

# NUTRITION FOR OLDER PERSONS

MARTA ŻEBROWSKA<sup>1</sup>, MAŁGORZATA ELŻBIETA ZUJKO<sup>1,2</sup>

<sup>1</sup>*Medical Institute  
Lomza State University of Applied Sciences, Lomza, Poland*

<sup>2</sup>*Department of Food Commodities Science and Technology  
Medical University of Białystok, Białystok, Poland*

E-mail: mzebrowska@pwsip.edu.pl

**Abstract:** When facing the changes in the age structure of the world's ageing population, the problem of proper nutrition for older persons seems to be of utmost importance. According to the World Health Organization, old age begins just after a person turns 60. Ageing process of an organism is irreversible and that is why it is so important to make all the effort for it to proceed as slowly as possible. Due to the fact that the elderly have their basic metabolism deteriorated, it is necessary to provide them with an individual nutrition model. The old age related diseases, such as dry mouth, determine the change in the current eating habits. Older persons are more vulnerable to infections with *H.pylori* bacteria as well as to peptic ulcer disease of stomach and oluodenum and constipations due to intestinal motility disorders. All those aspects must be taken into account when planning a diet for persons after 60 years of age. Proper dietary recommendations help to maintain adequate nutritious condition, which is extremely important as the elderly are usually prone to multiple morbidities. Malnutrition or obesity can lead to worse surveillance of basic diseases.

**Key words:** older persons, nutrition, diet

## Introduction

The progress of civilization, connected with the developments in medicine and improvements in the living conditions of the population, which have been observed since the 1950s of the 20th century, lead to life extension of European citizens, including those inhabiting Poland. In 2013 in Poland, there were only about 15% of people aged 65 and more. The demographic forecasts show that in 2050 the number of people in Poland that turned 65 is expected to reach 30% [1,2]. The process of population ageing is shaped either by an increase in the number of elderly people, but also by smaller number of children and teenagers. It is impossible to conclusively establish when the ageing process begins. In ancient times, a person was considered old in 35 years of age. According to the World Health Organization (WHO), old age begins when a person turns 60, but in many countries it is considered to be over 65 [3]. The ageing process of an organism is irreversible and that is why it is so important to make all the effort for it to proceed as slowly as possible. This process is influenced by many factors, among others: health behaviors, genetic, economic, social and cultural conditions. Among the health behaviors, apart from performing regular check-ups and maintaining moderate physical activity, nutrition is particularly important [3]. When an organism gets older, it is not only the circulatory, osteoarticular, nervous and immune system that changes, but also does a digestive tract. The amount of digestive juices produced decreases and intestinal motility gets slower, which leads to various gastrointestinal pro-

blems, such as constipations or decreased appetite. Proper diet should then be modified so as to satisfy the demand of an organism in energy and nutrients, delay natural ageing processes, give satisfaction from eating and ease potential health problems [4,5].

## Energy and Nutrients

Energy supply in a diet should stay in compliance with the current demand of an organism. Special attention should be paid in moments of increased demand for energy or during illnesses with fever. Energy supply in old people's menu should be adjusted individually, depending on nutrition and comorbidities. Particular attention should be paid to the fact that between 20 and 80 years of age calorie demand decreases by about 30% [4,5]. According to the Nutrition Norms presented by Food and Nutrition Institute in Warsaw [6], a man with low physical activity (PAL 1,4) and body weight of 70kg in the age between 66 and 75 should consume 1950kcal. On the other hand, a man with the same weight and physical activity, but in the age of 31-50 demands 2350kcal/24hours [6].

According to OTGM (**Oxford Textbook of Geriatric Medicine**) [5], protein supply for an older person should amount to 1g/kg of the total body weight. It is important to provide more protein in the period of increased demand for it, e.g. connected with an illness. Older persons very often consume too little protein, which can be caused by eating too few dairy products [5]. In the study conducted by Suligi [7], the consumption of dairy products was declared

by 50% of men and about 68% of adult and old women. The intake of calcium by older persons is at insufficient level. It is estimated that the percent of calcium norm realization in older people above 60 years of age is 53% for women and 74% for men [8].

In older persons' diet, the unjustified higher fat consumption is often observed, which can lead to obesity among people after 60. It is then crucial to define an optimal proportion of saturated fatty acids to one and polyunsaturated fatty acids [4, 5]. Numerous studies indicate that high consumption of PUFA (polyunsaturated fatty acids) reduces the risk of ischaemic heart disease. They have a strong anti-inflammatory, diastolic, antiaggregatory and antiarrhythmic activity [9]. Fish oils and sea fish meat, such as salmon, halibut, herring or mackerel are a very rich source of PUFA [4, 9].

Diet energy should be supplemented with carbohydrates. However, due to the fact that older persons are more prone to higher fasting blood glucose levels, the consumption of simple carbohydrates should be limited [5]. The research conducted by Górska-Ciebieda M. et al. [10] demonstrated that only 27% of older persons not having diabetes remain on a diet that limit the intake of simple carbohydrates. In the same study, it was discovered that 83% of older persons having diabetes remain on a diet that eliminates simple carbohydrates.

Excessive consumption of simple carbohydrates contributes to obesity. They are a source of „empty calories”, which do not supply essential nutrients, but only a big amount of energy. In older persons' diet, it is necessary to take care of the supply of wholegrain products, which are a good source of fiber [5, 6, 10]. Fiber helps to cure, but also prevent many metabolic diseases, including obesity, ischemic heart disease, constipations, diverticulosis and large intestine cancer or lipid metabolism disorders. Improper eating habits, low physical activity and diet poor in fiber largely influence the occurrence of the above listed diseases [11]. Daily supply of fiber in the older person's diet should amount to 20-40g. However, it should be remembered that too big supply of this ingredient can disturb absorption of some vitamins and minerals [6, 10].

### Nutrition in selected pathologies of oral cavity

**Xerostomia** is dryness in the mouth. The studies show that every other Polish senior suffers from this disease. Diet therapy of xerostomia concerns increasing the amount of consumed liquids. The ill should drink more often and with small sips. Sucking sugar-free, sour candies, chewing sugar-free bubble gum or drinking infusions e.g. mint, can prove helpful. Special attention should also be paid to potential deficits in patient's diet and their symptoms. Very often, the

reason for mouth diseases lie in iron or vitamin B deficits. Due to this, it is worth taking care of rebalancing those deficits. It is very important to check teeth condition of patients. It was proved that the condition of Polish seniors' teeth is much worse than that of the Western Europe's ones. Patient's diet should not irritate chemically, thermally or mechanically the changed mouth disease [12].

In cases when a patient has problems with biting or swallowing, it is advisable to implement a liquid diet – enhanced. Also patients suffering from dry mouth feel relief when being on such a diet. However, the menu should be properly balanced, so as not to cause nutritious deficits, which can deteriorate health. This diet should provide the proper amount of minerals and vitamins, particularly of vitamin C. Vitamin C deficit can lead to inflammatory changes in mucous membrane of mouth, tongue ulcers, congestions and lips exfoliation [12, 13].

### Nutrition in Selected Pathologies of Digestive Tract

The studies show that the functional changes of a digestive tract in older age are not caused by the very process of ageing, but mostly by multiple morbidities [5, 14]. It is estimated that 70% of people above 80 have atrophic gastritis. It is connected with a decreased gastric juices production and a reduction in their acidity. The consequence of it can be an increased number of *H.pylori* (*Helicobacter pylori*) infections. It is reckoned that 75% of peptic ulcer diseases of stomach and 95% of oluodenum are caused by this bacteria. The factors connected with a diet influence the above mentioned pathologies. They include: irregular meals, eating food from unknown sources and also too little consumption of vegetables and fruit. Some medicines taken by the elderly, e.g. proton pump inhibitors, can also influence the decreased acidity of gastric juices [12–14].

Either when being infected with *H.pylori* or when one has peptic ulcer disease of stomach or oluodenum, the patient is advised to go on a light diet with limited amount of animal fat and food fiber. However, it is necessary to provide a proper amount of protein, vitamins and minerals, just like for healthy people [12, 15].

With peptic ulcer disease, it is necessary to reduce the number of products and spices, which can stimulate production of gastric juices. This group of products includes: hearty broths, sparkling water, undiluted fruit juices, mushroom stocks or natural coffee, but also alcohol. Salt, spicy or fried products should be eliminated. Fruit and vegetables can be provided in a diet in a boiled or grated manner. During the disease remission, raw fruit and vegetables can be served. The products in a diet should be adjusted to patient's individual tolerance. The food which causes flatulence, acid reflux or heartburn should be limited. The diet

ought to be balanced in every case, so as not to lead to malnutrition of a patient [12–15].

Constipations are often a problem of older persons. They are caused by extended time of motion being stored in the distal part of an intestine. Atonic constipations in persons after 60 years of age are caused mainly by the reduction in physical activity, too little amount of drunk liquids and too little consumption of dietary fiber [12, 13]. Treatment of older persons' constipations should commence with non-pharmacological methods. Similarly as with other age groups, one should strive for passing three squishy, formed motions during a week, which will significantly improve patients' quality of life [16].

### Nutrition in Selected Pathologies Connected with the Intestines Mobility Disorders

Modification of eating habits should concern an increase in the amount of dietary fiber in a diet. Wholegrain products, groats, wholemeal flour, but also fruit and vegetables constitute an excellent source of dietary fiber. Increasing the amount of dietary fiber in a diet should be done gradually – about 5g/week. In order to increase the amount of fiber in a food portion, one can add bran to raw salads and salads or oatmeal to milk and fruit cocktails. One should also reduce the supply of products being the source of simple carbohydrates, such as: sweets, sugar, cakes, bakery products. The next step should be to increase the amount of liquids drunk by a patient. One should gradually provide more water from 0,5-1l to 1,5-2l a day. Flat mineral water is recommended. Special attention in advising on the amount of liquid in a diet should be paid in circulatory and kidney diseases, but also in patients with portal hypertension, because it can turn out to be unfavorable or even harmful [12–15]. In a diet of a senior with constipations, a daily portion containing 500g of fruit and vegetables, either raw or boiled, should be provided. A portion of dairy products ought to be planned in a diet, e.g. a natural yoghurt with linseed. Lactose help to eliminate functional constipations [14, 16, 17]. What should be ejected are the products that slow down intestines functions, such as: chocolate, cocoa, wheat and potato flour. It is advisable to consume dried fruit, particularly dry plums [17]. High-fiber diet ought to be implemented with a doctor or a dietician. Patients' attention should be focused on a fact that physical activity is also a very important non-pharmacological factor of treating constipations [17]. It should be remembered that very often constipations have different etiology and that is why during their occurrence in an older age, a doctor ought to be notified [17].

### Conclusions

Rational nutrition of older persons play a significant role in preventing and easing symptoms of numerous diseases, among others: circulatory disorders or cancers, which constitute the most frequent reasons for older persons' death. Properly planned diet should include not only individual patient's demand for energy, nutrients and water in order to prevent malnutrition or obesity, but also it ought to provide pleasure from eating.

### Literature

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