

SCI-CONF.COM.UA

TOPICAL ASPECTS OF MODERN SCIENTIFIC RESEARCH



**PROCEEDINGS OF IX INTERNATIONAL
SCIENTIFIC AND PRACTICAL CONFERENCE
MAY 16-18, 2024**

**TOKYO
2024**

TOPICAL ASPECTS OF MODERN SCIENTIFIC RESEARCH

Proceedings of IX International Scientific and Practical Conference

Tokyo, Japan

16-18 May 2024

Tokyo, Japan

2024

UDC 001.1

The 9th International scientific and practical conference “Topical aspects of modern scientific research” (May 16-18, 2024) CPN Publishing Group, Tokyo, Japan. 2024. 742 p.

ISBN 978-4-9783419-2-1

The recommended citation for this publication is:

Ivanov I. Analysis of the phaunistic composition of Ukraine // Topical aspects of modern scientific research. Proceedings of the 9th International scientific and practical conference. CPN Publishing Group. Tokyo, Japan. 2024. Pp. 21-27. URL: <https://sci-conf.com.ua/ix-mizhnarodna-naukovo-praktichna-konferentsiya-topical-aspects-of-modern-scientific-research-16-18-05-2024-tokio-yaponiya-arhiv/>.

Editor

Komarytskyy M.L.

Ph.D. in Economics, Associate Professor

Collection of scientific articles published is the scientific and practical publication, which contains scientific articles of students, graduate students, Candidates and Doctors of Sciences, research workers and practitioners from Europe, Ukraine and from neighbouring countries and beyond. The articles contain the study, reflecting the processes and changes in the structure of modern science. The collection of scientific articles is for students, postgraduate students, doctoral candidates, teachers, researchers, practitioners and people interested in the trends of modern science development.

e-mail: tokyo@sci-conf.com.ua

homepage: <https://sci-conf.com.ua>

©2024 Scientific Publishing Center “Sci-conf.com.ua” ®

©2024 CPN Publishing Group ®

©2024 Authors of the articles

TABLE OF CONTENTS

AGRICULTURAL SCIENCES

1. *Аплаков В. Р., Микаберидзе М. Ш., Хуцидзе Т. С.* 14
СОВЕРШЕНСТВОВАНИЕ ТЕХНОЛОГИИ ГРУЗИНСКОГО
СТОЛОВОГО БЕЛОГО ВИНА “ЦИНАНДАЛИ” С
ИСПОЛЬЗОВАНИЕМ БАТОНАЖА

VETERINARY SCIENCES

2. *Горюк Ю. В., Лісовський М. В., Перхалюк Т. П., Пашинський В. М.* 19
ЕТІОПАТОГЕНЕЗ ЦУКРОВОГО ДІАБЕТУ У СОБАК
3. *Малюк М. О., Коваленко Д. О.* 22
ПОРІВНЯЛЬНИЙ МОНІТОРИНГ ЗМІН БІОХІМІЧНОГО
АНАЛІЗУ КРОВІ КРОЛІВ ПРИ ОПЕРАТИВНОМУ ВТРУЧАННІ
НА ШЛУНКУ З ВИКОРИСТАННЯМ ПЛАЗМИ ЗБАГАЧЕНОЇ
ТРОМБОЦИТАМИ
4. *Самойленко О. С.* 24
ЗООПСИХОЛОГІЯ – ЯК НОВЕ ЖИТТЯ ДЛЯ ВЕТЕРИНАРНОЇ
МЕДИЦИНИ

BIOLOGICAL SCIENCES

5. *Venhryniuk I. V., Sirenko A. G.* 27
SPIDERS DICTYNIDAE (ARANEI, ARANIDA, ARTHROPODA) OF
THE DNIESTER CANYON AND ADJACENT TERRITORIES
6. *Гвоздецька К. В., Стабніков В. П.* 34
ПЕРСПЕКТИВИ ОТРИМАННЯ ЦІАНКОБАЛАМІНУ (ВІТАМІНУ
В₁₂) ЗА ДОПОМОГОЮ БАКТЕРІЙ VACILLUS MEGATERIUM
7. *Приплавко С. О., Андрієць Т. В.* 37
ВПЛИВ РЕГУЛЯТОРІВ РОСТУ РОСЛИН НА ПРОРОСТАННЯ
ЦИБУЛІ СОРТУ ХАЛЦЕДОН

MEDICAL SCIENCES

8. *Опрыя Ye. V., Yermuraki P. P., Moldavska Kh. O.* 41
NEUROFEEDBACK AS A POTENTIAL METHOD OF POST-
TRAUMATIC STRESS DISORDER THERAPY
9. *Tsysar Yu. V., Andriiets A. V., Kovalenko O. O.* 46
MONITORING AND MANAGEMENT OF STRESS IN PREGNANT
WOMEN TO IMPROVE PERINATAL OUTCOMES (OVERVIEW
OF MODERN LITERATURE SOURCES)
10. *Zakharova A. O., Patsatsyia M. M.* 54
IMPROVING THE DIAGNOSIS OF CONGENITAL HEART
DEFECTS

MEDICAL SCIENCES

UDK 616.89-008.441.1-08-059

NEUROFEEDBACK AS A POTENTIAL METHOD OF POST-TRAUMATIC STRESS DISORDER THERAPY

Oprya Yevgen Vasylyovych,

Doctor of Medical Sciences, Professor, Head of the Department of Psychiatry,
narcology, medical psychology and psychotherapy

Yermuraki Pavlo Petrovych,

Doctor of Philosophy, associate professors of the Department of Psychiatry,
narcology, medical psychology and psychotherapy

Moldavska Khrystyna Olegivna,

Postgraduate fellowship, Department of Psychiatry,
narcology, medical psychology and psychotherapy

Odesa National Medical University

M. Odesa, Ukraine

Annotation. Post-traumatic stress disorder (PTSD) is a serious mental health problem that occurs in people who have experienced traumatic events such as war, violence, or natural disasters. While there are a variety of treatments for PTSD, including therapy and pharmacotherapy, not all patients respond effectively, highlighting the need to develop new and more effective approaches. Neurofeedback, in particular that based on electroencephalography and functional magnetic resonance imaging, has the potential to reduce anxiety, depression, and arousal, as well as improve the quality of life in patients with PTSD.

These results indicate the possibility of using neurofeedback as an additional or alternative treatment for those who do not respond to traditional therapies or experience negative effects from them.

But its practical application requires further research and development to maximize its benefits in clinical practice.

Key words: neurofeedback, post-traumatic stress disorder, EEG, fMRI, complex therapy.

Introduction. Post-traumatic stress disorder (PTSD) is a serious mental health problem that occurs in people who have experienced traumatic events such as war, violence, or natural disasters. While there are a variety of treatments for PTSD, including therapy and pharmacotherapy, not all patients respond effectively, highlighting the need to develop new and more effective approaches.

One of these promising treatments is a variant of biofeedback therapy called neurofeedback. Neurofeedback is a method based on the principle that patients can learn to control their mental status by regulating their brain activity. This method allows patients to consciously influence their brain waves through real-time monitoring and feedback.

Despite the potential benefits of neurofeedback, its effectiveness in the treatment of PTSD requires further research and substantiation. Several studies in recent years have examined the effectiveness of different neurofeedback methods, such as those based on EEG (electroencephalography) and fMRI (functional magnetic resonance imaging), as well as their impact on various PTSD symptoms.

Aim of the work. The work was aimed at reviewing and comparing the results of these studies in order to understand the potential benefits of neurofeedback in the treatment of PTSD in order to expand the understanding of effective approaches to the treatment of this disease, as well as to make a significant conceptual and clinical contribution to the understanding of as many aspects of PTSD as possible.

Materials and methods. To evaluate the effectiveness of neurofeedback in the treatment of PTSD, a systematic literature review and analysis of the results of studies over the past 10 years comparing different methods of neurofeedback, including EEG and fMRI, was conducted. The analysis included a search for relevant studies in scientific databases and the selection of studies based on specific criteria.

Given the importance of this topic for modern clinical psychiatry, it is

advisable to turn to the results of studies on the effectiveness of neurofeedback for the treatment of PTSD. The reviewed literature reflects important aspects of this problem, but there is a need for a thorough analysis and systematization of this information to further improve clinical practice [1, 2, 3].

It has been found that patients with PTSD often show a low response to traditional treatments, which can lead to high dropout rates at an early stage. Thus, the search for new approaches is an urgent task for clinical practice and research.

Further analysis indicates the promise of neurofeedback as a potential treatment for PTSD. The systematic review of studies emphasizes the possibility of self-guiding of the patients to fine-tuning their brain activity through the use of real-time monitoring and feedback. This opens up new opportunities for individualized and effective treatment.

The researchers also draw attention to the importance of comparing neurofeedback methods based on different types of brain imaging. The authors' study found that EEG-based neurofeedback was superior to functional magnetic resonance imaging (fMRI) in reducing PTSD symptoms. This is an important discovery, as it indicates the possibility of using a less invasive and affordable method to treat PTSD.

It should be noted that despite the superiority of EEG in this study, some aspects of fMRI-based neurofeedback methods may also have potential benefits. For example, the ability to visually represent brain activity using fMRI may be useful for patients and therapists, although the method itself may be more difficult to use and require additional resources to implement.

It will also be interesting to note the importance of neurofeedback in reducing various symptoms of PTSD, including anxiety, depression, and other psychological manifestations. The results of the analysis suggest that this method of treatment is effective, especially for complex cases of PTSD.

It is important to note that the results of the study confirm the importance of neurofeedback as a promising and effective method of treating PTSD. However, in order to fully understand its effectiveness and improve clinical practice, additional research is needed to compare different neurofeedback methods and determine

optimal treatment protocols.

Our systematic review and analysis of different approaches to the use of neurofeedback in the treatment of PTSD indicates the potential effectiveness of this therapy. The data obtained indicate a significant reduction in the severity of PTSD symptoms after neurofeedback therapy, which makes it a promising area for further clinical research and application in practice [1, 2, 3].

Conclusions. In conclusion, neurofeedback, in particular that based on electroencephalography and functional magnetic resonance imaging, has the potential to reduce anxiety, depression, and arousal, as well as improve the quality of life in patients with PTSD. These results indicate the possibility of using neurofeedback as an additional or alternative treatment for those who do not respond to traditional therapies or experience negative effects from them.

However, the analysis also revealed a lack of high-quality clinical trials, which limits the ability to draw general conclusions about the effectiveness of neurofeedback in the treatment of PTSD. Additional large-scale, controlled, and well-designed studies are needed to confirm these findings and determine optimal neurofeedback therapy protocols for different subgroups of PTSD patients.

To summarize, our analysis confirms the potential effectiveness of neurofeedback as an innovative treatment for PTSD, but its practical application requires further research and development to maximize its benefits in clinical practice.

REFERENCES:

1. Chiba, T., Kanazawa, T., Koizumi, A., Ide, K., Taschereau-Dumouchel, V., Boku, S., Hishimoto, A., Shirakawa, M., Sora, I., Lau, H., Yoneda, H., & Kawato, M. (2019). Current Status of Neurofeedback for Post-traumatic Stress Disorder: A Systematic Review and the Possibility of Decoded Neurofeedback. *Frontiers in human neuroscience*, 13, 233. <https://doi.org/10.3389/fnhum.2019.00233>
2. Hong J, Park J-H. Efficacy of Neuro-Feedback Training for PTSD Symptoms: A Systematic Review and Meta-Analysis. *International Journal of*

Environmental Research and Public Health. 2022; 19(20):13096.
<https://doi.org/10.3390/ijerph192013096>

3. Choi, YJ, Choi, EJ & Ko, E. Neurofeedback Effect on Symptoms of Posttraumatic Stress Disorder: A Systematic Review and Meta-Analysis. *Appl Psychophysiol Biofeedback* 48, 259-274 (2023). <https://doi.org/10.1007/s10484-023-09593-3>