

Praktyczne wskazówki prawidłowego żywienia osób starszych

Practical tips for healthy diet of seniors

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Streszczenie

Populacja ludzi w wieku podeszłym rośnie, co jest związane n. in. ze wzrostem stopy życiowej i postępu medycyny. Jednym z problemów tej grupy wiekowej jest nieprawidłowe żywienie. Właściwe odżywianie jest jednym z podstawowych czynników decydujących o prawidłowym funkcjonowaniu organizmu, ma wpływ na spowolnienie procesu starzenia oraz przebieg występujących chorób. Racjonalna dieta decyduje o zachowaniu przez jak najdłuższy czas dobrej sprawności fizycznej i umysłowej, bowiem proces starzenia się organizmu człowieka powoduje stopniowe ograniczenie przyswajalności niezbędnych składników odżywczych, co w konsekwencji zwiększa ryzyko wielu chorób, w tym dietozależnych. Czynnikiem wpływającym na ograniczenie tych niekorzystnych procesów jest między innymi dobrze zbilansowana zarówno pod względem ilościowym jak i jakościowym dieta. (*Gerontol Pol 2015, 1, 143-58*)

Słowa kluczowe: wiek podeszły, racjonalna dieta

Abstract

The population of elderly people is growing, which is related to the increase in living standards and medical advances. One of the problems in this age group is connected with improper nutrition. Appropriate nutrition is one of the main factors determining the proper functioning of the body, it has an effect on slowing down the aging process as well as the course of common diseases. Rational diet prolongs staying in good physical and mental fitness, as the aging process causes gradual reduction in assimilation of essential nutrients, which in turn increases the risk of many diseases, including diet-related ones. This factor affects reduction of these negative processes. (*Gerontol Pol 2015, 1, 143-58*)

Key words: older age, senior, healthy diet

Introduction

One of the main environmental factors affecting human body and maintaining a good state of one's health is rational nutrition. It must correspond with the demand for energy and nutrients in an optimal way, without which men cannot maintain good health throughout their lives. Proper nutrition also includes the accurate distribution of meals throughout the day and a selection of disposable products for consumption in such a way that in each primary meal, in addition to adequate amount of energy, includes all the necessary nutrients a man should consume [1].

Demand for energy and nutrients in elderly people.

Reduced energy demand in the elderly age determines the changes in body composition (decrease in lean body mass) and reduction in case of levels of physical activity [1,2].

Acquiring energy from food should correspond with the needs of the body and should be adapted to its energy consumptions, the deficiency as well as the excess of the energy is detrimental to health [3]. Carbohydrates should represent 50-60% of the total energy needs, mostly in the form of complex carbohydrates (starch), while simple sugars should not provide more than 10% of energy. The proportion of energy from fat should be within the range of 25-30%. Recommendations for fats, in addition to the total amount, relate to the need for intake

of essential unsaturated fatty acids (EFAs) in the amount of at least 4% of energy.

The correct ratio of fatty acids of the n-6 acids to the n-3 ones should be 5 to 1 [4]. Additionally, no more than 10% of energy should come from saturated fatty acids, and the share of energy from trans isomers should not exceed 1% [5]. With the elderly, there is often protein malnutrition, because the aging process is characterized by gradual but steady decrease in the total amount of body protein [6]. The National Food and Nutrition Institute in Warsaw announced that protein in the daily diet of the elderly should provide the cover of 12-14% of energy [7]. The diet containing protein content of 1.5 g/kg per day appears to be the optimal one, whereas 50% should be a nutritious protein (derived from animal products). The diet of the elderly should also contain dietary fibre in the amount of 20-40 g per day [5]. The demand for vitamins and minerals in the elderly age, compared to middle-aged people, increase by an average of 20% [8,9].

Moreover, a need for vitamin D is larger, which is mainly driven by the reduction of exposure to sunlight, and thus a reduction of synthesis in the skin [10,11]. Elderly people should also increase contents of other vitamins in their diet such as:

- B6 (which is involved in the metabolism of proteins and polyunsaturated fatty acids)
- B2, B12 and folic acid because of their inferior absorption
- antioxidants (beta-carotene, A, E and C) that protect against the excess of free radicals, reducing the risk of chronic NCDs [5,8].

In women, with the exception of calcium, phosphorus and iron, the need for other minerals increases to an average of 10%. Women who are 60+ should, in comparison to women aged 26-60, increase the intake of calcium by 30-35% (due to its reduced absorbency and digestibility), phosphorus by 25%, while due to the lack of menstruation they should reduce consumption of iron by 10 to 20%. On the other hand, men in the elderly age should increase the supply of all minerals in their diet by 17-18% [5,12]. All the elderly, due to the increased sensitivity to sodium and increased risk of hypertension and associated cardiovascular diseases, should reduce the consumption of that element [5].

Elderly people or their carers should also be aware of the fact that certain vitamins and minerals are best absorbed when administered together. Vitamin A works best when given with vitamins E and D and also calcium, phosphorus and zinc. The B vitamins interact with vita-

Table I. Recommendations for the supply of energy and nutrients for people over 65 years of age

Nutritious ingredient	Recommendations		Principal sources in food
	Women	Men	
Energy (70 kg, little physical activity - PAL 1.4)	66-75 years of age 1750 kcal	66-75 years of age 1950 kcal	
	Over 75 years of age 1700 kcal	Over 75 years of age 1850 kcal	
Protein (g/kg body weight/day) *	0.9	0.9	Meat, fish, milk, cereals, legumes
Fats (g/person/day) *	66-75 years old 49 g Over 75 years of age 47 g	66-75 years of age 54 g Over 75 years of age 51 g	Margarines and vegetable oils, cereal sprouts, nuts, fish
Vitamin A µg *	700	900	Meat, liver, vegetables, eggs, margarine, fish
Vitamin D µg *	15	15	Eggs, meat, fish, margarines
Vitamin E (mg) **	8	10	Vegetable oils, margarines, vegetables
Vitamin B1 (mg) *	1.4	1.5	Whole grain products, pork, potatoes
Vitamin B2 (mg) *	2	2.2	Milk, eggs, cereals, leafy vegetables
Vitamin B6 (mg) *	1.5	1.7	Meat, eggs, potatoes, leafy vegetables, whole grain products
Vitamin B12 (mg) *	2.4	2.4	Meat, milk, eggs
Folic acid (mg) *	400	400	Leafy vegetables, citrus fruit, milk, whole grain foods
Vitamin C (mg) *	75	90	Fruits, vegetables potatoes

* at the recommended intake (RDA), i.e. demand covering 97.5% of the population

** at a sufficient intake level (AI), i.e. demand covering virtually the entire population

min C and magnesium [13]. Therefore, it is convenient (but only if there is a medically justified need) to take preparations and bio-elements in the form of tablets.

Table I shows the recommended standards of demand for energy and nutrients for the elderly according to the amendment nutrition standards from 2012 and their main source in case of food, developed by the National Food and Nutrition Institute [12].

Practical tips for implementation of nutrition standards

To provide the body with a diet rich in all nutrients, there is a need to ensure a variety of food. It is therefore vital to consume articles from different food groups. Because of the increased risk of dehydration caused by impaired sense of thirst mechanism, elderly people are recommended at least 8 glasses of fluids a day [14]. A sufficient amount of fluids is provided not only by drinking water, but also fruit juices, vegetables dairy drinks, and soups consumption [5]. Cereal products should contain articles from coarse grinding. Apart from wholemeal, whole grain rice, paddy rice, buckwheat and barley are recommended. These products should be part of most of our meals in the elderly age; it is also important to take into account fruits and vegetables with every meal. The diet should include a variety of vegetables (Greens, e.g. broccoli, spinach, and orange ones such as carrot or pumpkin) the diet must also be enriched with fruits, either fresh or frozen. The high content of vegetables and fruits in daily diet exerts anti-atherosclerotic, anti-cancer action and also slows the aging process of the body, which is caused by the richness of these products in antioxidant vitamins, minerals, and dietary fibre [4,15]. Among dairy products, the elderly should choose low-fat or fat-free products. If the senior cannot consu-

me milk and dairy products, it is recommended to consume lactose-free products. Most advantageous for health are dairy products such as low fat yoghurt and skimmed cottage cheese. Fermented milk drinks are recommended to consume particularly to people for whom sweet milk consumption, as a result of lactase deficiency causes digestive disorders [5]. Moreover, those drinks have anti-tumour effect, lower blood cholesterol and improve intestinal peristalsis. Elderly people should avoid products containing large amounts of cholesterol, so that its contents should not exceed 100 mg/1000 kcal of the meal. Cholesterol content in case of different products is shown in table II.

Red meat, preferred by the elderly, should be replaced by white meat (poultry, fish). Dietary habits should include particularly fish, which because of the presence of omega – 3 polyunsaturated fatty acids hypolipidemic action should be consumed at least twice a week. The diet of elderly people should also vary in nuts and (as long as the tolerance is good) legume seeds.

Due to high content of cholesterol and saturated fatty acids, elderly people should exclude butter from diet [5].

It is recommended to use high-quality soft margarines enriched with vitamin A and D.

We should include raw vegetable oil and olive oil when preparing salads [4,17]. Furthermore, it is very important in the diet of the elderly to limit the supply of salt to 5 g per day. This can be achieved only when taking into account that cooking salt is not the only source of sodium chloride. Sodium included in the diet comes from three sources: as a natural component of plant and animal products, as a component of salt added to food during its industrial processing and containing permitted additives and salt used for cooking and using salt during consumption. To reduce the amount of sodium in the diet we must therefore eliminate products that are

Table II. The cholesterol content in the selected animal fats and meat products in mg/100 g of the product [16]

Name Product	Cholesterol in mg/100g of a product	Product name	Cholesterol in mg/100g of a product
Lard	95	Pork brain	2500
Turkey carcass	74	Pork kidneys	375
Chicken breast meat	58	Pork tongues	101
Butter	248	Cream 12%	39
Lamb meat	78	Cream 18%	56
Pork meat	57	Chicken liver	380
Beef	58	Pork liver	354
Lamb	71	Beef liver	234
Rabbit meat	65	Boiled pork ham	51
Milk 2%	8	Salami	107
Milk 3.2%	13	Egg yolk	1062
		(per 1 egg 360mg)	

its main source (e.g. gherkin, smoked fish, convenience food, particularly food concentrates) and use commercially available low sodium salts, such as potassium or magnesium [18].

In the diet of the elderly, we should apply easily digestible meals, characterized as selection of foods that are easily digested in the gastrointestinal tract and thereby not excessively burdening the GI tract. When preparing food and meals, appropriate cooking techniques, which enable digestion and better absorption of food, must be applied. These include above all: cooking in water or steaming, baking in tinfoil or parchment, grinding or rubbing, to give the dish a more palatable form. Even more, some additives that cause loosening or softening should be applied, for example, when preparing cakes, creams and puddings whipped egg whites is added, whereas soaked bread roll should be added to dishes composed of minced meat. Traditional frying in fat and fatty foods consumption should be completely excluded from the diet for elderly people, because fat inhibits gastric acid secretion. What is more, blended food composed of finely minced meat or fish, rice, pasta, vegetables, cheese or other dishes, where they are present in mixed form, are highly applicable in easily digestible diet. Moreover, fat roux composed of fat and flour should never be used to season soups or sauces, but slurry of flour and milk or small amount of oil, butter, margarine or milk should be added to thicken them [15]. The elderly are recommended a relatively frequent administration of small volume meals, (4-5 times during the day), for example,

I Breakfast: oatmeal with milk, wholemeal bread thinly spread with margarine, poultry sirloin, cucumber, apple, and tea with lemon;

II Breakfast: bread subtly oiled with margarine, light cottage cheese, lettuce, and orange juice;

Lunch: vegetable soup whitened with yoghurt, stuffed cabbage in tomato sauce, potatoes sprinkled with dill, salad composed of red cabbage, carrots and apples with olive oil, mineral water;

Afternoon snack: boiled green beans composed of bread browned in oil, strawberry compote;

Dinner: pancakes with cottage cheese (2 pieces), black-currant juice

Summary

The diet of the elderly is connected with many difficulties, not only caused by the progressive changes in the digestive system, but also it is influenced by mental changes, economic situation, or habits. Adequate nutrition is critical for maintaining good physical and mental fitness. The diet must be properly prepared and tailored with special care, so that the demand for the different nutrients may not deviate from the standards appropriate for this age. It must be noted, however, that the eating habits of the elderly are fixed, and even if they are incorrect, attempting to transform them might turn out to be difficult. Therefore, every change in dietary habits of the elderly should be carried out gradually as the older they become, the less able they are to adopt a different dietary system [1,18,19].

Conflicts of interest

None

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