

**The methodology for diagnosing and managing stress developed by Grivtsova, as an independent method and as part of the preparation for inducing lucid dreams within the framework of the “Bancheo Extended Algorithm,” and its application in the “Global Forecasting System,” serves as a means of transferring transcendental states of consciousness within the “Bancheo-Technology Set”**

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**Abstract:**

*According to the World Health Organization (WHO), the increase in stressful situations due to the accelerating pace of life, environmental pollution, urbanization, technological progress, and low socio-economic living standards of the population, underpins the rise in neurological diseases. Consequently, one of the crucial tasks in practical psychology and applied psychophysiology is the timely and comprehensive diagnosis and correction of borderline forms of psychological disorders.*

*This study examines the application of stress diagnosis and correction methodologies. The foundation is the wave model of brain electrical activity, observed using electroencephalography, based on an algorithm developed during the experiment.*

*The key hypothesis of the study suggests that by following the developed self-organization system, based on performing simple actions, individuals with disrupted brain electrical activity due to various stressors can avoid pharmacological interventions.*

*It has been shown that the consequences of stress primarily include increased tension in the central nervous system (sympathetic component) and insufficient relaxation (parasympathetic component). During the exacerbation of chronic diseases, the following effects were observed in subjects: poor sleep in patients with gastritis, drowsiness and headaches in individuals with allergies, chronic mi-*

graines, and neurological pains in the head on the left side along the trigeminal nerve, meteorological dependence in hypertensive patients, and jaw locking and right-side pain in those with traumatic brain injuries. Correction of these disorders took into account their stress-induced nature. A method for rehabilitating emotional-affective disorders in individuals is proposed to overcome stressful situations. The obtained data suggest that the proposed method of restorative alpha rhythm through neurotraining has high potential in therapeutic work for overcoming and correcting stress in people from various social groups, ages, and professions.

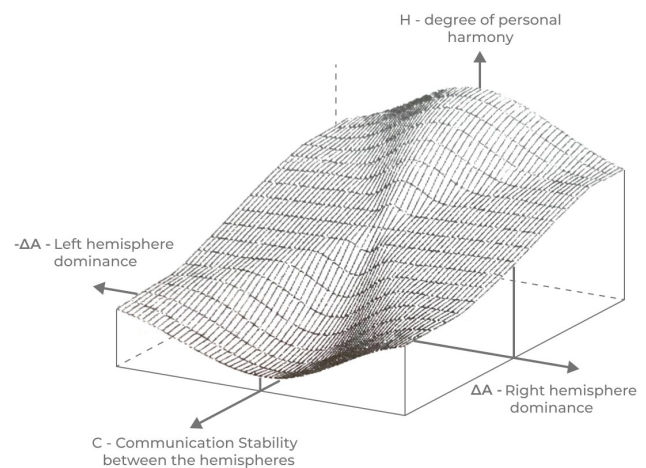
**Keywords:** brain electrical activity, stress, neurobiological mechanisms, oscillations and waves, electroencephalography, amplitude difference.

## Introduction

In the 21st century, with the advancement of technological progress, new methods for studying the functional nervous system have emerged. The ability to objectively evaluate brain function through electroencephalography (EEG) has become possible. During diagnostics, the state of the central nervous system, which influences an individual's mental and physical well-being, can be determined.

Additionally, relatively recently, American scientists managed to restore synchronization of the frontal lobes and the alpha rhythm in patients with prolonged depression by using transcranial electrical stimulation.

It is known that there is an established relationship between oscillatory processes in the brain and a person's psychological type, state, and adaptive self-healing capabilities. In particular, it has been determined that a person's psychological type depends on the dominance of one of the brain hemispheres and their coherence. It is also well established that changes in amplitude differences and coherence of oscillatory processes in the hemispheres lead to specific changes in a person's psychological type. Stress acts as a key trigger for these changes (Fig. 1).



**Figure 1.** Amplitude and Coherence of Oscillatory Processes in Brain Hemispheres.

Stress is a known risk factor for some, if not all, mental disorders. Under stress, brain activity changes dramatically. The brain begins to function at high beta wave frequencies, leading to biosystem overloads. This impedes the effective induction of lucid dreams. Such overloads over prolonged periods adversely affect the entire body's functioning, underscoring the necessity to overcome stress and its consequences.

Undoubtedly, numerous methods and practices have been developed for stress management, diagnosis, correction, and patient recovery. However, it can be confidently stated that they all remain unsatisfactory. This highlights the relevance of exploring various approaches to developing stress

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management, diagnosis, and correction strategies.

The aim of this study is to explore the application of the stress diagnosis and correction methodology developed by Irina Grivtsova [3] in collaboration with Yuliyán Georgiev and its potential use for transferring transcendental states of consciousness from one person to another using methods developed by Denis Banchenko, and its use as an auxiliary element in the induction and study of lucid dreams within the extended research of the “Bancheko Algorithm.” [19]

During the study, an electroencephalogram (EEG) is recorded from a group of patients in laboratory conditions. The data is converted into an audio file using a special algorithm. This stereo audio file is then provided to the patient for listening. The listening duration is one month, after which the EEG is measured again, and changes in the alpha rhythm are tracked.

Simultaneously, the patient's condition is assessed, and a subjective state evaluation is conducted. Based on the collected data, a neural network is created, trained to automate the analysis of EEG data and convert the collected data into an audio file.

This methodology serves for diagnosing and correcting the alpha rhythm, which is directly related to stress resistance. The considered neuro training method, with a focus on the alpha wave, can be used as one of the possible elements for achieving and transferring transcendental states of consciousness within the set of methods and technologies for transferring these states from one person to another proposed by Banchenko [23]

One of the tasks is to analyze the psychophysiological and neuro psychological correlates of stress

resilience based on the data from a group of experiment participants and to demonstrate the prospects of using the chosen approach for diagnosing and correcting stress in people from various social groups, ages, and professions to restore stress resilience.

### **Analysis of Current Publications**

Today, the scientific community is striving to determine the optimal options for combating and overcoming stress, as well as to track the frequency and characteristics of brain stress responses. It is not surprising that many contemporary publications aim to find methods for early detection, accurate diagnosis, and overcoming stress and its consequences. Both domestic and foreign authors propose new methods to reduce stress reactions, which have harmful consequences for the entire body, observed in patients with different medical histories.

It is necessary to focus more closely on the subject of alpha rhythms or alpha waves, which characterize the brain's electrical activity.

### **History of the Discovery of Alpha Rhythms**

German psychologist Hans Berger was the first to observe alpha rhythms recorded from the human scalp. He recorded this type of rhythm from the scalp of subjects sitting quietly with their eyes closed. Berger published his discovery in 1929 in the article “Über das Elektrenkephalogramm des Menschen” (“On the Electroencephalogram of Man”), where he named these electrical phenomena “waves of the first order,” or “alpha waves.”

Berger further demonstrated that alpha rhythms are blocked after the eyes are opened or during certain types of mental activity, leading to the appearance

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of “waves of the second order,” or “beta waves.” brain works actively when it should be resting.

Berger's results were later confirmed by several other researchers, particularly Adrian and Matthews, who introduced the brilliant concept (which remains valid to this day) that different sensory areas of the brain have their own alpha rhythms (idle rhythms), which, they suggested, represent the “rest” or “idleness” state of that brain area. Despite the accumulation of extensive knowledge about the phenomenology of alpha rhythms since Berger's time, many hypotheses regarding the mechanisms and functional significance of these rhythms do not converge into a unified theory. This ambiguity likely reflects the heterogeneity of alpha rhythms.

Alpha rhythms are typically defined as normal human EEG rhythms with frequencies ranging from 8 to 13Hz. The identification of alpha rhythms as a distinct category of brain rhythms also implies a specific spatial distribution, a robust response to the blocking of corresponding sensory input, and a unique generation mechanism. There is not just one but several variants of alpha rhythms. This fact, known since the 1950s and mentioned by the renowned English electrophysiologist Gray Walter, has only recently been sufficiently described, as brain mapping methods have become standard procedures. Alpha rhythms appear when a person closes their eyes, and they are recorded from the occipital regions of the brain, where the visual processing area is located. Thus, one of the founders of cybernetics, Norbert Wiener, believed that alpha rhythms reflect “replaying” visual images in the brain. Other researchers suggested that memory mechanisms closely related to visual experiences and alpha rhythms exist. However, all these hypotheses remain unproven. It is challenging to comprehend brain processes that occur in a seemingly “negative” state, that is, to understand why the

If we approach the problem differently and compare the human brain with animal brains, similar alpha rhythm activity appears in animals only when they are administered psychotropic drugs with calming effects. This fact has long puzzled psychophysicologists, as such changes were usually considered signs of brain excitation. In other words, we expect inhibition, but the brain, on the contrary, becomes more active. Indeed, later, subtler and thus less noticeable EEG changes were discovered (including by I. Grivtsova) that genuinely reflect inhibitory processes in the brain. However, these changes are pale compared to the bright “illogical” EEG alterations. Missing pieces in this mosaic were found when studying drugs that induce fear. It turns out their effect on the EEG is almost mirror-like compared to calming agents. In response to excitatory drugs, if they act for a long time, the brain begins to inhibit, while in response to calming agents, it becomes more excited. What does this suggest? Most likely, it points to some yet unknown compensatory processes in the brain. A special mechanism seems to guard the constancy of brain activity, striving to maintain its excitation at a strictly defined level.

Returning to the human brain's alpha rhythm: as mentioned, it is primarily recorded in the occipital areas, where the visual cortex is located. Visual perception is one of the leading senses in humans, and therefore these brain areas experience tremendous loads. Most likely, to prevent a “breakdown” from overloads, a mechanism arose in the human visual cortex to maintain stability there.

**Transcendental States as an Extension of the Brain's Stress-Resilient State**

There are suggestions for transferring transcendental states through certain simple and daily actions that affect both well-being and the overall psychosomatic state of an individual [14]. It is important to note that the study of achieving transcendental states in both domestic and Western sciences originated from the East and primarily involves tapping into the body's internal reserves [9; 17; 20]. Such states are achieved primarily through self-analysis, which can be conducted during meditation, organizing one's life within clear and daily rituals, using ecstatic practices, and other actions that positively influence self-awareness and self-perception. Particular attention is drawn to the works on transcendental states by Alexander Kaplan's group [5; 13].

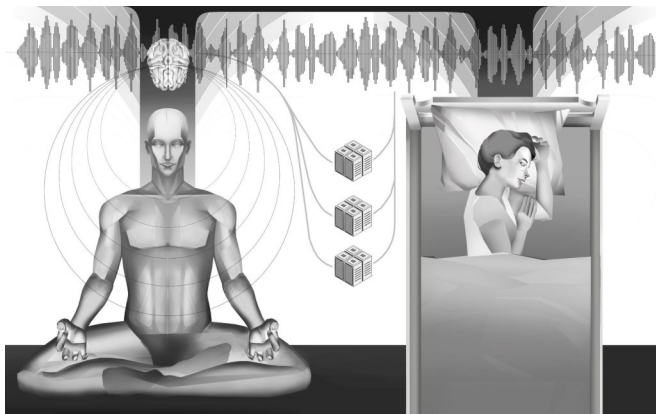


Figure 2. The Process of Transferring the State (Parameters of Brain Wave Activity) from One Person to Another. Used for Transferring Transcendental States.

One unique state inherent to small groups of people is remote viewing, an interest in which is demonstrated in a study by the CIA [9]. This state can hypothetically be “transferred” from one person to another. The shown achievements indicate an interest in the topic of transferring states of consciousness and the experiences associated with them.

It is necessary to emphasize that in combating stress, self-perception is a crucial element of influ-

ence, as the ability to change one's perspective on the situation and oneself within it determines one's capacity for self-healing and overcoming stressful situations. Undoubtedly, as experience shows, turning to transcendental states remains an understudied method of working with patients who have experienced stress and are overcoming its consequences. However, the existing Bancheko algorithm has received validation and dissemination among both domestic specialists and abroad [19]. The algorithm itself does not require complex actions: adhering to a diet, being under red lamps, visualization and related activities, meditative practices, breathing exercises, handwork, and daily walks. All these actions serve self-organization, and as confirmed, through performing daily repetitive actions, a person's life becomes more stable, and brain electrical activity also stabilizes and can flexibly respond to external stimuli [22].

Currently, it is challenging to assert that transcendental state practices alone are sufficient for combating stress, as there are not enough proven examples, and publications on this topic have varied directions. This indicates the need to combine meditative practices with conventional ones or to conduct additional research and validation.

At this stage, it can be said that the key task of neuro psychology is to study the neurobiological mechanisms involved in combating stress, as one of the constant components of modern society's life. It is considered necessary not only to restore clients who have faced phenomena such as stress and depression and their consequences but also to help them regain social activity, good physical and moral health, and develop high stress resilience [8].

Various researchers note that stress resilience is a common object of study in different scientific



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fields. Most studies focus on psychological issues of adaptation, motivation, and the ability of individuals to cope with various problems [7]. Stress is a complex natural phenomenon, broadly defined as a “non specific response of the body to any demand.” [1] Physical and behavioral responses are distinguished.

These are undoubtedly different levels, but they vary greatly, depending on many factors, with the main one being the individual's characteristics. In a broad sense, this can be understood as freezing, fleeing, fighting, fright, or a weak reaction [6]. The brain's response to a stressful situation, which is directly related to physiological and behavioural responses, is also reflected [15].

Many studies today show the negative impact of stress on the health and well-being of individuals in several somatic and even some mental disorders etiologically related to stress [16]. Information on the brain's functional state, obtained by recording the bioelectrical activity of the EEG, helps specialists diagnose deviations from the norm [22]. On the other hand, individual characteristics are defined as an individual lateral profile, which influences the organization of activities, including the regulation of body functions, ensuring stress resilience [2].

In working with stress diagnosis and management, studying brain wave activity becomes important. Harmonic coupling provides an optimal basis for functional exchange between two oscillatory systems and is often observed [22]. At the same time, the phase coupling between alpha-range oscillations (approximately 10 Hz) and beta-range oscillations (approximately 20 Hz) changes depending on the task. In harmonic coupling blocks exchange only to some extent due to false CF synchronization. It has been proven that, mathematically, two

frequencies  $f_1$  and  $f_2$  will never synchronize if the frequency ratio for  $f_1$ ,  $f_2$  ( $f_2 > f_1$ ) equals the golden ratio ( $g = 1.618$ ) and that no other frequency ratio is sufficient to avoid false CF synchronization.

Observations from various researchers agree that the level of stress increases each year, with a growing number of people falling under the negative influences of the environment, regardless of age or social status. The impact of stress on the human body has detrimental effects, which can be seen in both physiological and behavioral responses. Therefore, research on the objective electrical activity of the brain is useful for working in the areas of stress state correction and diagnosis, post-stress reactions, and the mechanisms for overcoming them.

## Materials and Methods

This study presents the application of a method developed by Irina Grivtsova on a sample of subjects. Given that the primary goal was to provide therapeutic effects, the data about the group correspond to the real activity of the “Strategy” center.

A total of 25 people were included in the sample. The group was divided into the following sub-groups:

- Men and women with sleep and memory disorders due to:–
- Traumatic brain injury (TBI).
- Respiratory diseases such as COVID-19.
- Dementia.
- Workplace burnout.
- High blood pressure.
- Depression.

The sample included representatives of different professions and ages, with the youngest participant being 7 years old and the oldest being 60 years old. This approach aimed to confirm the hypothesis about the universality of the method for diagnosing, correcting, and overcoming stress in people.

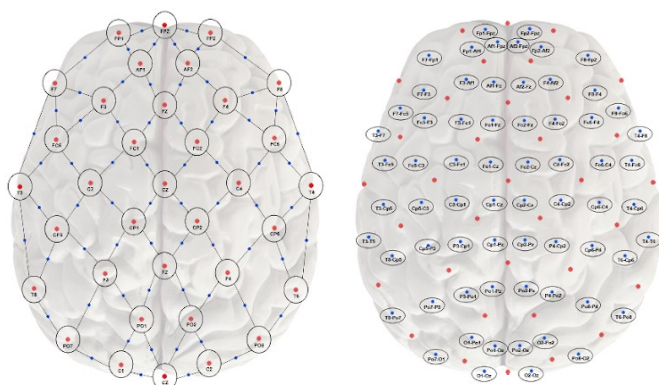
Patient data are presented in Table 1.

All patients were invited to undergo a controlled study of brain activity with subsequent processing using electroencephalography (EEG) (Fig. 3).

The electrode placement was based on an extended version of the International 10-20 System, with additional electrodes positioned over the frontal and parietal areas (Figure 3a). The locations were projected using Cartesian coordinates onto a two-dimensional image of the brain, with the central electrode (Cz) as the coordinate origin. The locations were marked and labelled with red dots. Recordings were made relative to the Pz electrode, and the data were recalculated offline for a bipolar montage consisting of 66 nearest-neighbour electrode pairs (indicated by lines connecting individual electrodes). Bipolar pairs were considered as nodes of the brain network, with nodes located at the midpoint between the shown electrode pairs (indicated by blue dots and oval labels in Figure 3b). Coherence was calculated between all pairs of nodes.

a) b)

Table 1. Experimental participants' data.



## Training the Neural Network on Empirical Re-

Patient	Age (years)	Gender	Complaint
Zafar B	7	male	Sleep problems
Rustam B	42	male	Memory problems
Julia V	40	female	Sleep problems
Olga A	51	female	Memory problems
Marina B	53	female	Chronic fatigue
Olga B	55	female	Sleep problems
Darya Z	40	female	Sleep problems
Julia B	43	female	Burnout
Ivan T.	22	male	Memory problems
Mary B	56	female	Memory problems
Mary S	32	female	Sleep problems
Natalya Ch	73	female	Memory problems
Olga F	51	female	Sleep problems
Yuriy L	51	male	Memory problems
Alpinada C.	78	female	Dementia
Svetlana	60	female	Memory problems
Georgiy N	59	male	Memory problems
Alexandra F.	45	female	Depression
Nina L	63	female	Burnout
Lev D	6	male	Memory problems
Marina C.	45	female	Heppos
Olga K	41	female	Stress due to divorce
Natalya I	47	female	Loss of a loved one in Covid
Tatiana P	38	female	Emotional stress
Anna R	60	female	Chronic stress A

## search Results

In this study, a neural network was developed to automate the processing of data obtained from EEG and their subsequent conversion into audio files. The created neural network was trained on empirical research results and is capable of identifying features and patterns in EEG data. The training of the neural network includes adapting to diverse data, allowing it to accommodate various combinations of variables.

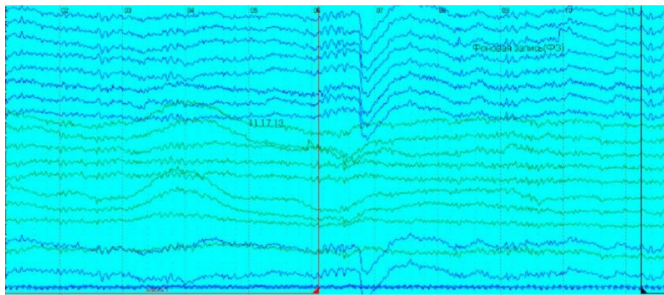
The neural network, interacting with EEG data, creates audio tracks using a special algorithm. Thus, the created neural network represents an innovative approach to automated EEG data processing and their conversion into audio files, opening new perspectives in scientific research and technologies for diagnosing and correcting conditions.

Therapy involved creating audio recordings that corrected brain activity. Regular listening to these recordings affected the participants' organisms. Base line data and changes were monitored using EEG data. Based on EEG data, algorithms were created using artificial intelligence methods to im-

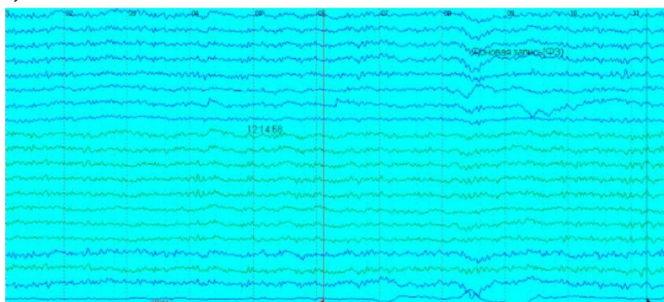
part the brain activity of the subjects through audio recordings.

### Results of the Empirical Study

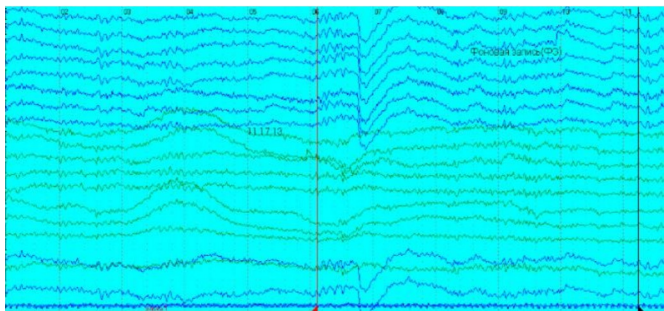
When a person is in a state of stress, various deviations are observed, such as sleep disturbances, memory problems, headaches, and meteorological dependence. All this is reflected in the frequency of wave oscillations emitted during brain activity (Fig. 4).



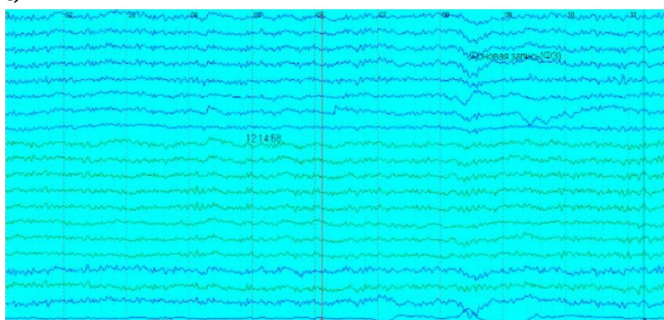
c)



d)



c)



d)

Figure 4. Wave Oscillations of Brain Electrical Ac-

tivity in: a) Sleep Disturbances, b) Memory Problems, c) Periodic Headaches, d) Depression.

It is believed that neuro-sensory therapy can have a restorative effect on the frontal lobes by stimulating the alpha rhythm. By optimizing neural processes without interfering with the brain's higher mental functions, we achieve stimulation through auditory analyzers, involving cortical and limbic structures, and the reticular formation of the brain, indirectly affecting neurohumoral regulation of the body. The “Strategy” center proposed an individualized approach in selecting alpha-stimulation characteristics based on individual EEG indicators.

In the sample considered in this study, regardless of age and gender, the common issue among all patients was a disruption in brain electrical activity, leading to alpha rhythm problems. As shown in Table 1, the patients' complaints varied. Despite different diagnoses, medical histories, and symptoms among participants, the study was based on the premise that after correcting the alpha rhythm, the brain's electrical indicators align with the average norm.

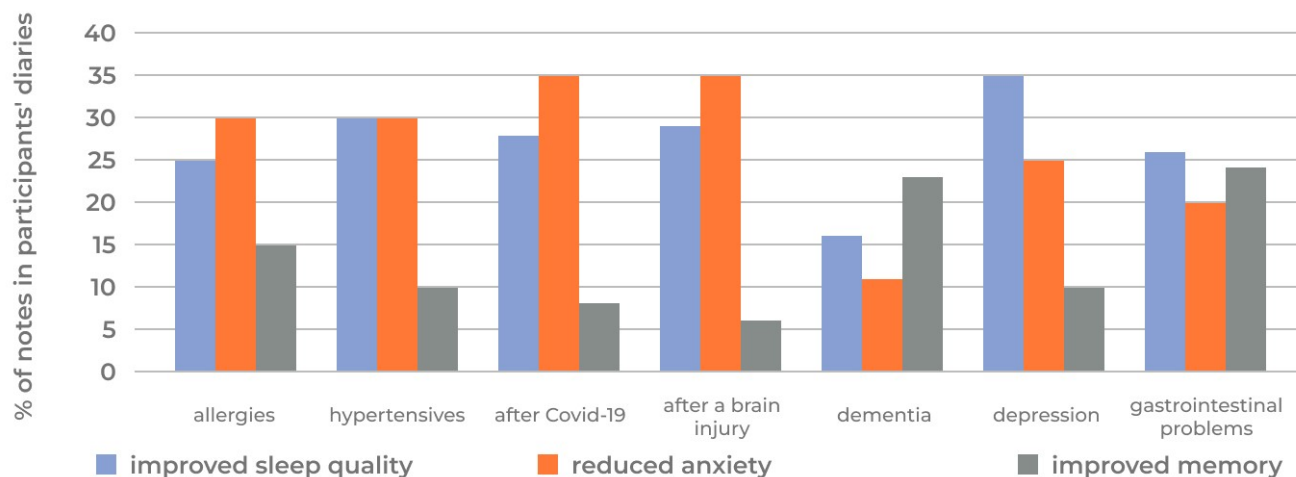
Considering the Bancheko Algorithm [19] as the basis for the alpha rhythm restoration process, it was hypothesized that achieving a transcendental state through background recording listening would allow subjects to achieve a positive effect.

All procedures were documented by researchers, revealing the following trend: after listening to the recording for one month, indicators normalized.

Furthermore, as part of the stress diagnosis and correction methodology implemented by the “Strategy” center, subjects listened daily to tracks generated from EEG data. Recovery data showed significant shifts towards stabilizing brain neural activity (Fig. 5).



## Results of listening to the sound track



**Figure 5.** Experimental Results.

In this study, the wave model was used as the basis for brain electrical activity: the two brain hemispheres are considered as two independent oscillation generators. The wave model of the brain highlights two main parameters:

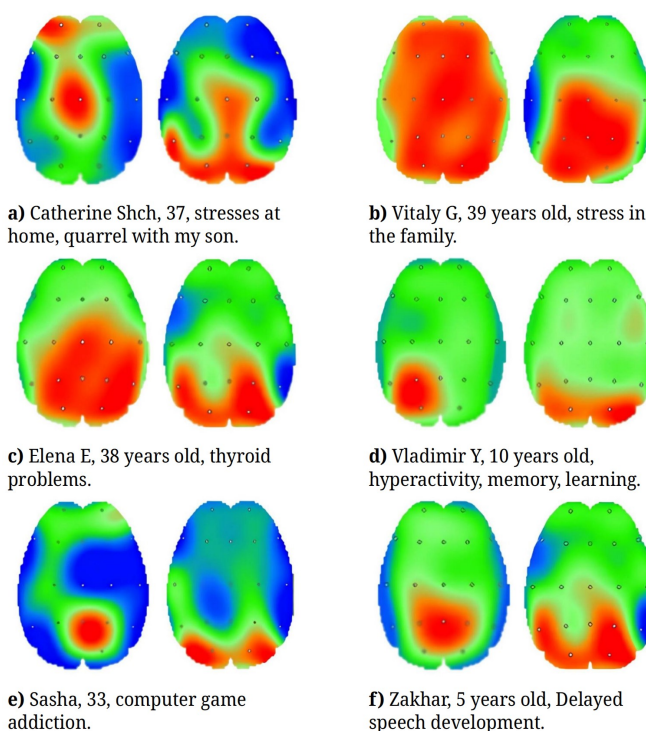
- Dominance of one hemisphere (the so-called amplitude difference)
- Stability of the connection between the hemispheres (coherence)

It is believed that disruptions in brain wave oscillation frequency result from dysfunction of brain networks linking the limbic system and cortical areas. During the experiment, subjects showed higher theta and alpha coherence, primarily in longer connections between the frontopolar and temporal or parietooccipital areas, as well as higher beta coherence, mainly in connections within and between electrodes overlying the dorsolateral prefrontal cortex (DLPFC) or temporal areas.

It should be noted that alpha-range oscillations are the dominant oscillations in the human brain, and recent data suggest that they perform a relaxing function. There is also a hypothesis that alpha-range oscillations play an active role in information processing. Essentially, alpha-range oscilla-

tions play a key role in integrating brain activity at different frequencies.

The study revealed that the alpha state is a “neutral” inactive state of the brain (Fig. 6). On the EEG of a healthy person not under stress, the alpha wave has a regular rhythmic pattern and stable localization in the occipital area (visual thalami). The absence of alpha rhythm registration on the EEG may indicate stress or an inability to rest fully and may be a sign of brain dysfunction or disease.



**Figure 6.** Alpha Rhythm Readings in Study Participants.

In studying the alpha range, it should be noted that patients involved in the experiment had three mandatory visits to the laboratory: at the initial stage, after one month, and at the final stage, approximately two months after the start of the experiment. Below are specific indicators of some experiment participants (Fig. 7).

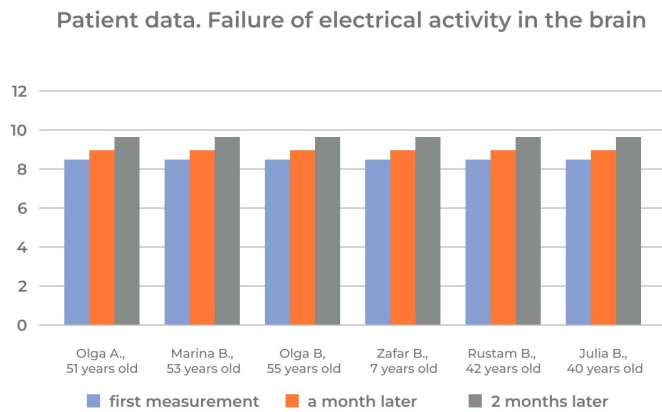


Figure 7. Alpha Range Indicators for Some Participants at Initial Stage, After One Month, and at Final Stage.

The presented results reflect the indicators of a specific group, due to the availability of clear data and a significant deviation from the “golden ratio” in brain wave oscillation indicators. For instance, the alpha rhythm in Olga A. is recorded only over the left hemisphere, while in Marina B. by the end of the experiment, it is observed over both hemispheres. Olga B. showed asynchrony even at the end of the experiment: 8.7 on the left and 9.8 on the right, with a flattened alpha rhythm. Zafar B. exhibited a slowed alpha rhythm, and Yulia V. displayed interhemispheric asymmetry up to 12%. These data indicate that the proposed technique can be applied to people of different ages and medical histories.

The results show how the height of oscillations and their asynchrony gradually stabilize, leading the body's functioning towards a unified system. Stable oscillations, in turn, reflect the patient's ability to respond to external stimuli with certain preceding

actions (Fig. 8).

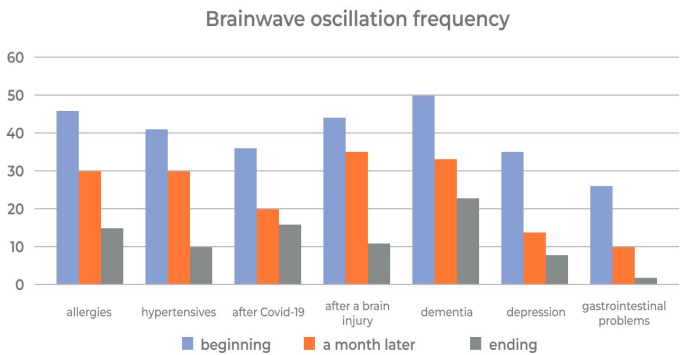


Figure 8. Brain Electrical Activity Records of Experiment Participants at the Start, After One Month, and at the Conclusion of the Empirical Study.

The clear positive trend in reducing stress levels among participants is evident in Figure 8. However, it should be noted that not all participants returned to the lab and provided reports on their work in the final phase, resulting in low activity indicators. Never the less, the results of using the created and listened recordings show the significance of the considered stress diagnosis and correction method as an alternative to medication and other therapeutic procedures. Furthermore, the proposed system allows individuals to improve self-organization, which in turn enhances stress resilience and the body's resistance to external factors and irritants.

By the middle of the experiment, participants began to recognize the importance of listening to the suggested recordings, noticing positive changes in perception dynamics, memory improvement, and the initial manifestations of stress behavior correction. In the final stage, there was a positive trend in normalizing behavior, perception, memory work, and overcoming stressful situations.

In support of the proposed practice, it is necessary to add data on the improvement in the physical condition of patients. For example, several patients (Svetlana, 60 years old; Yulia B., 43 years old; Nina L, 63yearsold) experienced stress due to over-

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work, professional burnout, accompanied by headaches, high blood pressure, general malaise, and hair loss. By the end of the experiment, the frequency of headaches decreased, morning blood pressure stabilized, hair growth resumed, and overall body function showed signs of recovery.

The correlation between alpha rhythm correction and the characteristics and content of dreams in the subjects should be particularly highlighted. Patients suffering from depressive disorders, after initial alpha rhythm correction, temporarily experienced more negative dreams, which then became neutral in content. In other words, at the onset of correction, as serotonin levels decreased, dream content became more anxious, likely due to the transfer of anxious emotional experiences to the unconscious realm, expressed in dream content. Conversely, patients with neurotic disorders observed changes in their dream content towards more favourable and positive dreams immediately after the first correction procedure.

Thus, within the sample of subjects, the developed patient management methodology yielded positive results, linked to the overall improvement in the condition of the participants.

## Discussion

Undoubtedly, when studying the topic of stress and subsequently working with patients who have experienced its consequences, it is essential to consider the classification of stress reactions and the degree of its impact on the human body. Each type of the examined disorders has its own characteristics related to memory, attention, reaction disorders, and consequently affects individuals differently. Therefore, due to the varying severity of the rehabilitation period, it is recommended to seek the assistance of related specialists for each specific

issue.

Additionally, it should be noted that the likelihood of developing mental health problems is closely related to the severity of the experienced shock and the depth of the stress state. Recovery from stress in such cases should include screening and counselling tools to identify, prevent, and reduce the risk of mental health issues.

From a neurobiological perspective, several interesting hypotheses were proposed to explain the connection between clients' health and reaction disorders: systemic inflammation may be a key linking factor between these states, as well as the lack of skills for psychosomatic stress coping. After a month of correction, positive changes in the clinical picture of mental and psychophysiological indicators were observed: improved mental well-being, reduced anxiety levels, and mitigated negative stress effects.

To form brain rhythmic activity in the desired direction, we enhance "normal" and weaken pathological EEG activity. This method has no contraindications due to the physiological features of perceiving sensory stimuli and absorbing external influences and is compatible with other rehabilitation methods for stress management. As methods of organizing psychological self-help for clients with memory and perception disorders related to stress states, practices aimed at self-organization, empathy, and compassion development are recommended. These practices contribute to the development of self-regulation of the client's psycho-emotional state.

Considering that emotional stress influences health protective behavior in ways predicted by the self regulation model, it can be assumed that the successful application of practices for achieving tran-

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scendental states will positively affect the quality of life of participants [23]. The proposed system of measures aims to form an adequate attitude towards oneself, past events, and recovery prospects.

Stress is a pathological condition that limits a person's functional capabilities. The successful application of the method created by Irina Grivtsova [3] allows for the correction of stress-induced disorders at both the brain activity level and bodily manifestations. The elements of stress correction presented in the article can be considered a sub system of the "Banchekeo AI gorithm." [19] These systemic approaches [10; 16] are aimed at developing human well-being, mastering the skills of lucid dreaming, achieving transcendental states, and integrating into more complex systems based on simpler ones using the principle of stepwise progression.

A person in stress-induced pathological conditions cannot function normally. Correcting stress using Grivtsova's method enables the development and further enhancement of the acquired skills, ultimately leading to the ability to master special transcendental states of consciousness necessary for participation as a biological element of the GFS (biological multifunctional sensor) system [10; 12].

This study tested methods related to artificial intelligence for algorithmizing the process of creating corrective audio recordings based on EEG data. Consequently, the development of combining methods for recording brain electrical activity and AI systems will significantly expand the possibilities and efficiency of stress diagnosis and especially correction [11; 21].

Stress affects not only brain activity but also has numerous bodily manifestations. Just as the concept of measure coherence of interacting elements is evident for the brain, it is possible to have sys-

tems of mutual coordination and communication for the elements of the entire organism. These could be oscillatory-wave processes that are fast-acting and localized enough not to be completely mediated by brain activity [18; 24; 25].

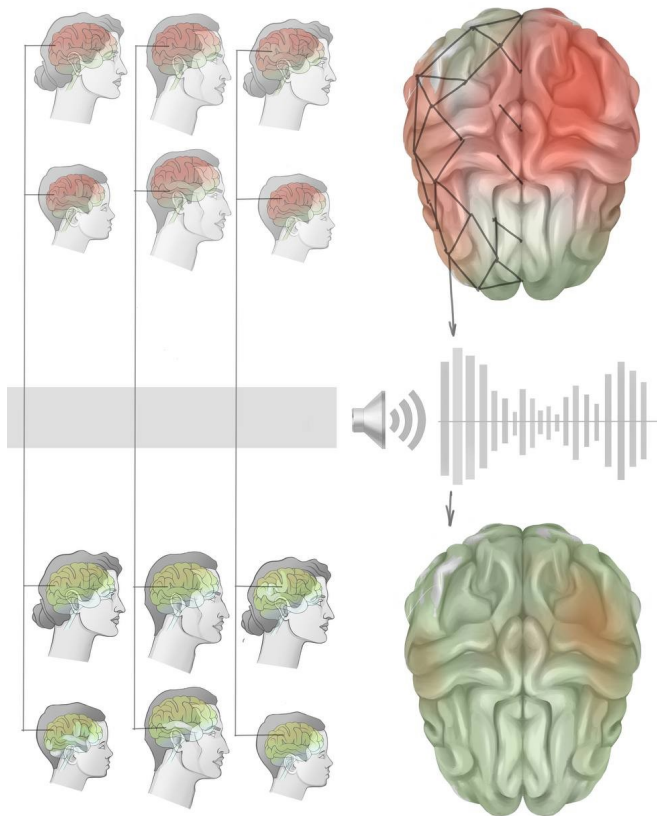
Therefore, stress correction work within Grivtsova's methodology is a necessary step preceding subsequent stages of well-being enhancement and development. Research on the impact of lucid dreaming [19], transcendental states [23], and others is based on the ability of the participant to be in a non-stressful state.

## Conclusions

In this study, participants were able to overcome the consequences of stress and improve memory, attention, and activity through a combination of methods for self-organizing their time and space, as well as listening to background recordings made based on EEG analysis (predominantly bipolar alpha waves and their desynchronization). This can be considered an element of the "Banchekeo Technologies" set within the framework of the extended "Banchekeo Algorithm" research for achieving transcendental states of consciousness and initiating brain neural network recovery processes. This contributes to a calmer, deeper, and higher quality sleep, as one of the main factors for the successful operation of the extended "Banchekeo Algorithm." The balance of alpha rhythms when using the "Banchekeo Algorithm" methods increases the likelihood of inducing lucid dreams and initiates restorative processes through out the body. An essential part of the "Banchekeo Technologies" set is the ability to use audio recordings created based on EEG as a method (with appropriate EEG analysis of the donor and recipient) for transferring transcendental states from one biological entity with a nervous system and consciousness to another, including



from one person to another. A basic condition for



these processes is the absence of stress in both subjects.

Figure 9. Illustration of Positive Dynamics in the Experiment.

The proposed hypotheses have been confirmed; however, for more accurate results, a larger group of participants should be involved, and rigorous laboratory studies should be conducted to finalize the chosen stress management, correction, and diagnosis method. Attention should be paid to the study [4] showing that in patients with arterial hypertension (AH), there is a decrease in the amplitude, frequency, power, and index of the alpha rhythm with impaired zonal differences on the EEG. Negative correlations between the alpha rhythm frequency in EEG leads and hemodynamic parameters were found in AH patients.

Direct correlations prevail between the amplitude, index, power of the alpha rhythm, and central he-

modynamic parameters, more pronounced in AH patients. In the current study, in patients with AH, blood pressure (BP) was measured before and after alpha rhythm correction, showing an average BP drop of 10 units, as this effect was not the main focus of the current study, the conclusion is provided without displaying tables and graphs.

It should also be noted that there is no comprehensive research on the application of the described practices to patients who have experienced multiple stressful situations in a short period, as well as comparing results between “severe” patients and those who have experienced mild stress. Practitioners increasingly emphasize the need for a comprehensive approach, but patients themselves are not always willing to acknowledge the need for further correction of their actions and skills. At the same time, there is evidence that without proper work on memory correction, perception of reality, and reactions, regression may occur.

Therefore, this topic leaves room for further, more extensive research.

## References

1. Адлер А. Практика и теория индивидуальной психотерапии. — М.: Издательство Института Психотерапии, 2019. — 214 с.
2. Гремлинг С., Ауэрбах С. Практикум по управлению стрессом. — СПб.: Питер, 2020. — 240 с.
3. Ирина Г. Современный способ расслабления мозга от центра «Стратегия» // Драйв. — 2023. — Май. — 2 (70). — URL: [https://draivspb.ru/health/4028-4028-metodika-nejrotreninga czentra-%C2%ABstrategiya%C2%BB](https://draivspb.ru/health/4028-4028-metodika-nejrotreninga-czentra-%C2%ABstrategiya%C2%BB).
4. Системный анализ показателей альфа-ритма

- головного мозга и гемодинамики у больных артериальной гипертонией / М. Х. Курданова [и др.] // Медицинские науки. — 2017. — № 9. — С. 63—68. — URL: <https://s.applied-research.ru/pdf/2017/9/11827.pdf>.
5. Altered States of Consciousness are not homogenous during meditation: an fNIRS study / A. Miroshnikov [et al.] // 2023 7th Scientific School Dynamics of Complex Networks and their Applications (DCNA). — IEEE,09/2023. — DOI: 10.1109/dcna59899.2023.10290290.
  6. Editorial: Psychophysiology of Stress / V. J. ClementeSuárez [et al.] // *Frontiers in Psychology*. — 2022. — Apr. — Vol. 13. — ISSN 1664-1078. — DOI: 10.3389/fpsyg.2022.896773.
  7. Enhancement of Hippocampal Plasticity by Physical Exercise as a Polypill for Stress and Depression: A Review / A. Li [et al.] // *CNS & Neurological Disorders– Drug Targets*. — 2019. — July. — Vol. 18, no. 4. — P. 294–306. — ISSN 1871-5273. — DOI: 10.2174/1871527318666190308102804.
  8. Exercise plasma boosts memory and dampens brain inflammation via clusterin / Z. De Miguel [et al.] // *Nature*. — 2021. — Dec. — Vol. 600, no. 7889. — P. 494–499. — ISSN 1476-4687. — DOI: 10.1038/s41586-021-04183-x.
  9. Follow-up on the U.S. Central Intelligence Agency’s (CIA) remote viewing experiments / Á. Escolà-Gascón [et al.] // *Brain and Behavior*. — 2023. — May. — Vol.13, no. 6. — ISSN 2162-3279. — DOI: 10.1002/brb3.3026.
  10. Forecasting Social, Geopolitical, and Economic Events Using the 'Banchenko-Technology' / D. Banchenko [et al.]. — 2024. — July. — DOI: 10.33425/2690-8077.1119. — URL: [https://www.researchgate.net/publication/381995064\\_Forecasting\\_Social\\_Geopolitical\\_and\\_Economic\\_Events\\_Using\\_the\\_'Banchenko-Technology'](https://www.researchgate.net/publication/381995064_Forecasting_Social_Geopolitical_and_Economic_Events_Using_the_'Banchenko-Technology').
  11. Frequency, time, and spatial electroencephalogram changes after COVID-19 during a simple speech task / D. V. Vorontsova [et al.] // *Computer Research and Modeling*. — 2023. — June. — Vol. 15, no. 3. — P. 691–701. — ISSN 2077-6853. — DOI: 10.20537/2076-76332023-15-3-691-701.
  12. Funding For Fundamental Science Research Based on Blockchain Technologies: «Banchenko Market» (Lucid Dreams And Other Trnscendental States of Consciousness Market) / D. Banchenko [et al.] // *Moscow Economic Journal*. — 2023. — Aug. — Vol. 8. — P. 1–17. — DOI: 10.55186/2413046X\_2023\_8\_8\_414. — URL: [https://www.researchgate.net/publication/378492156\\_FUNDING\\_FOR\\_FUNDAMEN-TAL\\_SCIENCE\\_RESEARCH\\_BASED\\_ON\\_BLOCKCHAIN\\_TECHNOLOGIES\\_BANCHENKO\\_MARKET\\_LUCID\\_DREAMS\\_AND\\_OTHER\\_TRNSCENDENTAL\\_STATES\\_OF\\_CONSCIOUSNESS\\_MARKET](https://www.researchgate.net/publication/378492156_FUNDING_FOR_FUNDAMEN-TAL_SCIENCE_RESEARCH_BASED_ON_BLOCKCHAIN_TECHNOLOGIES_BANCHENKO_MARKET_LUCID_DREAMS_AND_OTHER_TRNSCENDENTAL_STATES_OF_CONSCIOUSNESS_MARKET).
  13. Influence of Meditation on Brain Mechanisms: Methodological Aspects / S. Medvedev [et al.] // *Advances in Intelligent Systems and Computing*. — Springer International Publishing, 2021. — P. 405–412. — ISBN 9783030716370. — DOI: 10.1007/9783-030-71637-0\_46.
  14. Korzan W. J., Summers C. H. Evolution of stress responses refine mechanisms of social rank // *Neurobiology of Stress*. — 2021. — May. — Vol. 14. — P. 100328. — ISSN 2352-2895. — DOI: 10.1016/j.ynstr.2021.100328.
  15. Loprinzi P. D., Frith E. Protective and thera-

- peutic effects of exercise on stress-induced memory impairment // *The Journal of Physiological Sciences*. — 2018. — Sept. — Vol. 69, no. 1. — P. 1–12. — ISSN 1880-6562. — DOI: 10.1007/s12576-018-0638-0.
16. Microglia, Lifestyle Stress, and Neurodegeneration /C. Madore [et al.] // *Immunity*. — 2020. — Feb. — Vol. 52, no. 2. — P. 222–240. — ISSN 1074-7613. — DOI: 10.1016/j.immuni.2019.12.003.
17. Mindsponge, AISDL. Nature takes stresses out of the brain. — 2022. — Sept. — DOI: 10.31219/osf.io/nvm4r.
18. Myakishev-Rempel M., Savelev I. V. How Schrödinger’s mice weave consciousness. — 2020. — DOI: 10.13140/RG.2.2.27163.28962.
19. Research on methods of inducing lucid dreaming in the framework of “Banchenko Algorithm” / D. Y. Banchenko [et al.] // *Brain Nerves*. — 2023. — No. 8. — P. 1–8. — DOI: 10.15761/JBN.1000134. — URL: [https://www.researchgate.net/publication/370913525\\_Research\\_on\\_methods\\_of\\_inducing\\_lucid\\_dreaming\\_in\\_the\\_framework\\_of\\_Banchenko\\_Algorithm](https://www.researchgate.net/publication/370913525_Research_on_methods_of_inducing_lucid_dreaming_in_the_framework_of_Banchenko_Algorithm).
20. Segman Y. Consciousness, Matter, Brain Neural Activity and Telepathy. — 07/2024. — DOI: 10.13140/RG.2.2.26563.82725.
21. Silent EEG-Speech Recognition Using Convolutional and Recurrent Neural Network with 85% Accuracy of 9 Words Classification / D. Vorontsova [et al.] // *Sensors*. — 2021. — Oct. — Vol. 21, no. 20. — P. 6744. — ISSN 1424-8220. — DOI: 10.3390/s21206744.
22. Tan S., Fan J. A systematic review of new empirical data on lucid dream induction techniques // *Journal of Sleep Research*. — 2022. — Nov. — Vol. 32, no. 3. — ISSN 1365-2869. — DOI: 10.1111/jsr.13786.
23. The Application of the “Banchenko’s Mnemonic Dream Synchronization Method” for the Joint Synchronization of Dream Elements (Including Lucid Dreams), within the Framework of “Blokhin’s Dreaming Cell Concept,” and the Analysis of the Obtained Results Using the “Kapustin’s AI Dream Matching Model.” / M. Kapustin [et al.] // *International Internal Medicine Journal*. — 2024. — Jan. — Vol. 2. — P. 1–18. — DOI: 10.33140/iimj.02.01.06.
24. Tressoldi P., Pederzoli L. What is it like to be Outof-Body? Phenomenal accounts of experiencers. — 2022. — Nov. — DOI: 10.32388/wq4gja.2.
25. Wahbeh H., Delorme A., Radin D. Rating the Persuasiveness of Empirical Evidence for the Survival of Consciousness After Bodily Death: A cross-sectional study // *Journal of Anomalous Experience and Cognition*. — 2023. — Apr. — Vol. 3, no. 1. — P. 78–109. — ISSN 2004-1977. — DOI: 10.31156/jaex.24125.