

Бажання бізнесменів затратити трохи менше, але здобути побільше своєї продукції призводить до того, що в окремі продукти можуть додавати речовини, що викликають звикання (наркотичні речовини), що збуджують апетит і т.д. Ці добавки, звичайно, не вказують на етикетках, але вони найбільш небезпечні для здоров'я.

Вибираючи продукти необхідно звертати увагу на те, скільки харчових добавок вказано на етикетці. Потрібно враховувати, що індекс «Е» може не вказуватися явно, а ховатися під словами «розпушувач», «ароматизатор», «стабілізатор». Не звертати своєї уваги на яскраву етикетку: добре життя і без синтетичних барвників.

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BREATHING EXERCISES OF HATHA-YOGA AS A MEANS OF RELIEF IN PERSONS WITH PANIC ATTACKS

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Introduction. Anxiety disorder is one of the most common psychiatric disorders. According to the Diagnostic and Statistical Manual of Mental Disorders (DSM)-5, anxiety disorder is a condition that includes excessive fear, anxiety, and related behavioral disorders [17, 19]. This group of pathologies includes various types of disorders, among which a significant place is occupied by panic disorder.

The World Health Organization (WHO) estimates that in 2015, more than 615 million people (about 10% of the world's population) showed symptoms of anxiety disorders. Anxiety disorders cause global economic losses [24]. However, public investment in mental health in countries with different income levels is usually small and ranges from 1% to 3% of the state budget [21]. This determines the social relevance of finding and choosing the most effective approaches to short-term psychotherapy for these disorders.

The study of psychotherapy of anxiety and depressive disorders is carried out by researchers in the following areas: 1) aspects of the application of a particular type of psychotherapy – integrative, cognitive-oriented, cognitive-behavioral; 2) the choice of psychotherapeutic techniques that meet the characteristics of patients of different nosological affiliation, including patients with chronic disorders and are not treatable with standard psychotherapy; 3) search for the most effective interventions: comparison of the effectiveness of pharmacotherapy and combination therapy, evaluation of the effectiveness

of psychotherapy and its various types, selection of the most effective psychotherapeutic algorithms, integration of different types of psychotherapy [1, 6-14, 16, 33-36].

A large number of works is devoted to the study of the effectiveness of pharmacological treatment. Along with this, a number of authors note that non-drug treatment can be quite effective in relieving panic attacks, and it does not cause side effects, and the effect lasts a long time [18, 20, 22, 30, 32].

Among non-drug treatments (postisometric relaxation, cognitive-behavioral therapy), respiratory gymnastics is especially distinguished, which allows not only to reduce the frequency of panic attacks and their intensity, but also to reduce the severity of agoraphobia and generally improve the quality of life [26].

The purpose of the research: to analyze the breathing exercises of hatha yoga in the context of its use to alleviate the condition of people with panic attacks.

Methods: theoretical analysis and generalization of data of modern scientific literature.

Results and discussion. Anxiety is a universal adaptive response of the body to incentives that potentially pose a threat or are new to the subject. This reaction occurs to mobilize the body's main reserves through the activation of the hypothalamic-pituitary-adrenal axis in order to respond most quickly to changing environmental conditions and avoid danger. Anxiety can be both normal (physiological) and pathological reaction of the body to changing environmental conditions [15].

Panic disorder, as a type of anxiety disorder, is characterized by sudden and unexpected panic attacks, the number of which can vary from a few per day to several per year. Panic attacks are a period of intense fear, accompanied by at least four of 13 symptoms (increased heart rate; sweating; tremor; shortness of breath; chest pain or discomfort; nausea or abdominal discomfort; dizziness, instability, lightness in the head or fainting, derealization or depersonalization, fear of losing control or going crazy, fear of death, numbness or tingling in the extremities, chills or fever), which occur suddenly and peak within 10 minutes. Panic disorder can occur at any age, but usually develops at the age of 18-45 years, on average – at 24. The origin of this disease is not fully understood and is probably heterogeneous. Panic disorder is often combined with other mental disorders [17, 27, 31]. Almost 25% of patients with panic disorder also experience agoraphobia (fear of open space and crowds). The presence of the latter increases the severity of the disease and exacerbates the consequences [28].

Patients with panic disorder have recurrent episodes of panic for fear of relapse, which leads to a serious change in behavior. Patients become more passive, dependent and closed.

The significance of anxiety disorders is determined not only by their high prevalence, but also by the pronounced negative impact on the social functioning and quality of life of patients.

The main idea of using breathing exercises to alleviate the condition in people with panic disorders is to limit the so-called "rapid breathing", which leads to the formation of hyperventilation syndrome [2, 4].

In the first clinical descriptions of episodes of paroxysmal anxiety, researchers already drew attention to the vivid respiratory symptoms, which, along with cardiac disorders, formed the basis of the clinical phenomenon.

Researchers engaged in clinical vegetology have described hyperventilation crises, noting their maladaptive effect on the patient's social status. Many years of research have shown that hyperventilation syndrome plays an important role in the formation of numerous clinical manifestations of anxiety paroxysms. During the last twenty years, epidemiology, demographic features, pathophysiology, clinical characteristics of panic, which correlate with disorders of the respiratory system have been actively studied [3, 5].

Rapid, deep and irregular breathing is a very important component involved in the formation of the clinical "core" of panic attacks [23]. It leads to hyperventilation, the main manifestation of which is a decrease in the partial pressure of carbon dioxide in the blood ($p\text{CO}_2$) with a subsequent increase in the concentration of ionized Ca, which in turn causes hyperexcitability of the cell membrane. This causes pretentiousness in the muscles, which interferes with normal muscle relaxation. As a result, a kind of symptom complex is formed, which is manifested by a feeling of "squeezing the chest", difficulty breathing. In addition, increased excitability of the cell wall of blood vessels also causes a variety of symptoms, ranging from dizziness, nausea, pale skin and ending with a palpable heartbeat and a chest pain [20, 30].

Given the above, it makes sense to pay attention to breathing techniques, which have proven themselves in the treatment of a number of diseases, but research on the effectiveness of their use in the treatment of panic attacks is lacking [29]. We are talking about "pranayama", one of the techniques in yoga therapy. The term "pranayama" literally means "taming prana". In practice, this is due to breathing exercises, so pranayama is often translated as "breathing regulation".

Breathing plays an important role in achieving deep relaxation. All yoga schools recommend prolonged deep exhalations to deepen relaxation, so that with each exhalation the degree of relaxation increases (the same recommendations are given in self-training and physiotherapy). The reason for this is the change in excitability associated with the phases of respiration: during exhalation, the excitability of many neurons is lower [25]. It was found that measured breathing can affect the activity of the vagus nerve. Its parasympathetic part provides a mode of rest. The vagus controls the work of many internal organs: heart, lungs, stomach, intestines, pancreas. Slow inhalations and exhalations stimulate the vagus, as a result of its activity there are: decrease in heart rate, decrease in pressure, muscle relaxation. The feedback signal of these changes is transmitted to the brain, and the person experiences appeasement.

All breathing practices are performed in a sitting position (padmasana and the like).

Big or full breathing of yogis is a calm, relaxed, but as deep as possible breathing. Inhalation (puraka) with full control of consciousness should begin with the diaphragm (abdominal breathing), then wave it to continue its lower and middle part of the chest (chest breathing) and end the breath with the upper part of the chest (clavicle breathing). Exhalation (rechaka) is carried out completely passively due to elastic forces also in waves and in the same sequence. The whole respiratory cycle should be performed as one absolutely smooth movement without tension and effort, on the contrary, consciously passively according to the well-known formula in self-training "I'm breathing".

Periodic breathing means the use of pauses between inhalation and exhalation, or between exhalation and inhalation. At the beginning of the practice, the pauses should be 1/2 the duration of the phases of inhalation or

exhalation, then this ratio changes. Subjective measurement of the duration of inhalation or exhalation is performed by counting heart rate, for example, one breath per six heartbeats.

Kumbhaka translates as "respiratory arrest" and means stopping breathing at the highest point of inspiration (purna-kumbhaka) or after complete exhalation (sunya-kumbhaka), or in the middle of the breathing phase (kevala-kumbhaka). After some practice, the time of respiratory arrest gradually increases.

Alternating breathing means that one or the other nostril is successively clamped with the finger and the left nostril is inhaled and the right nostril is exhaled, or vice versa (surya bhedana, nadi shodhana). Alternating breathing with pauses is called anuloma-viloma.

Forced types of pranayama are *bhastrika* ("blacksmith's fur") and *kapalabhati* ("skull cleansing"). These pranayamas are performed with considerable tension, namely, kapalabhati with the help of short and strong exhalations only by the diaphragm, with bhastritsa a half-closed glottis is added to it. Kapalabhati is also referred to as cleansing procedures (kriya).

Sitali is a cooling breath, in which the inhaled air passes through the mouth and wet tongue, thereby increasing the duration of inspiration. At the same time, the tongue, which is well supplied with blood, cools down, and thus the body gives off heat. However, it is unknown to what extent the surface of the tongue and mouth, involved in heat transfer, exceeds the surface of the nasal cavity. Only in this case, such cooling would be more effective than breathing through the nose.

Ujjai is a form of pranayama with a slow and very deep breath; exhalation occurs when the glottis is almost closed, which causes noise, and exhalation, because it is not forced, lasts long enough. Other delayed pranayamas lead to a significant increase in inhalation (*bhramari*) or exhalation (*murcha*), or the whole respiratory cycle (*kevali*).

The greatest benefit of yoga is that it teaches proper breathing – diaphragmatic.

By learning to breathe properly (which often takes two to three months), a person suffering from panic attacks learns to control his heart rate and calm down in the initial stages of the attack. Also, it should be noted that a person focused on performing exercises is distracted from his panic attack.

The use of hatha yoga breathing exercises by persons suffering from panic attacks should be gradual, moving from small to large. And, of course, under the guidance of an experienced master and under the constant supervision of a medical professional.

Conclusions. Given that pranayama is a conscious change in the form of respiration with an impact on the rhythm and coordination of autonomic and psychomotor functions, as well as changes in the chemical regulation of respiration, its use in patients with panic attacks will significantly reduce the frequency and severity of attacks. The practice of pranayama can be effectively used in the complex treatment of anxiety disorders as a safe and effective non-drug method of treatment, carried out under the supervision of specialists.

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