



## A Review of the Risk Factors of the Prevalence of Malnutrition in the Elderly

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### Abstract

**Background:** The elderly population is increasing in developing countries due to improved health status and life expectancy. Considering the increase in the phenomenon of aging and the statistics of the elderly population, it seems that there are still problems such as malnutrition, diabetes, depression, etc.

**Objective:** The purpose of this research is to investigate the risk factors of malnutrition in the elderly in order to provide a basic solution for appropriate intervention and reduction.

**Results:** The findings of the reviewed studies show that demographic characteristics, lifestyle, psychological and physiological variables are predictors of malnutrition in the elderly.

**Conclusion:** Considering that there are still risk factors for the prevalence of malnutrition in the elderly, such as the fact that most of them do not have a good economic status due to reasons such as retirement, and there are also problems such as cognitive disorders, digestion and depression, it is better to periodically evaluate malnutrition screening in treatment plans and be done.

**Keywords:** Risk Factors; Prevalence; Malnutrition; Elderly

### Introduction

With the progress of science, the health-medical and economic level of societies has also improved, which increases life expectancy and the growth of the elderly population. Currently, due to the increase in life expectancy in the world, aging has become a global phenomenon, which is considered an important development in the 21<sup>st</sup> century. According to global estimates, the number of elderly people in the world will reach two billion in 2050. Aging includes phenomena that are accompanied by changes such as physiological changes, lack of appetite, nutritional problems, oral and dental problems, swallowing and chewing food, suffering from various diseases and as a result of taking many drugs that these factors alone can cause changes. In the nutritional status of the elderly, they lose weight and as a result reduce the body mass index (Table 1).

Considering the nutritional status on the quality of life in old age, it is more necessary to fully understand the elderly as food consumption and to pay attention to the risk factors of malnutrition in them because nutrition is a clinical disorder and a very common risk factor in the elderly, which is diagnosed. It is not given and it is not treated [1].

For this purpose, this article aims to investigate the risk factors of malnutrition in people as a basic solution for appropriate intervention and treatment in order to improve the quality of life of the elderly.

### Malnutrition

In 2018, the World Health Organization stated the risk factors of malnutrition in the elderly in such a way that the lack of assessment

of the need for nutrients and disturbances in the body’s metabolism in the old age cause malnutrition. Malnutrition is a condition in which lack or excess intake of energy, protein and other micro-nutrients or the imbalance of their intake causes adverse effects on cells, tissues and organs; In other words, malnutrition in the elderly is a multidimensional concept, including physical and mental elements that can be caused by dependence, loneliness and illness in old age. The changes in smell and taste that occur with age may

also cause a feeling of early satiety. The prevalence of overweight and obesity in the elderly causes an increase in mortality and an increase in the number of metabolic and cardiac patients, as well as a decrease in performance and disability in the elderly. On the other hand, with weight loss, the elderly are exposed to acute diseases, death and a high risk of disability associated with it. The aging process causes a lack of many nutrients or is a result of malabsorption or malnutrition, which is often related to the poor economic and social status of the elderly.

	Place of residence (nursing home resident or community resident)
	Place of residence (city or village)
	Sexuality
	Education
	Economic status and social support
	Employment status
	Digestive problems
	Cognitive disorders
	Polypharmacy
	Lifestyle and emotional support
	Mobility
	The number of medicinal supplements
	Depression

**Table 1:** Risk factors of malnutrition in the elderly.

Elderly living in a nursing home compared to the elderly living in the community. The prevalence of malnutrition in the elderly living in nursing homes is more than the elderly living with their families, because the elderly living in nursing homes is more vulnerable to nutritional disorders than the elderly living in their own homes. In general, the prevalence of malnutrition in Iranian elderly is 92.2%, which is reported as 1.2% in the elderly living in the community and 21.6% in the elderly living in nursing homes [2].

**Place of residence (city or village)**

Nutritional status is related to the place of life (city or village) and malnutrition is more common among rural elderly than urban elderly. It can be said that in rural areas, due to certain characteristics such as higher percentage of illiteracy and less welfare and health facilities and less awareness of the elderly about issues related to health and nutrition, the percentage of malnutrition is

higher in them. In addition, the increase in the prevalence of disease in these ages and the high costs of care and health provision in the elderly increase the possibility of poverty in them [3].

**Sexuality**

In general, according to various studies, it can be said that in most societies, women have lower education and financial status compared to men, and they bear a heavier emotional load in the family; therefore, they are more at risk of malnutrition than men [4].

**Education**

Higher education in relation to income has led to better lifestyle and better nutritional status in the elderly [5].  
Economic status and social support.

The elderly who lives in poverty will have a greater risk of malnutrition, which can be due to their reduced access to food and, as a result, less consumption of necessary food. Epidemiological studies with a deep examination of the relationship between poverty and nutritional status showed that they often tend to buy cheap food regardless of the balance and variety of food and nutrients in it, which may be due to economic problems that can lead to the use of foods with higher energy density but cheaper and of lower quality [6].

The percentage of malnourished elderly covered by the Relief and Welfare Committee is more than other elderly with different sources of income. In our country, the relief committee and in some cases the welfare committee are among the few ways of positive financial intervention and consequently, nutrition for the elderly. The salaries received by the elderly from these centers are very small and not enough to meet all the basic needs of the elderly, including food and medicine. Even in many cases, other elderly families also use it [4].

### Employment status

Malnutrition is related to job status, which can be due to mental problems caused by retirement and as a result, nutritional consequences such as reluctance to eat and low salaries in this group. On the other hand, people with freelance jobs or employees have a more suitable plan for their life and buying food due to having a fixed monthly salary [6].

### Digestive problems

Gastrointestinal problems (such as chewing and swallowing disorders, anorexia, nausea and vomiting) increase the risk of malnutrition by reducing food intake. It has been shown that there is a significant relationship between dental problems and chewing food with malnutrition. Decreased saliva secretion and dental problems in the elderly will make chewing and swallowing difficulty and reduce the desire of the elderly to eat regular meals. Reduction of gastric and intestinal enzyme secretions reduces food digestion and absorption. On the other hand, the decrease in bowel movements during this period causes the problem of constipation in the elderly, and this also causes the elderly to not want to eat food [7].

### Cognitive disorders

Cognitive disorders in the elderly affect their functional status and physical activities, which leads to disability and dependence

of the elderly. This leads to a decrease in their food intake and appetite. On the other hand, the nutritional status can be one of the important factors affecting the occurrence of depression. Optimal nutrition plays an important role in the health of the elderly. Lifestyle changes, including a healthy diet containing fresh fruits and vegetables, consumption of dairy products and fish, increasing fluid intake, consumption of vitamin and mineral supplements, and increasing physical activity can reduce or delay the occurrence of cognitive disorders by improving the quality of life. Social activities, making friends with others, talking with them, participating in group work with peers and helping others, make the elderly mentally and spiritually healthy. Therefore, the way the elderly spends their time by affecting their mental states, indirectly affects the appetite and nutritional status of the elderly [8].

### Polypharmacy

There is a significant relationship between nutritional status and the number of drugs consumed daily, and the use of more than three drugs per day (polypharmacy) is considered a risk factor for eating disorders. Because it can lead to side effects such as loss of appetite, change in the sense of taste, constipation, weakness, drowsiness, diarrhea and nausea, which itself causes a decrease in food intake and the occurrence of malnutrition [9].

### Lifestyle and emotional support

Malnutrition in the elderly who lives with their spouses is less than the elderly who lives with children or alone. In this regard, emotional support from the spouse can be the cause of the nutritional difference; on the other hand, the category of social support can also have a positive effect on the eating habits and health status of the elderly. Poverty, loneliness and social isolation are among the social factors that cause the reduction of food intake in the elderly. Loneliness and reluctance to eat can make the borderline risk of nutrition more complicated and lead people at risk of malnutrition to suffering from malnutrition [10].

### Mobility

There is a significant relationship between the ability to move and the nutritional status of the elderly based on MNA. Elderly people who are unable to move, due to isolation and lack of communication with others, have unfavorable mental and psychological conditions, who leads to decreased appetite and reduced intake of food and ultimately malnutrition [11].

### The number of medicinal supplements

The percentage of malnourishment in the elderly who take medical supplements (various vitamins, minerals and omega-3 fatty acids) is higher compared to the elderly who does not take supplements. This problem can have two reasons: maybe the elderly who takes supplements they used it, they were malnourished at first, and on the advice of their doctor; they started taking supplements (such as those who had calcium deficiency and osteoporosis and were taking calcium supplements). The reason for their trust in the use of supplements is that they consumed smaller amounts of food sources and in other words, they replaced food with supplements. Although the elderly is among the users of multivitamin supplements, many studies on the benefits of supplement use in the elderly have not been done. The findings obtained from different studies show that the elderly have incorrect beliefs about the effectiveness of supplements [12].

### Depression

One of the most common mental disorders in the elderly population is depression, which reduces their efficiency and increases their mortality. The rate of depression among the elderly of different populations is different (0.9% to 49%). Depression and unfavorable lifestyle may have a close relationship with the occurrence of depression, and the symptoms of malnutrition are more visible in people with depression. In the study of Mokhbar, *et al.* [13] which was conducted with the aim of determining the prevalence of malnourished elderly and at risk of malnutrition, the prevalence was 11.5% and 44%, respectively. In a study on 247 elderly residents of Tehran's Kahrizak Charitable Foundation with an age range of 60 years and above, Mir'Arafian [14] and colleagues reported the prevalence of malnutrition and at risk to be 41%. In the study of, *et al.* [15] which was conducted on 227 Indian elderly, 14% and 49% were reported to be malnourished and exposed to malnutrition, respectively. Saka, *et al.* [16] reported the prevalence of malnutrition and exposed to malnutrition in 181 Turkish elderly reported 13% and 31%.

### Conclusion

Based on the reviewed studies, early diagnosis of malnutrition and the need for nutritional support among the elderly in order to provide appropriate and effective intervention to improve the quality and quantity of life of the elderly is of special importance. In order to reduce malnutrition among the elderly, two types of activities are needed. First, treatment programs should be implemented for the elderly who suffers from malnutrition. Second, for those elderly people at risk of malnutrition; considering the effects

of aging on the physical condition and the possibility of malnutrition in the future, suitable preventive and supportive programs should be carried out for this group.

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