

способствует возникновению правильного восприятия болезни, накоплению знаний о хронических заболеваниях и их методах профилактики.

3. Несмотря на осведомленность о пагубных эффектах вредных привычек студенты УГМУ продолжают бороться со стрессом приемом алкоголя и никотина.

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ТРЕВОЖНОЕ РАССТРОЙСТВО С ТОЧКИ ЗРЕНИЯ НЕЙРОБИОЛОГИИ: ОСОБЕННОСТИ ЭМОЦИОНАЛЬНЫХ СОСТОЯНИЙ СТУДЕНТОВ-ПЕРВОКУРСНИКОВ

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Аннотация

Введение. Тревожность как проявление эмоционального состояния человека часто отмечается у студентов-первокурсников, так как они находятся в стадии адаптации к учебе в вузе. Состояние тревожности оказывает негативное влияние на эффективность учебной деятельности, значительно ее снижая, на здоровье студентов, вызывая различные заболевания, приводит к эмоциональному выгоранию. **Цель исследования** – выявить причины возникновения тревожности у студентов и симптоматику. **Материал и методы.** Объектом наблюдения являлись 40 студентов 1 курса, возраст которых составил от 17 до 20 лет. Исследование проводилось на базе УГМУ Минздрава России. В исследовании был использован метод анкетирования в Google Forms. Полученные данные были преобразованы в процентном соотношении. **Результаты.** В результате исследования выявлены симптомы, вызванные тревогой; определены причины данной реакции организма. **Выводы.** Высокое

психоэмоциональное напряжение в период экзаменационной сессии у студентов-первокурсников УГМУ с высокой долей вероятности становится причиной нарушения здоровья обучающихся. Студентам следует следить за своим психологическим и физиологическим здоровьем, так как длительное воздействие подобной реакции организма может привести к эмоциональному выгоранию, что, как следствие, может повлиять на академическую успеваемость. Рекомендуется проводить тренинги, обучать студентов техникам управления психоэмоциональными состояниями.

Ключевые слова: студент-первокурсник, тревожность, реакция организма, нейробиология, механизм, эмоциональное выгорание.

ANXIETY DISORDER FROM THE POINT OF VIEW OF NEUROBIOLOGY: FEATURES OF THE EMOTIONAL STATES OF FIRST-YEAR STUDENTS

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Abstract

Introduction. First-year students often note anxiety as a manifestation of their emotional state as they adapt to university studies. The negative impact of anxiety on educational effectiveness, student health, and emotional burnout is significant.

The aim of this study. To identify the causes and symptoms of anxiety among students. 40 first-year students aged 17 to 20 were observed at the USMU. Literature review and search for possible links of pathogenesis from the neurobiological point of view for therapy/prevention of anxiety in freshmen students. **Material and methods.** The questionnaire method in Google Forms was used in the study. The data obtained was converted into percentages. **Results.** We identified the most common symptoms caused by anxiety, such as fatigue, irritability, tearfulness, unexplained fear, difficulty concentrating, and vague discomfort (goosebumps, burning) in different body parts. We also identified that sessions, exams, and important meetings are the most popular reasons for this body reaction. **Conclusion.** High psycho-emotional tension during the examination session in USMU students can cause various health disorders, including irritability, muscle tension, fear, and concentration difficulties. Students should monitor their psychological and physiological health because prolonged exposure to this reaction can lead to diseases and emotional burnout, affecting academic performance. Conducting various trainings and teaching students techniques of psycho-emotional states management is recommended.

Keywords: first-year student, anxiety, body reaction, neurobiology, mechanism, emotional burnout.

INTRODUCTION

Students are constantly under stress, anxiety is one of the symptoms of stress. Anxiety is the body's natural reaction to danger or a stressful situation. In today's world, it is becoming more and more common and can significantly affect a person's quality of life. In freshmen students, anxiety manifests itself during the session and examination period. This reaction of the body can have a detrimental effect on the students' academic performance.

In today's world, we are surrounded by stress and negative emotions everywhere, which is why many young people suffer from anxiety disorder. The question of this disease is acute in the scientific community and does not have a single solution until now. Of course, there is a solution - the complete absence of stressful situations, but unfortunately this is impossible in modern realities. It is estimated that anxiety disorders currently affect approximately 4% of the world's population [1].

For modern students, anxiety is a common occurrence and acts as a reaction to the accumulated difficulties in the process of learning activities. Prolonged exposure to anxiety can lead to student psychological health issues.

The aim of this study is to identify the most common symptoms and causes of anxiety. It is also necessary to analyse the literature and find possible links of pathogenesis from a neurobiological point of view for therapy and prevention of anxiety in freshmen students.

MATERIAL AND METHODS

The study includes an analysis of theoretical scientific sources. We developed a questionnaire that included 22 questions. The obtained data were compared, summarized and systematized. Google Forms was used to collect and analyze data. The study involved 170 students aged 17 to 20 years.

RESULTS

The data of our survey agree with the results of the scientific articles we analyzed [1, 2, 3, 6].

The results established from the data obtained, the most common causes of anxiety coincide with the data of other studies, which confirms the most anxious state of students coincides with the periods of sessions (Tab. 1) [1, 2].

Table 1.

Causes of anxiety noted by students		
Possible causes of anxiety	Percentage of alarm occurrence in these situations	
	%	Absolute value
Study session or examinations	63,2%	107
Quarrels	27%	46
New acquaintances and companies	26,3%	45
Important meetings	21,1%	36
No reason	18,4%	31
Emergencies	12,5%	21
Sudden sad news	10,5%	18

Having identified the most frequent symptoms of anxiety in freshmen students, we encountered a discrepancy in the statistical data of other studies, but this confirms the individuality of this reaction of the body [3, 6]. Thus, in our study, the most frequent symptoms were feeling hot (80%) and nervousness (85%) (Tab. 2).

Table 2.

Commonly occurring symptoms of anxiety in students			
The most common symptoms	Percentage of occurrence of these symptoms and them severity		
	%	Absolute value	Symptom severity
Increased sweating (not heat-related)	60%	102	strongly expressed
Fright	60%	102	moderately pronounced
Nervousness	85%	145	strongly expressed
A sense of dread	45%	77	weakly expressed
Rapid heartbeat	70%	119	moderately pronounced
Fear that the worst will happen	75%	128	moderately pronounced
Inability to relax	75%	128	strongly expressed
Feeling hot	80%	136	moderately pronounced

Anxiety does not manifest itself in the same way in everyone; some experience more fatigue, while others experience palpitations and constant intrusive thoughts. The causes of anxiety also vary – this is normal. This study once again proves the uniqueness of each of us and the need for an individualized approach to treatment.

DISCUSSION

Having conducted research and identified the most common symptoms and causes of anxiety in students, we asked the questions: "What exactly influences this reaction of the body? What can it be related to?". Having analyzed the literature on this topic [2, 4], we found answers to our questions.

The causes of feeling hot and jittery with anxiety may be related to the nervous system's response to stressful situations. Neurobiology suggests that anxiety activates different parts of the brain, leading to physiological changes in the body.

One of the key mechanisms is the activation of the sympathetic nervous system. This process leads to the release of adrenaline and noradrenaline, hormones that prepare the body for fight or flight. This process can cause an increase in body temperature and a subsequent feeling of heat.

In addition, activation of the limbic system, including the amygdala, which is a key emotion processing centre, also contributes to nervousness. The amygdala is activated during anxiety and can modulate various physiological processes, including body temperature.

Hormonal changes such as increased levels of cortisol, which is released in response to stress, can also play a role. This hormone can affect the body's metabolism and temperature responses.

Thus, from a neurobiological perspective, the feeling of heat and nervousness in anxiety can be explained by the complex effects of various neurochemical and neuroendocrine processes activated in response to stressful situations. These processes can lead to physiological changes, including increased body temperature and a general feeling of discomfort. For the prevention and

therapy of anxiety in students, it is worth considering several links of pathogenesis that can be influenced. Here are some of them:

1. Physiological processes: Anxiety may be associated with neurotransmitter imbalances (e.g., decreased levels of serotonin, the happy hormone). Mechanisms of biochemical regulation of neurotransmitters may be the target of pharmacological intervention.

2. Psychological factors: Emotional support, cognitive-behavioural therapy, and stress management training may help in reducing anxiety in students.

3. Behavioural aspects: Effective behavioural management including proper diet, physical activity, regular sleep and rest can help manage anxiety.

4. Social environment: Support from loved ones, socialising, participating in social activities and study circles can have a positive impact on anxiety levels.

5. Learning environment: Providing a favourable learning environment, reducing the learning load, variety of assessment methods can also play an important role.

Interventions at different levels - physiological, psychological, behavioural and social - can be effective for the prevention and treatment of anxiety in students.

Neurobiology offers an explanation as to why students may experience anxiety during session, social adaptation or conflict situations. It is related to the functioning of the human nervous system, especially the functioning of mechanisms such as the amygdala and the cerebral cortex.

The amygdala plays a key role in regulating emotions, including fear and anxiety. When faced with new challenges, which can be a session, social adjustment, or conflict situations, the amygdala is activated, which can lead to increased levels of anxiety in students.

In addition, the cerebral cortex, which is responsible for logical thinking and decision-making, can also be involved in the process of anxiety. Under conditions of stress or uncertainty, cortical functioning may be hindered, which increases feelings of anxiety.

A neurobiological approach provides insight into what mechanisms in the body may be triggered when faced with anxiety-provoking situations, and what neurochemical processes may be responsible for students' emotional responses under such conditions.

CONCLUSION

1. The most frequent reasons for anxiety according to the survey were as follows study session or examinations (63,2%), quarrels (27%) and new acquaintances and companies (26,3%).

2. The most common symptoms of anxiety state in students were as follows nervousness (85%), feeling hot (80%), inability to relax (75%).

3. According to the literature, possible causes of anxiety from the neurobiological point of view were a decrease in serotonin, the hormone of happiness, disturbances in the functioning of brain regions, as well as disturbed sleep patterns, low level of socialisation, and genetic predispositions. A multilevel intervention – physiological, psychological, behavioural and social – can be effective for the prevention and therapy of anxiety in students.

4. Expressed nervousness and feeling of fever in first-year medical students may be the result of a complex of reasons related to academic load, fear of failure, social adaptation and other factors.

5. There is a need to provide students with support and assistance in managing anxiety to support their psychological wellbeing and successful learning.

6. Anxiety prevention, stress and anxiety management training can help reduce the negative impact of anxiety on students' academic performance and overall well-being.

7. Advances in neurobiological research on anxiety are helping to deepen our understanding of its mechanisms and open up new possibilities for effective treatment and management of this condition.

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РАСПРОСТРАНЕННОСТЬ ДЕПРЕССИИ И ТИП ОТНОШЕНИЯ К БОЛЕЗНИ У БОЛЬНЫХ ПОСЛЕ ИНСУЛЬТА

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Аннотация

Введение. Депрессия является одним из наиболее частых сопутствующих заболеваний у пациентов с церебральным инсультом, ухудшая состояние пациента и снижает эффективность лечения и реабилитации. **Цель исследования** – проанализировать типы отношения к болезни у пациентов с постинсультной депрессией в сравнении с постинсультными пациентами без развившейся депрессии, а также определить степень тяжести депрессии у пациентов с постинсультной депрессией. **Материал и методы.** Был использован опросник, основанный на методике «Тип отношения к болезни» (ТОБОЛ). Для выявления уровня депрессии использовалась шкала Бека. Полученные при исследовании данные подвергли статистической обработке с помощью программного пакета Microsoft Office Excel-2019. **Результаты.** Депрессия встречается у 20 пациентов (66,7%), перенесших инсульт, чаще – у женщин (14,8%). У пациентов после инсульта без депрессии в равной степени встречается смешанный (4%) и эргопатический (4%) тип отношения к болезни. У пациентов после инсульта с легкой депрессией преобладает сенситивный тип отношения к болезни, у пациентов с умеренной депрессией – смешанный тип. **Выводы.** Депрессивное расстройство встречается более чем у половины пациентов, перенесших инсульт. Наличие депрессии влияет на тип отношения к болезни у больных после инсульта: эргопатический тип, который подразумевает стремление сохранить свой профессиональный и социальный статус вопреки перенесенному инсульту, характерен для пациентов без депрессии. Напротив, у больных с депрессией наблюдаются сенситивный и смешанный типы, которые являются дезадаптивными. Наиболее тяжелый характер депрессии наблюдается у пациентов с апатичным типом отношения к болезни, наиболее легкий характер депрессии – у пациентов с сенситивным типом.

Ключевые слова: церебральный инсульт, типы отношения к болезни, депрессия, тревога

FEATURES OF THE PREVALENCE OF DEPRESSION IN PATIENTS AFTER A STROKE

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Abstract

Introduction. Depression is one of the most common concomitant diseases in patients with cerebral stroke, worsening the patient's condition and reducing the effectiveness of treatment and rehabilitation.

The aim of the study- to analyze the types of attitudes towards the disease in patients with post-stroke depression in comparison with post-stroke patients without developed depression, as well as to determine the severity of depression in patients with post-stroke depression. **Material and methods.** A questionnaire based on the method "Type of attitude to the disease" (TOBOL) was used. The Beck scale was used to identify the level of depression. The data obtained during the study were subjected to statistical processing using the Microsoft Office Excel-2019 software package. **Results.** Depression occurs in 20 patients (66,7%) who have suffered a stroke, more often in women (14.8%). In patients after stroke without depression, a mixed (4%) and ergopathic (4%) type of attitude towards the disease is equally common. In patients with mild depression after a stroke, a sensitive type of attitude to the disease prevails, in patients with moderate