This review with Persian keywords "nutrition", "health", "elderly" and "Iran" in the databases of Iran Scientific Information and Documentation Research Institute (ISIDRI) (Ganj system), Iranian publications database (Magiran), Academic Jihad database and English keywords "elderly", "health", "aged", "nutrition", "Iran" were performed in the databases "Google Scholar", "Pubmed", "Scopus" in the period of 2010 to 2021.

**Results:** Nutritional status has had positive and significant relationships with age, gender, marital status, education, income, body mass index, chronic and underlying diseases and mental disorders. The elderly are at risk of malnutrition, therefore nutritional screening as primary care in the elderly seems to be essential which can reduce the treatment and care costs and also improve their quality of life.

**Conclusion:** Nutritional screening as primary care in the elderly seems necessary that can reduce treatment and care costs as well as improve their quality of life.

**Keywords:** Nutrition • Health • Elderly • Treatment • Mobility

## Introduction

Elderly is a process that leads to psychological and social physiological changes in the individual, which is based on the definition of the World Health Organization (WHO) passing through the age of 60. Today, improving living conditions and health care has led to increased lifetime and life expectancy and followed by results such as reducing mortality in the lower ages and the increase in the number of elderly people compared to the total population [1].

According to the World Health Organization (WHO) forecast, the elderly population reaches 1.5 billion by 2050 in which 54 percent of the world's elderly live in Asia. Iran also occurs after a large and rapid demographic change in the last two decades, such as most countries to year corrosion and according

to the latest information center of the Iranian statistics center, based on several people in 1395, 79 million countries are 7 million and 450 thousand people, 28.9% older. And it is expected that the percentage of elderly people in Iran will increase by more than 10% and by 1404 and by 1430 [2]. By increasing the population of the elderly and due to the more vulnerability of this group, for some reason, such as reducing mobility, reducing physical abilities, increasing social isolation, which results in decrease their quality of life.

## Literature Review

The health, comfort and prosperity issue of the elderly in society is widespread every day [3]. One of the most important factors affecting the health of the elderly is their nutritional status. Diet and nutrition play an important role in maintaining health and prevention of diseases and helping their optimal performance because with increasing age, a physiological reduction in appetite, taste and olfactory and ability to swallow can reduce the diversity and diversity [4]. For this reason, the risk of malnutrition in older people is more than in young people. Studies on the nutrition of elderly people show the prevalence of nutrient deficiencies with age. So that half of the health problems have been reported in people over 60 years of age. According to the results Hosseini, et al. which performed the frequency of chronic diseases on 1017 elderly, nearly 80% of the elderly had a chronic disease [5]. Chronic diseases dependent on nutritional patterns such as obesity, glucose tolerance, diabetes and increased blood pressure are based on the main issues associated with the nutrition of the elderly, which has a significant impact on their health and longevity. The results of the studies showed that there is a significant relationship between nutritional status and chronic pain in old age, in other words, with increasing whirlpool and severity of chronic pain in the elderly [6]. This reflects that nutritional problems in the elderly are very effective in increasing chronic pain and if interventional for this issue, malicious effects on their quality of life are stable and irreparable complications. With rapid developments in today's societies, the environment of human life and its influential factors, such as technological changes, the health of the elderly has also changed [7]. Therefore, changes in their social status are affected by the amount of consumption, quality and nutritional diversity. Has distress, since the vulnerability of this group against diseases and health conditions, it has more attention to them because in the absence of proper nutritional principles, many direct and indirect costs have many for individuals due to society [8].

Therefore, the present study plans to investigate in texts and studies in this area by showing a general image of the nutrition of the elderly in Iran and identifying barriers and its problems and its effective factors for identifying people at risk of food stream and planning necessary to take care and upgrade the services of the country's elderly [9].

## Methodology

This study was performed by review method. Initially, by using "nutrition", "health", "elderly" and "Iran" keywords in the Iranian institute of information and scientific documents (Ganj system), the database of Iranian publications (Magiran), the scientific database of the University Jihad databases; and the English keywords "elderly", "health", "aged", "nutrition", "Iran" in the "Google Scholar", "Pubmed", "Scopus" databases about fields related to the title and abstract of the article in the period From 2010 to 2021, we conducted a comprehensive review of studies that addressed various aspects of the nutritional status of the elderly in Iran. Then, according to search results, we reviewed titles and abstract articles [10].

**Table 1.** Details of Persian articles submitted to the research.

No.	Author	Type of study	Study location	Year of publication	Study population	Significant finding
1	Ramezankhani	Cross sectional	Ilam, Iran	2016	Elderly over 60 years	The relationship between nutrition and gender, education and occupation was not significant but was significant with age.
2	Eftekhari Ardabili	Cross sectional	Gorgan, Iran	2014	Elderly over 60 years	The relationship between nutrition and Body Mass Index (BMI) has been significant.
3	Rasoulifar	Descriptive analytical	Mashha, Iran	2014	60 years-85 years old elderly	The relationship between nutrition, education and marital status was significant.
4	Esmaeili Fakhar	Cross sectional	Arak, Iran	2013	Elderly over 60 years	The relationship between nutrition status and underlying disease has been significant.
5	Taheri Tanjani	Cross sectional	Khuzestan, Iran	2017	Elderly over 60 years	The elderly exposed to foodstuffs had the highest frequency.
6	Ghadimi	Cross sectional	Babol, Iran	2020	Elderly over 60 years	The relationship between nutrition and gender, marital status and income has been meaningful.
7	Lashkarbolouki	Cross sectional	Gorgan, Iran	2014	Elderly over 60 years	The relationship between nutrition, age, underground and psychological diseases, marital status and income has been significant.
8	Ahmadzadeh	Cross sectional	Mashha, Iran	2019	Elderly over 60 years	The relationship between nutrition, underlying disease, psychological problems and Body Mass Index (BMI) has been significant.
9	Masoumi	Cross sectional	Rasht, Iran	2012	Elderly over 60 years	The relationship between nutrition, sex and income has been significant.
10	Payvar	Descriptive analytical	Tehran, Iran	2017	Elderly over 60 years	The relationship between nutrition, gender, education, marital status, occupation, income, body mass index and disease was significant.
11	Doostan	Cross sectional	Kerman, Iran	2017	Elderly over 60 years	The relationship between nutrition and underlying disease has been significant.

12	Najafi	Cross sectional	Sistan and Baluchestan, Iran	2018	Elderly over 60 years	The prevalence of malnutrition was higher than the average country.
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**Table 2.** Details of English articles submitted to the research.

No.	Author	Type of study	Study location	Year of publication	Study population	Significant finding
1	Dehdari	Cross sectional	Semnan, Iran	2019	Elderly over 60 years	The relationship between feeding, age, income, Body Mass Index (BMI) and underlying disease was significant.
2	Bakhtiari	-	Babol, Iran	2020	Elderly over 60 years	The relationship between nutrition, age, income, education, marital status and underlying disease has been significant.
3	Azizi Zeinalhajlou	Cross sectional	Tabriz, Iran	2017	Elderly over 60 years	The relationship between nutrition, age, education and marital status has been significant.
4	Mokhber	-	Khorasan Razavi, Iran	2012	Elderly over 60 years	The relationship between nutrition and psychological disorders has been significant.
5	Abdollahzade	Cross sectional	Khuzestan, Iran	2018	Elderly over 55 years	Nutrition had a significant relationship with the level of education, but it was not meaningful with age, gender, marital status and job.
6	Payahoo	Cross sectional	Tabriz, Iran	2013	Elderly over 60 years	The relationship between nutrition, gender, and psychiatric disorders has been significant.

With age and changes in the health structure, including physical, psychological and various diseases, these changes are affected by psychological, social, genetic, lifestyle and dietary factors. Due to the increase in the number of elderly in recent years, this increase increases the need for health care in this cortex. Proper nutrition and physical activity improve the lifestyle of the elderly, so that proper nutrition maintains the health of the elderly, the proper management of chronic diseases, the treatment of serious diseases and rehabilitation in them. Nutritional status is affected by physiological, psychological, medical and social variables. Research related to these factors in Iran has generally been focused on examining the nutritional status of the elderly and identifying the causes and factors affecting it, which we have discussed and discussed. The impact of demographic change is very significant due to the increase in the elderly population. In this regard, the findings of Abdollahzadeh, et al., Rasoulifar, et al. and Eftekhari Ardabili, et al. regarding the age of the elderly showed that the rate of malnutrition is higher

in the age group 76 years and above. The older the elderly, the higher the risk of malnutrition, which can be attributed to problems with chewing, lack of teeth, loneliness and depression at this age. Gender was also related to nutritional status, with women more likely than men to be malnourished and at risk. Although no difference between the genders was reported in the study of Masoumi, et al. it seems that the cause of malnutrition in women is due to biological differences and their eating habits [11].

According to various studies, it can be stated that most elderly women communities, compared to men, have more inappropriate education and financial condition, as well as less consumption of some food groups in women, including meat and products, which are expected to be at risk. The marital status of the elderly suggested that living alone and in social isolation, followed by anorexia, increased the likelihood of malnutrition but a study by Abdollahzadeh, et al. refutes this claim. Of course, studies also

show that social isolation is associated with inadequate calorie intake. People who live alone are less likely to eat protein, fruits and vegetables and consume fewer meals than others. In this regard, emotional support from the spouse, friends and family can be the reason for the difference in nutritional status in these groups. Because having intimate friends and not alone, has a high impact on the mental and physical health of the elderly [12].

## Discussion

The level of education in various studies may vary due to differences in the studied group and some provinces of the country were higher, but the relationship between nutritional status and positive education was significant and positive but in the research. Ramezankhani, et al. No significant relationship was reported. By increasing the level of education, the number of people with normal nutrition is higher, perhaps higher education leads to more income and a better lifestyle, resulting in better nutritional status. In terms of income index, given that the research of the last ten years was examined and the inflation rate was different; these figures were also different, but eventually various studies reported a significant relationship with nutritional status. The percentage of malnutrition in the elderly who were covered by the Imam Khomeini relief foundation or state welfare organization of Iran was higher than other elderly with other sources of income because the salaries received by these centers are low and do not meet the needs of the elderly, which is not far from expectation [13].

Body mass index showed that there is a significant relationship between this index and nutritional status. Higher BMI was associated with an increased risk of malnutrition in the elderly and this index was significantly higher in women than men, so in the old study and colleagues, obesity was higher in women (90% vs. 79.7%) than in men. There was a significant relationship between nutritional status and chronic and underlying diseases; and the elderly with underlying diseases such as diabetes, hypertension, immunodeficiency, etc. had a higher prevalence of malnutrition. Nutritional status can be an effective and supportive factor for health, in other words, normal nutrition affects people's health and the reason for this relationship can be that with age, malnutrition and chronic diseases of each two increase and leads to the severity of disease and malnutrition. Most elderly have several underlying conditions that require multiple medications, which can lead to decreased appetite, nausea, diarrhea, weight changes, changes in taste and reduction of saliva production, all of which can lead to increased malnutrition in the elderly [14-18].

In terms of psychological characteristics, depression has a significant relationship with nutritional status, so the prevalence of malnutrition was higher in people with depression [19,20]. Since mental and physical disorders are so prevalent in depressed people, physicians and health care providers cannot ignore the vulnerability of this group of society and the point that should be considered is the relationship between mind and body. Various studies have reported that depression causes malnutrition and dehydration, as well as malnutrition, causes depression. These disorders are also effectively associated with quality of life and social consequences, so improving the status of food intake may have beneficial effects on these disorders. Generally, our findings in the reviewed studies, the highest frequency of nutritional status of the elderly in Iran were exposed to malnutrition and then optimal nutrition.

## Conclusion

Since the elderly are at risk of malnutrition due to disease and using various drugs, nutrition screening is effective as primary care for the elderly because it can reduce treatment and care costs and improve the quality of life. It is noteworthy that each of the studied indicators cannot be effective alone, but a set of demographic and underlying factors can play a role in the prevalence and risk of malnutrition. According to the presented materials, it can be said that in the coming years, with the increase in the elderly population, a lot of expenses will be imposed on the country's budget. Proper nutrition in the elderly is an important pillar of public health that can reduce a significant share of physical and mental disabilities; therefore, healthy lifestyle

education from an early age, which prevents problems in old age, is one of the guidelines. The results of this study can raise the awareness of the government, physicians and nutrition experts to plan and take action to eliminate malnutrition and promote the health of the elderly.

## Conflict of Interest

There is no conflict of interest has been expressed by the authors.

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