

## Nutritional habits in the elderly

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### ABSTRACT

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**Introduction:** Aging is accompanied by several physiological and psychological changes in the organism of an individual (e.g., decreased sense of taste and smell, disruption of satiety, depression), which affect the nutritional intake.

**Purpose:** The purpose of this retrospective study is to highlight the nutritional habits of elderly people.

**Materials and methods:** Extensive review of the recent literature in electronic databases (Pub med, Google scholar) and journals. Exclusion criterion for the articles was the language than the Greek and English.

**Results:** The increase life expectancy is important to be accompanied by physical and mental health,

quality of life and, where possible, from participation in social, economic, cultural and spiritual life. Adopting healthy dietary patterns, combined with daily physical activity, and factors such as avoiding smoking, could help considerably in reaching these goals. The physical and psychological changes occurring during aging may adversely affect nutritional status. Instead, a proper diet can positively influence the physical and emotional state of elderly people.

**Conclusions:** Diet and generally nutrition habits of the elderly play an important role in their health.

**Key words:** diet, dietary habits, elderly

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## **INTRODUCTION**

The population of people living in the Elderly has increased significantly in recent decades. In Europe, 1/4 of the population is aged over 60 years old. Although the life expectancy has increased, mainly due to improved diagnostic and therapeutic approach of the diseases is not known whether the added years are of good quality, i.e. if these people living without significant health problems which can greatly affect their lifestyle [1].

Proper diet is a key concern for senior citizens, on the one hand because over the years some nutritional peculiarities are appearing, which have to be addressed, on the other hand because nutrition plays a major role in the prevention and management of serious diseases occurring in the elderly. Poor nutrition can cause problems in the various systems of the organization as in circulatory, digestive, respiratory, psychology and immune system. Diet in the elderly is different from that in the adults and influenced by many factors. To be healthy, the older people, is needing to eat what adults eating, with primary differentiating the amount of calories, as the calorie needs decreasing with age [2].

Nutrition plays a very important role in the elderly as well as it helps to prevent, by following some simple diet plans, serious problems associated with nutrition [3]. Simple things like beans, almonds, walnuts, oranges, broccoli and others that can provide vitamins and minerals such as vitamin C, vitamin B, folic acid and zinc [4].

The purpose of this retrospective study is to highlight the eating habits of elderly people as well as the main nutrients that are missing from the body of the elderly, factors which may lead seniors in the wrong diet, the main diseases that can be treated with the proper nutrition and finally the effects of poor nutrition in the health of elderly.

The study material constituted by recently articles on the topic, which were found mainly in electronic database Medline and the Association of Greek Academic Libraries (HEAL-Link), with the following keywords: nutrition, diet, eating habits, third age, seniors. Exclusion criterion for the articles was the language than the Greek and English.

### **Nutritional requirements of the elderly**

Over the years, in human life, is usually observed a decrease in food intake and energy. This fact is mainly due to the reduction of physical activity and the reduction of muscle mass (reduction in basic metabolic rate), but also in chewing and swallowing problems [5]. At the same time, the needs for minerals are growing, such as calcium due to decrease in bone density, and other micronutrients because the frequent of receiving drugs.[6].

The danger to observe any deficiencies of essential nutrients, because the above reduction of the total food intake as well as other disorders in the body, such as gastrointestinal problems, correspondingly reducing the intake of nutrients [7]. Recommendations for the nutritional requirements of the elderly specified from the average percentage by which the activities are limited. Namely take into account the reduction in caloric loss in combination with the increased rate of physical disability that accompanies age [8].

The average daily caloric intake recommended to 2000-2800 calories for men 51-75 years old and 1400-2000 for women of the same age. Calorie needs are reducing approximately parallel to the age, and the needs of many nutrients such as protein, vitamins and minerals, are not reduced by the same percentage [9].

The requirements in carbohydrates is 55-60% of daily recruited calories (mostly complex carbohydrates, ie starchy foods and natural sugars found in fresh fruits and vegetables and in less than 10% of processed sugars). Regarding protein intake in elderly, recommended 1 gram of protein per kilogram of body weight. The recruited fat recommended not to be less than 30% of total daily calories [10].

A balanced nutrition, consisting of fruits and vegetables, cereal grains and fiber, it is generally recommended to provide these essential food ingredients. Avoiding saturated fats (i.e., animal fats), the abundant consumption of fruits and vegetables and if necessary, supplementation of vitamins and minerals, are considered the base of a healthy diet [11].

### **Missing nutrients from the body of the elderly**

- Protein and ferrum (RDA 53 grams/day): mainly reducing the animal protein intake, due to the loss of taste and teeth. Sources of protein and fibers that can be consumed easily from older people are legumes and cereals [7].
- Vitamin D (600 IUs a day Up to age 70 and 800 IUs if you're over 70): which is associated with osteoporosis and is found mainly in liver, fish and milk? [12].
- Folate acid (RDA 400mg): which is associated with anemia and disorders of the gastrointestinal system and is found in green leafy vegetables, oranges, beans, nuts, liver and whole grain cereals? [5].
- Vitamin B6 (RDA 1.3 mg): associated with metabolism and a shortage of could leads to the creation of kidney stones and muscular spasms and is founded in liver, beef, fish, chicken, cereals and potatoes [13].
- Vitamin B12 (RDA 2.8 mcg): associated with neurological disorders and exists

solely in foods of animal origin such as meat, eggs, milk [14].

- Vitamin C (RDA 85 mg): associated with skin, teeth and blood vessels disorders, located in citrus, tomatoes and green salads [11].
- Generally the complex of vitamins B that are more related to energy metabolism and fat [14].

#### Wrong nutrition factors

- **Ignorance:** This is one of the major causes especially in the elderly living alone, due to the partial or complete ignorance not only of the way or cooking but also of the required calories [15,16].
- **Social isolation:** People in isolation losing gradually their interest in food, sometimes even to apathy and their main meals consist of snacks [17,18].
- **Physical disability:** Older people with hemiplegia, arthritis and reduced vision experiencing difficulties in buying food and preparing meals [9].
- **Mental Disorders:** The medical and social care must be greater for psychiatric patients, not only those who suffer from schizophrenia and other similar syndromes, but also brain softening or depressive syndromes [17,19].
- **Iatrogenic:** Nutritional deficiencies are often due to incorrect dietary advices [17,20].
- **Poverty:** Generally, diets followed by pensioners without other financial resources, besides preparation are monotonous, tasteless and bland for purely economic reasons [9,20].
- **Reduction of appetite:** The relatively poor teeth condition often requires the person to soft food choice, consisting mainly of carbohydrates, so that eventually it is possible to lead to protein deficiency [16,17].
- **Malabsorption:** Mild forms of malabsorption are not rare in elderly, fat absorption, fat-soluble vitamins and vitamin B12 are much reduced [9,17].
- **Alcohol and drugs:** When the intake of alcohol is excessive, the caloric requirements are covered partly from this source, but with a corresponding reduction in other nutrients [20].
- **Increased requirements:** Negative nitrogen balance and catabolism of tissue proteins occurs in immobilized patients in bed, especially if they have hyperpyrexia and bedsores [9].

#### Treating diseases with diet

- **Diabetes:** There are two types: type 1 (insulin dependent) and type 2 diabetes (which is mainly regulated through diet and exercise). With small and regular meals, with a reduction of fat, sugar reduction and by avoiding sweets and stopping the excessive consumption of alcohol [21].
- **Dyslipidaemia (cholesterol-triglycerides):** Their fall is achieved by the implementation of the Mediterranean diet (fish, such as mackerel and sardines, fruit and vegetables, olive oil, nuts, such as nuts, tahini) [22].
- **Hypertension:** Body weight reduction, reducing salt intake, alcohol reduction, diet rich in fruits, vegetables, low-fat dairy products and foods with reduced saturated and total fat content [20, 23].
- **Osteoporosis:** There is no treatment that can replace bone loss that has already occurred. However recommended foods rich in calcium such as fish-sardines, sesame, green vegetables, dairy products, legumes, almonds, chestnuts and figs [23, 24].
- **Memory Reduction:** Foods that help the memory are nuts, fruits, meat, potatoes, legumes, dairy, fish and chocolate [25].

#### Effects of poor diet

A good and healthy diet has many positive effects on the health of elderly. Heart diseases, blood vessels diseases, diabetes, hypertension, high cholesterol, stroke, memory problems, osteoporosis, some cancers, diseases of the skin, hair and nails, and vision problems, are examples of conditions which can be affected by nutrition [9, 25].

Proteins, carbohydrates, fats, vitamins, minerals and water, are essential food ingredients, for the structure and functioning of all body cells. Therefore, these essential components should be taken in moderation, to maintain good health [2,26]. The impact of poor diet in the elderly affects all body systems and put their health at risk. Impacts in each system are summarized below [27]:

- In the **circulatory system:** hypertension, heart failure, myocardial infarction
- In the **digestive system:** infections in the digestive tract, constipation
- In the **respiratory system:** difficulties in expectoration and cough, lung infections
- In **psychology:** depression, weakness of concentration
- The **immune system:** risk of infections.

Moreover, **obesity** and **malnutrition** are two major problems that afflict the elderly and according to the studies of obesity is increasing in

ages 60-69 and 70-79 and only the people over 85 maintain a relatively constant weight. Furthermore, based on studies, malnutrition reaches almost 23% of the population with an average age of 80 years. The highest rate of malnutrition is found in institutions or nursing homes (50.5%) and less in the community (5.8%). Nearly one third of elderly patients admitted in to the hospital for any reason have malnutrition problems [17].

## CONCLUSIONS

Proper nutrition is a basic concern for third age citizens because over the years some nutritional peculiarities may appear which must be resolved [28]. Therefore, it is important for seniors to get enough of these nutrients through diet and, if this is not possible, consult their doctor about taking multivitamin supplements that will help them cover daily needs [29,30].

## Conflicts of interest

The authors declare that they have no conflicts interests.

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