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БОЛЕЗНЬ АЛЬЦГЕЙМЕРА В СОВРЕМЕННОМ ОБЩЕСТВЕ
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ALZHEIMER'S DISEASE IN MODERN SOCIETY
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Резюме. Болезнь Альцгеймера – одно из наиболее часто встречающихся заболеваний пожилого возраста, приводящее к развитию деменции. Согласно Всемирной Организации Здравоохранения, в 2020 году болезнь Альцгеймера заняла 7 место в мире среди основных причин смерти, обойдя сахарный диабет и заболевания почек. В современном мире болезнь Альцгеймера рассматривается, как медико-социальная проблема, требующая изучения и последующего решения. В статье рассматриваются основные симптомы и последствия данного заболевания, а также отношение разных слоёв населения к людям, страдающим им.

Ключевые слова: болезнь Альцгеймера, деменция, мозговая деятельность, нейроны, общество.

Resume. Alzheimer's disease is one of the most common diseases of the elderly people that lead to the development of dementia. According to the World Health Organization, in 2020 Alzheimer's disease ranked 7th among the leading causes of death in the world, surpassing diabetes and kidney diseases. In the modern world, Alzheimer's disease is considered as a medical and social problem that requires study and subsequent solution. The article discusses the main symptoms and consequences of this disease, as well as the attitude of different segments of the population towards people suffering from it.

Keywords: Alzheimer's disease, dementia, brain activity, neurons, society.

Relevance. By the 21st century Alzheimer's disease (AD) has encompassed all continents and became an integral part of modern society. According to WHO statistics, about 10 million new cases are recorded around the world every year. Every fifth person, over 65 years old, is diagnosed with early stages of this disease. However, it is important to note that the malady is getting younger every decade. The latest research suggests Alzheimer's disease also occurs in young adults, the first symptoms appearing as early as at the age of 17. Such an age-related variation of the disease makes it possible to name this ailment a “social disease”.

Aim: to investigate the factors, causes and attitude of people to Alzheimer's disease.

Objectives:

1. To study the specific and non-specific symptoms, diagnosis and treatment of Alzheimer's disease by making an overview of scientific literature.
2. To demonstrate the connection between sleeplessness and the development of AD.
3. To analyze the attitude of different strata of society in Belarus to people suffering from this disease and to advice the younger generation how to reduce the risk of developing Alzheimer's disease.

Materials and methods. The latest scientific research and articles on the Alzheimer’s disease and the features of the brain were analyzed. Three experienced practitioners in the field of gerontology and therapy were interviewed. An anonymous online questioning of 408 people aged 16 to 40+ years old (including students of BSMU, BSU, BSEU, BARSU, GRSMU, BSTU) was carried out.

Results and their discussion. Alzheimer’s disease (AD) is a brain disorder that slowly destroys memory and thinking skills and, eventually, the ability to carry out the simplest tasks.

The main feature of AD is the loss of connections between nerve cells (neurons) in the brain.

The brain has 100 billion nerve cells (neurons). Each nerve cell connects with many others to form communication networks. Groups of nerve cells have special jobs. Some are involved in thinking, learning and remembering. Others help us see, hear and smell. As damage spreads, cells lose their ability to do their jobs and, eventually die, causing irreversible changes in the brain and other organs in the body.

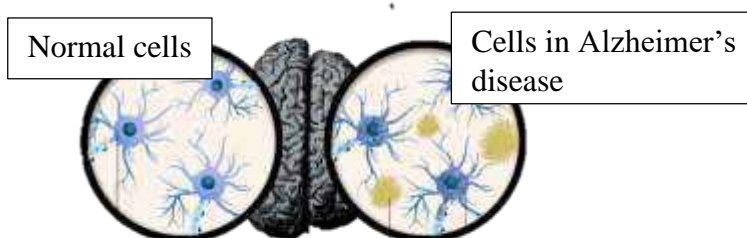


Fig.1 – Amyloid plaques and neurofibrillary tangles in the brain of the patient with Alzheimer's disease

The symptoms of Alzheimer’s disease can vary from one person to another. As the disease progresses, symptoms become more severe and include increased confusion and behavior changes.

Tab.1. Stages of the Alzheimer’s disease

Stage	Symptoms
Mild	Memory loss Poor judgment Loss of spontaneity Forgetting recently learned information
Moderate	Difficulty with language Changes in sleeping patterns Difficulty carrying out familiar, multistep tasks
Severe	Inability to communicate General physical decline Increased sleeping Seizures

In the course of the research the following pattern was revealed: sleeplessness, lack of brain activity and obesity lead to problems with the cardiovascular and nervous systems (high blood pressure, reduced oxygen level in cells, stroke, raised cholesterol) which cause the destruction of the brain vessels that is the main reason of Alzheimer's disease.

According to the survey the following results have been obtained:

- 78,2% of respondents are aware of symptomatology of Alzheimer's disease.
- 7% have relatives or acquaintances suffering from this malady.
- More than 40% of young people have already experienced such implicit symptoms as learning difficulties and assimilation of new information, difficulties in performing everyday tasks, speech disorders, problems with abstract thinking.
- 52% of respondents sleep from 6 to 8 hours every day, while 29% devote from 4 to 6 hours to sleep.
- About 80% of the questioned people find this disease rather important to be discussed publicly, 20% of people don't realize the relevance of the problem.

Most people with Alzheimer's disease develop it after the age of 65, but the disease can also progress in younger population. This is called early-onset Alzheimer's disease, a type of young-onset dementia.

There are many different factors that determine whether someone gets Alzheimer's disease. Some of these risk factors can be changed, but others cannot.

Tab.2. Risk factors of development of Alzheimer's disease

Risk factors we can change	Risk factors we can not change
Lifestyle	Age
	Gender
Health problems	Genetic inheritance

In 2020, Alzheimer's disease and other forms of dementia ranked as the 7th leading cause of death. According to WHO statistics, about 10 million new cases are recorded around the world every year. Every fifth person, over 65 years old, is diagnosed with early stages of this disease. The latest research suggests Alzheimer's disease also occurs in young adults, the first symptoms appearing as early as at the age of 17. However, it is important to note that the malady is getting younger every decade. Such an age-related variation of the disease makes it possible to name this ailment a "social disease".

To confirm that Alzheimer's disease is becoming younger we have questioned 408 people representing different social strata. The major part of respondents (90%) were people at the age from 17 to 24. 40% have already experienced such non-specific symptoms as learning difficulties, difficulties in performing everyday tasks, speech disorders, problems with abstract thinking (see Fig.1).

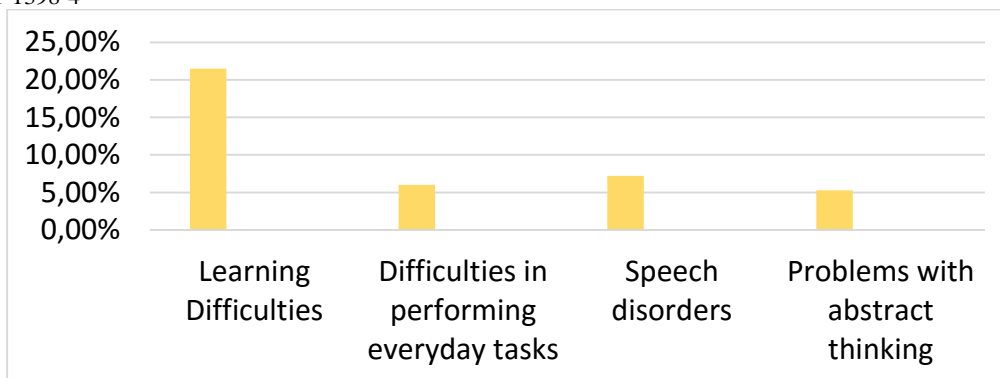


Fig. 1 – Non-specific symptoms of Alzheimer’s disease detected in 40% of respondents

In the 21st century people suffering dementia still face with social disapproval. The major part of modern society don’t know how to react to such people and just ignore them. The other part feel sympathy for the people who are ill with Alzheimer’s disease and for their relatives. The results of our survey are presented in the diagram below.

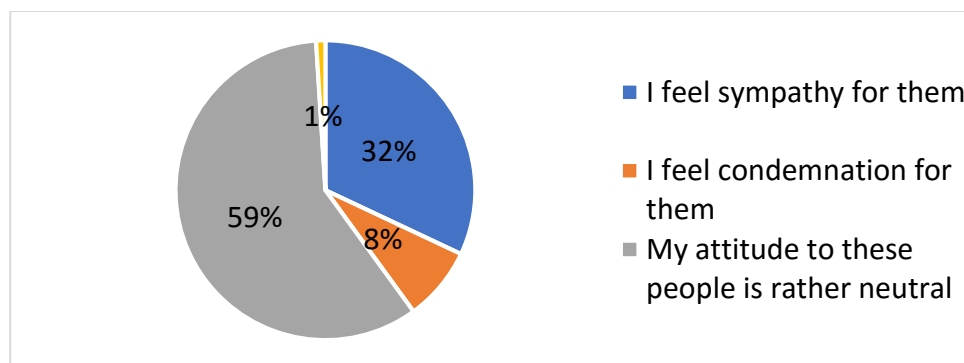


Fig. 2 – Attitude to people with Alzheimer’s disease

Conclusions: the brain of people suffering from Alzheimer’s disease is slowly destroyed. Brain changes associated with AD lead to growing trouble with memory, making judgments and decisions, thinking, reasoning, planning and performing familiar tasks, changes in personality and behavior. The main methods of diagnosis include performing brain scans, such as computed tomography, magnetic resonance imaging or positron emission tomography. Unfortunately, there is no cure for this disease, but there are treatments that may change disease progression (“Donepezil”, “Rivastigmine”).

Medical treatment isn’t the only one way to help Alzheimer’s patients. By showing patience and sympathy for Alzheimer’s patients we can support them and their families.

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