



HME103-Principles of Nutrition

Nutrition by developmental stages (elderly)

Lesson Code: HME103-Principles of Nutrition

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Nutrition During Elderly

is a process that begins in the mother's womb and continues until the end of life.

Aging

is all the changes that occur in a living organism depending on the flow of time.

is all the changes that occur over time and lead to functional disability and death.



Nutrition During Elderly

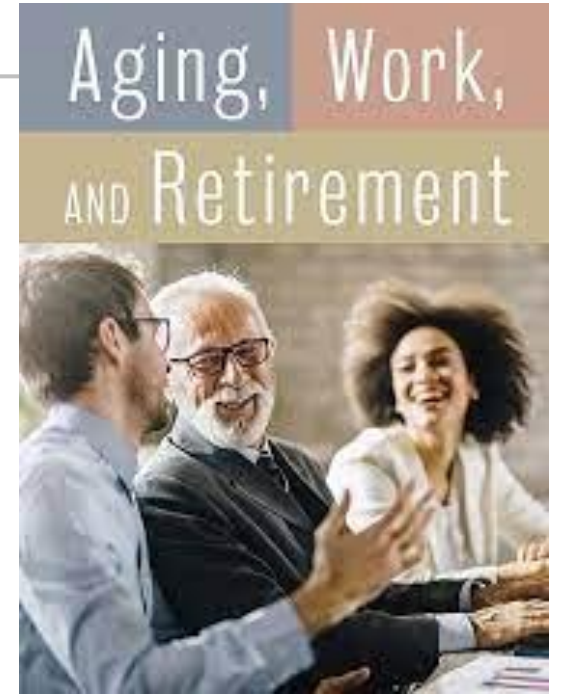
According to the **World Health Organization (WHO)**, aging at the biological level results from the accumulation of a wide range of molecular and cellular damage throughout life.

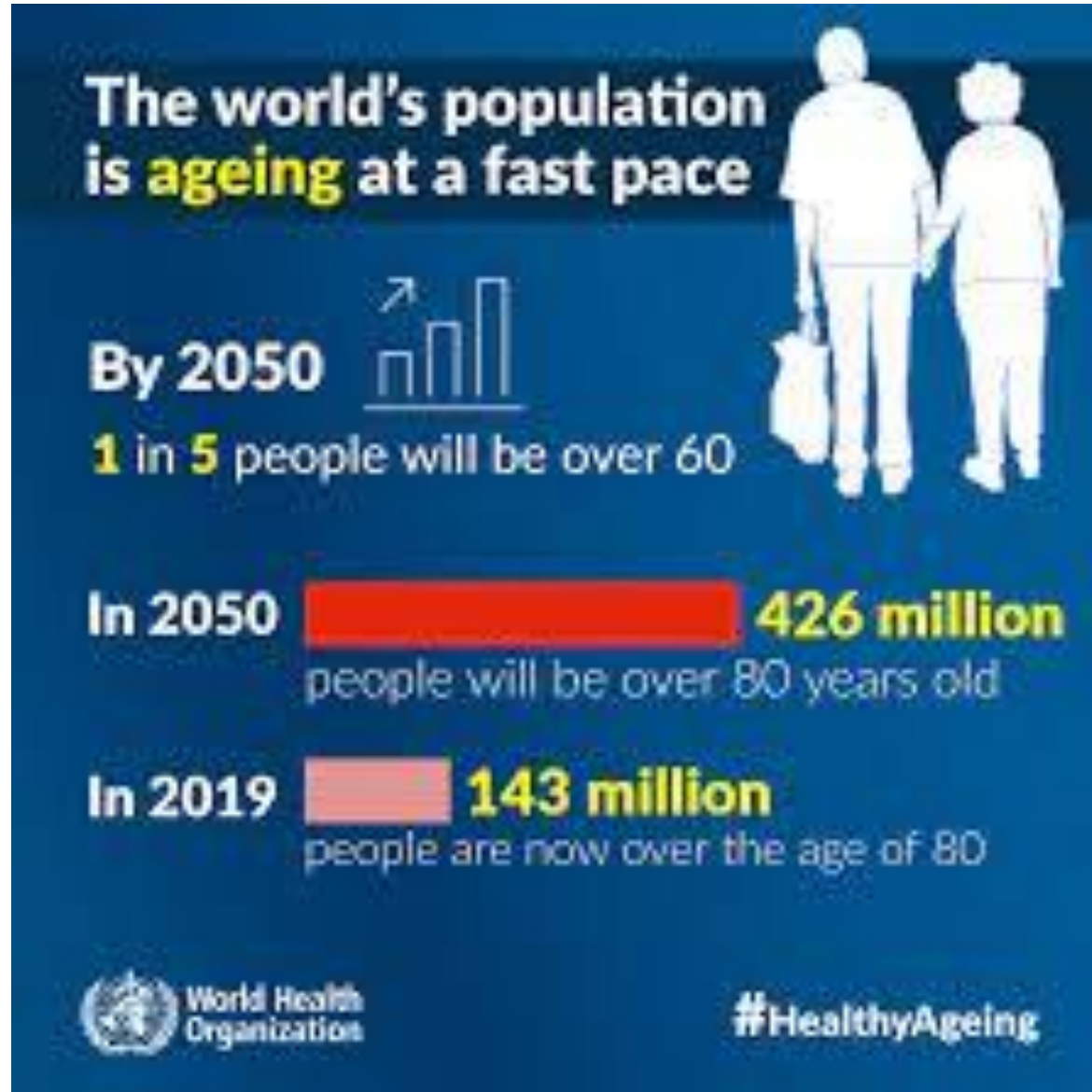
This leads to a gradual decrease in physical and mental capacity, a growing risk of disease, and, eventually, death (WHO, 2018).

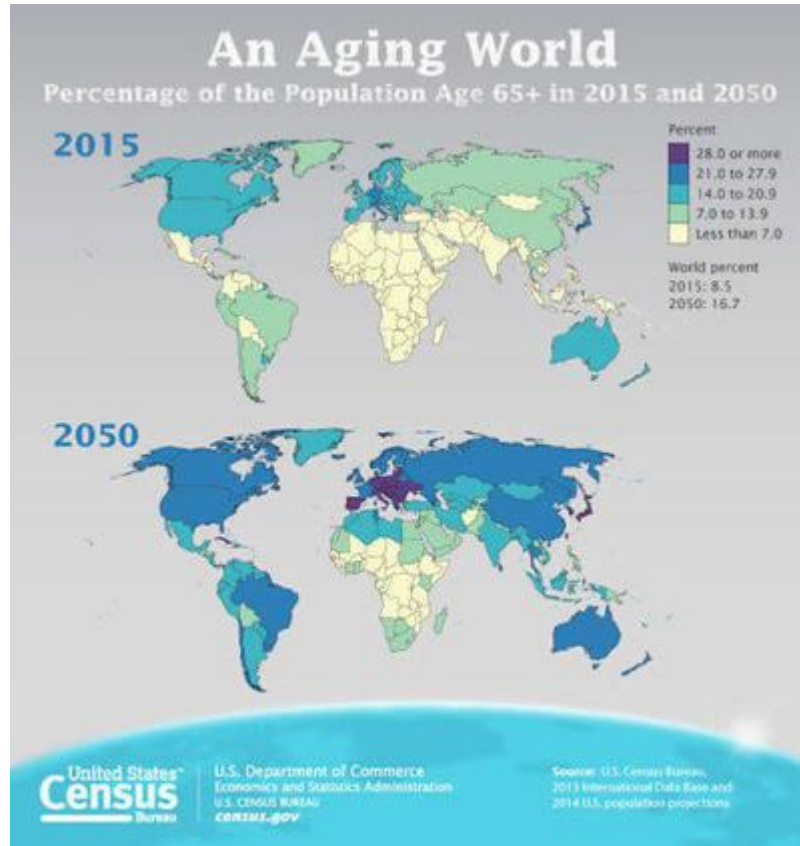


Due to some reasons such as **working conditions** and **social class differences**, the old age limit can vary by country and in many countries, the old age limit is determined by the retirement age.

In Türkiye, based on the Turkish Statistical Institute (TÜİK), the population aged **65 and over** is considered as the elderly population.





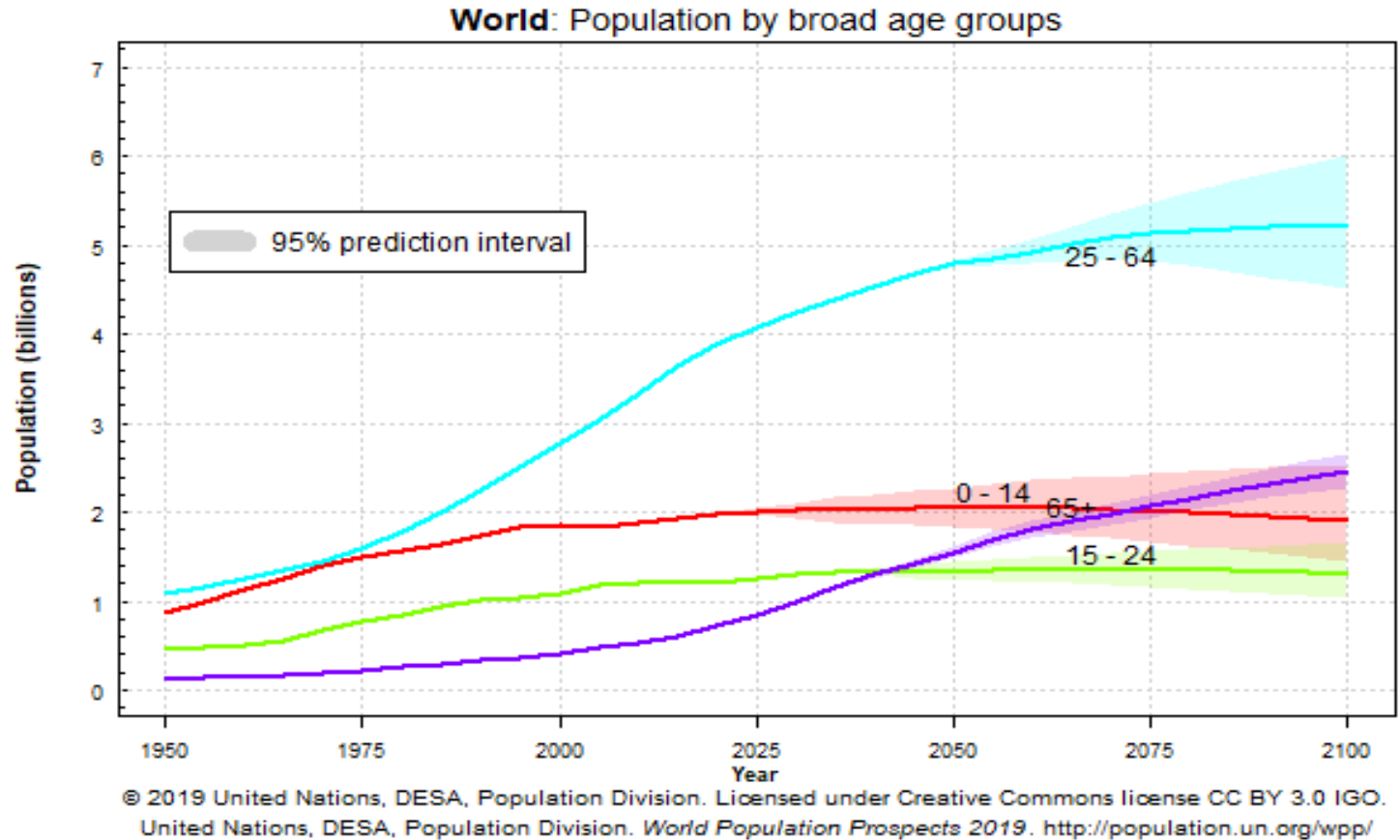


The global population aged 65 and over, which is thought to be the elderly population, were 703 million persons in 2019. The proportion of the elderly population in the total population is estimated to double to 1.5 billion in 2050 (United Nations, 2020).

The figure shows the population rates of different age groups.

According to the graph, the rate of the 0-14 age group decreased steadily until 2100. Additionally, a slightly increasing and stable line is observed for the 15-24 and 25-64 age groups.

However, there is an increase in the population rate in the age group of 65 years and above (United Nations, 2019).



Population ratio by age group, 1950-2100



Ensuring adequate and balanced nutrition during old age is important

- ❑ in protecting, improving and developing health and
- ❑ increasing life expectancy and quality.

Factors to consider in healthy nutrition in old age;

1. **Food diversity** should be provided
2. Person should eat at least three meals a day
3. Ideal body weight and muscle strength should be maintained
4. Food should be prepared, cooked and stored correctly.
5. Vegetable and fruit consumption should be increased
6. Bread and other grains should be consumed in sufficient quantities
7. Saturated fat consumption should be reduced
8. Water and other liquids should be consumed in sufficient quantities
9. Fiber consumption should be increased
10. Foods with high calcium content should be consumed
11. Salt and sodium consumption should be reduced
12. Sugar consumption should be reduced
13. Alcohol and cigarettes should not be consumed



Food Diversity



Food diversity can be defined as the consumption of foods that differ from each other biologically or in terms of nutritional value.

Nutrients that are essential for human life are found in different amounts in different foods. These nutrients are carbohydrates, protein, fats, vitamins, minerals, fiber and water.

There is no miracle food that alone provides all the nutrients the body needs!

Food Diversity

It is possible to classify foods into four groups according to the nutritional elements they contain.

These are;

- ✓ milk and milk products,
- ✓ meat and similar foods (eggs, legumes, oilseeds),
- ✓ fresh vegetables and fruits,
- ✓ bread and grain group (rice, bulgur, etc.).

To ensure nutritional diversity, foods from these four food groups should be consumed at each meal, in amounts appropriate to the needs of the elderly individual.



Nutritional frequency



Food should be consumed in the required amounts by providing nutritional diversity in three main meals every day. Skipping meals in the elderly is a sign of malnutrition.



To facilitate digestion, it will be beneficial to eat small amounts frequently and chew meals well.

Achieving Ideal Body Weight and Muscle Strength

As people get older, the energy **they expend decreases** compared to their youth. The decrease in muscle mass and strength also limits physical activity. As a result, metabolic rate and bone mineral density decrease.



In this period;

- ✓ The reduction in energy expenditure should be balanced by the reduction in energy consumption,
- ✓ ideal body weight should be maintained and
- ✓ increased body fat rate should be prevented.

Obesity also paves the way for diseases such as cardiovascular diseases, diabetes and cancer.

Weight loss is as important as weight gain in the elderly. Body weight should be monitored weekly. An unintentional weight loss or gain of 4.5-5 kg in the last six months is considered an indicator of malnutrition.

Consumption of Vegetables, Fruits, Bread and Other Grains

It is known that consuming plenty and variety of vegetables and fruits, which are rich in vitamins, minerals and antioxidant compounds, is effective in protecting against **heart diseases, some types of cancer and non-insulin-dependent diabetes, hypertension, cataracts and some other eye diseases.**

Vegetables and fruits can be consumed as cooked or raw. **Cooking enhances the flavor of many vegetables and makes them easier to digest.** Elderly people who have difficulty chewing and swallowing can consume vegetables and fruits by cooking them. **However, overcooked vegetables lose nutrients.**

More than 400 grams of vegetables and fruits should be consumed per day.



Consumption of Vegetables, Fruits, Bread and Other Grains



Bread, rice, pasta, bulgur and foods made with flour are **rich sources of carbohydrates.**

Cereals are generally **low in fat and do not contain cholesterol.** Whole grains contain B group vitamins, vitamin E, and many minerals, especially iron, zinc, magnesium and phosphorus. **They also contain fiber.**

Thanks to the reasons mentioned, whole grains play a role in preventing obesity, diabetes, cardiovascular diseases, some types of cancer and constipation.

Consumption of Water and Other Liquids



Liquid intake is crucial for elders!

- Fluid loss from the body increases with age due to thinning of the skin. The risk of dehydration increases due to the reduced ability of the kidneys to concentrate urine and the sensitivity of the thirst center.
- As a result of the reduction in the level of antidiuretic hormone (ADH) with age, edema develops due to sodium retention in the body with water.
- Also, inactivity, dementia, high blood pressure, and chronic diseases such as heart and kidney diseases accelerate the development of dehydration and electrolyte imbalances (Saraç & Yılmaz, 2015).



Saturated Fat Consumption

Consumption of saturated and trans fats in the diet of the elderly should be reduced. Increased consumption of saturated animal fats and solid margarines in the diet causes **blood cholesterol levels to increase**. *High blood cholesterol is a risk factor for cardiovascular diseases.*

- Vegetable oils (olive and sunflower, corn oil, etc.) should be preferred in meals and salads.

Biscuits, crackers and cakes with **high fat content** (especially those containing margarine) **should not be consumed in excess**, and **when preparing meals, grilling, baking and boiling methods should be used instead of frying in oil.**

- Because **fish contains polyunsaturated fatty acids (especially omega-3 fatty acids)**, it should be eaten at least twice a week by the elderly. It is known that these fatty acids have positive effects on vision, cognitive function, bone-joint diseases and blood lipids.



Consumption of Fiber Food



Foods with high fiber content are legumes, grains and vegetables and fruits, respectively.

- ❑ For adequate fiber intake, legumes should be consumed 2-3 times a week, vegetable and fruit consumption should be increased and whole wheat bread should be preferred.

Food fiber prevents constipation and is important for regulating intestinal activities. It also reduces the risk of colon cancer.

Sugar Consumption

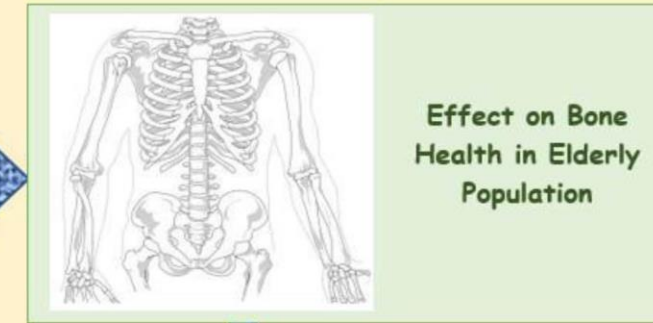
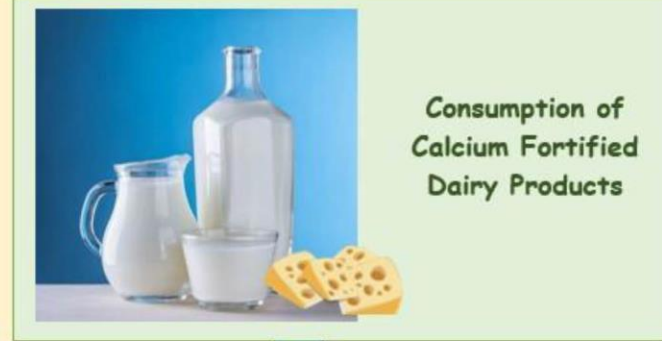
In the elderly diet, foods rich in **complex carbohydrates** (cereals, legumes, potatoes, etc.) should be consumed instead of **simple sugar** (tea sugar, jam, honey, etc.).

Simple sugars only **provide energy**, while foods containing **complex carbohydrates provide protein, vitamins, minerals and fiber in addition to energy.**



Calcium Consumption

Adequate calcium intake reduces bone mineral loss and plays an important role in maintaining health. Therefore, foods with high calcium content should be consumed in old age. The best source of calcium is milk and milk derivatives (yoghurt, cheese, cottage cheese, etc.).



Salt Consumption



Myth
Only the elderly should be concerned about their salt intake.

Truth
High salt intake leads to high blood pressure for anyone at any age.

World Health Organization
75⁺ HEALTH FOR ALL

The infographic features a red background for the 'Myth' section and a green background for the 'Truth' section. It includes icons of an elderly couple, a blood pressure cuff, and a vertical bar chart with a red arrow pointing up.

- ❖ In old age, low-salt foods should be preferred.
- ❖ Salt should not be added to meals at the table.

Excessive salt consumption can cause hypertension, cardiovascular diseases and osteoporosis due to increased calcium excretion in the urine.

Alcohol - Cigarettes

Excessive alcohol consumption is known to cause liver, brain, heart muscle damage, ulcers, pancreatitis, digestive system cancers, hypertension and depression.

Smoking causes some types of cancer, malnutrition due to loss of nutrients from the body, and increases the body's need for antioxidant vitamins. It is one of the risk factors in the formation of osteoporosis.

Alcohol and cigarettes should definitely not be consumed in the adequate and balanced diet of the elderly!

