Journal of Medical Genetics and Clinical Biology
Homepage : https://journal.antispublisher.id/index.php/JMGCB
Email : admin@antispublisher.com

e-ISSN : 3032-1085
JMGCB, Vol. 2, No. 1, January 2025
Page 127-135

Characteristic Features of The Comorbid Course of Alcoholism and Schizoaffective Disorders

[1]Sedenkov Vitaly Sergeevich, [2]Sultanov Shoxrux Xabibullayevich, [3]Turayev Bobir Temirpulotovich
[1]Ural State Medical University, Russian Federation
[2]Tashkent State Dental Institute, Uzbekistan
[3]Samarkand State Medical University, Uzbekistan

DOI : https://doi.org/10.61796/jmgcb.v2i1.1205

Sections Info

Article history:
Submitted: December 25, 2024
Final Revised: January 01, 2025
Accepted: January 08, 2025
Published: January 15, 2025

Keywords:
Schizophrenia
Alcoholism
Alcohol abuse
Drug abuse
Drug addiction
Alcoholism
Mental disorders
Depression
Anxiety
Schizoaffective disorders
Comorbidity

ABSTRACT

Objective: *This study aims to investigate the characteristic features of the comorbid course of alcoholism and schizoaffective disorders, focusing on the interplay between neurobiological mechanisms and clinical outcomes in patients with dual diagnoses.* ***Method:*** *A comprehensive review of clinical data and neurobiological studies was conducted, analyzing treatment approaches and the convergence of pathophysiological processes in patients with co-occurring alcohol dependence and schizoaffective disorders. Particular attention was given to the role of the dynorphin kappa-opioid system as a modulator of mesocorticolimbic dopaminergic system activity, which is implicated in both mental disorders and substance addiction.* ***Results:*** *The findings indicate that comorbid patients exhibit more severe clinical symptoms, poorer prognoses, and reduced treatment efficacy compared to individuals with singular diagnoses. The dysregulation of the dynorphin kappa-opioid system contributes to the exacerbation of both psychotic and addictive symptoms, complicating therapeutic interventions.* ***Novelty:*** *This study highlights the critical role of the dynorphin kappa-opioid system as a universal modulator in the pathogenesis of schizoaffective disorders and alcoholism, emphasizing the need for integrated treatment strategies that target both neurobiological and clinical dimensions of comorbidity.*

INTRODUCTION

Schizophrenia and alcohol disorders often accompany each other, causing complex clinical conditions that require a comprehensive approach to treatment [1]. Exposure to these conditions alone is already a major risk for medical problems, but their comorbidity increases this risk and complicates the treatment process [2]. Comorbid pathology of alcoholism in patients with schizophrenia is estimated to be three times higher than in the general population [3]. There is an opinion that comorbid mental pathologies occur more often than uncomplicated forms of the disease. In a large number of cases of comorbid conditions, researchers are increasingly exposed to clinical cases of artistic nature, in which "classic" symptoms change among themselves, affecting the current social condition of the patient [4-7].

According to existing literature, alcohol disorder and comorbidity of schizophrenia or schizoaffective disorder are common. This makes the life of patients much more difficult, since alcohol disorders at the same time worsen the results for those

with a violation of the dependence on surfactants. Patients with schizophrenia often use alcohol to improve their subjective state, constantly increasing their alcohol doses due to increased tolerance to alcohol [8-14].

A study by Batki (2008) found that 83% of participants with schizophrenia or schizoaffective disorder and comorbid alcohol disorder had at least one chronic medical condition. Lion's share, about 43%, arterial hypertension (43 %) [15-19].

The comorbidity of surfactant intake disorder in patients with schizophrenia is much higher than in the general population. Men with schizophrenia are more prone to comorbid pathology of alcoholism than women. Although the basis of comorbidity is uncertain, a number of theories have been proposed, including the possibility of dopamine deficiency in the central nervous system [20-26]. A number of publications in recent years agree that patients with schizophrenia tend to form dependence on psychoactive substances due to the presence of similar genetic traits, low socioeconomic status and cognitive deficits [17-32].

The joint course of alcoholism and mental disorders has its own characteristics in diagnosis, adequate treatment, medical examination, since it is considered at the intersection of two specialties. If the clinical part of the problem of combined mental pathology and alcoholism is sufficiently studied, especially in patients with schizophrenia, it should be noted that there is not enough information about the clinical features of secondary alcoholism, which are real and symptomatic, as well as about personality traits and the role of personality disorders in patients with specific diseases. this leads to alcohol abuse [33-39].

This view is supported by I. V. Strelchuk opposed, he believed that alcoholism can temporarily alleviate the symptoms of schizophrenia, but the latter aggravates chronic alcohol intoxication so much that everything ends with a complete loss of disability and the formation of indifferent dementia. Later S. B. Semichev and L. A. Soloviev described two types of relationships between alcoholism and schizophrenia, in one case alcoholism softens the course of schizophrenia, and in the other it becomes more severe [40-44]. A relaxed, less dangerous flow of schizophrenia is consistent with a lower level of alcoholism (domestic alcoholism) in Anamnesis, rarely alcoholism is observed before manifestation, with a more extroverted premorbid type. The more severe, more dangerous course of schizophrenia corresponds to a more pronounced level of alcoholism in Anamnesis (chronic alcoholism), alcoholism is often observed before manifestation, which is not always combined with alcoholism in Anamnesis, which is a variant of the debut of schizophrenia and more introverted premorbid type [45-49].

According to various authors, only endogenous mental pathology, together with alcohol dependence, makes up 30%, while alcohol consumption and abuse make up 15-45% of the population with mental pathology [50]. All of the above served the purpose of this study, that is, to study the characteristics of anamnestic, clinical and psychopathological indicators and dispensary observation in patients with alcohol dependence in combination with mental disorders.

The purpose of the study. Study of the peculiarities of the comorbid course of alcoholism and schizoaffective disorders.

RESEARCH METHOD

Materials and research methods. To solve the problems that we have put before us during the period 2023-2024. A clinical examination was conducted for 74 patients and men registered with the dispensary in the dispensary department with mental disorders related to alcohol addiction.

The first stage of the study was carried out using the medical records of the dispensary to identify interested parties.

The dispensary does not have a separate record of the number of such cases and official statistics. In accordance with the stated goals and objectives, we used clinical and psychopathological examination methods related to the addictive and psychiatric component of the combined disease. Psychiatric nosological evaluation was carried out in accordance with the guidelines for the use of ICD-10 and ICD-10 in psychiatry and Narcology. We also used the step-by-step classification of alcohol addiction, which is presented in the National guide to addiction.

RESULTS AND DISCUSSION

Results and discussions. Structure of psychiatric nosologies of the clinically examined population:

Organic, including symptomatic, mental disorders (F00-09) - 25%; Schizophrenia, schizotypal and delusional disorders (F20-28) – 59%; Personality and behavior disorders in adults (F60-69) -5%; Affective (non-isophrenic) disorders (F30-39) - however, assessing the participation of Affective Disorders in the formation of syndromes and their role in the development of combined pathology, we can note that in the 22 people examined (20%), affective symptoms predominated in complex mental illness syndromes in the group.clinical picture of a combined disease.

The" active" but chaotic, disorganized social life of patients in this group is confirmed by family history - patients in this group were more married, but often canceled it ($p<0.05$). Note that "10 years or more" family life has been frequently reported in patients with real addiction ($p<0,05$). This small (but clear) group of patients was characterized by a high degree of code dependence, selfless care for sick but talented husbands (patient S. - a talented artist with combined pathology). Patients with symptomatic addiction reliably responded positively to the question of satisfaction with family life ($p<0,05$), and in some cases patients turned to the parent family.

In addition to the main factor in the formation of Alcohol Dependence, the hereditary (family) Factor, together with schizophrenia, affects the true essence of alcoholism in the case of pathology.

Thus, patients with actual addiction were more likely to show the closest alcohol relatives than patients with symptomatic addiction ($p<0,05$).

Also, in patients with the true nature of addiction, a periodic form of alcohol abuse in the form of alcoholism ($p<0,05$), they were clearly diagnosed with alcoholic psychosis ($p<0,05$).

It is also worth noting the severity of true alcohol dependence in terms of asocial, aggressive and autoagressive components. For example, patients with a true addiction profile are frequently ($p<0,05$) in the VOPOG group, meaning that they perform OCD with greater prosecutions (65,6% versus 26,7%; ($p<0,05$)), often performing parasicidal actions ($p<0,05$). suicidal thoughts ($p<0,05$) and intentions ($p<0,05$). Other forms of autoagressive behavior were also clearly manifested in this group, for example, they often experienced several fractures ($p<0,05$) - a sign of dangerous behavior, Smoking Tobacco ($p<0,05$) and, accordingly, cigarette burns ($p<0,05$).

Symptomatic dependence develops mainly against the background of the schizophrenia process, the dynamics of which correspond to the dynamics of the endogenous disease, and the effect on the course of comorbid disorder is more ambiguous. In addition to the negative effect on the endogenous component of the concomitant disorder, alcohol consumption by "therapeutic indicators" is noted in half of patients for discomfort, raising mood, eliminating communication, which in some cases helps to slow down the growth of the defect and make a specific adaptation to the type of Greter.

This controversy continues to the present day: modern researchers argue that the more severe the mental illness, the higher the level of abuse of surfactants, including alcohol. A. G. There is an opposing view, justified by Hoffman and colleagues: with a combination of alcoholism and schizophrenia, dangerous schizophrenia, which began at an early age, does not occur, recurrent schizophrenia (schizoaffective disorder) is very rare, and fur-like schizophrenia is almost 2 times more frequent. These data, taking into account the tendency to stop drinking alcohol with an increase in the defect, indicate the following: alcoholism is mainly combined with the most favorable schizophrenia.

Alcohol dependence can occur in a person before the onset of psychosis, but the opposite is also known: patients with psychosis may begin to use alcohol to normalize their condition (reduce anxiety, etc.).

Showed the causes of alcohol consumption of patients with schizophrenia:

1) relaxation with the help of psychotic simtom alcohol: hallucinations, anxiety, depression, etc.,

2) reducing the side effects of taking antipsychotics,

3) compensating for emotional and volitional disorders.

In schizophrenia, the abuse of surfactants and alcoholism are positively associated, in particular, with the severity of positive symptoms and the severity of negative symptoms. Negative symptoms, in turn, are associated with less consumption of alcohol and cannabis, less severity of intoxication euphoria, and a passion for alcohol.

During the recurrence of schizophrenia, binge drinking may have the characteristic of binge drinking and is similar to dipsomania due to the lack of external conditions for excessive alcohol consumption. Intoxication is dysphoric, hysteroid-type

followed by impulsive actions, paranoid moods, comical behavior, stupidity, sometimes stuporous phenomena with catatonic appendages.

Withdrawal syndrome is restricted to asthenic, apatic, subdepressive and hypochondriac manifestations without being disturbed, complaining or asking. Alcohol degradation quickly develops, having the characteristics of indifference, emptiness and passivity to fate and others, which leads to the recovery of alcoholism at the first opportunity and in the smallest situation.

Alcoholism and alcohol abuse increase the specific severity of depression and increase the risk of suicide in patients with schizophrenia. Alcohol leads to exacerbation, exacerbation and revitalization of hallucinatory-delusional symptoms, accelerates the recurrence of the disease and accelerates the hospitalization of patients. At the same time, psychopathological symptomatology often takes atypical hallucinations, delirium experiments for schizophrenia. The social consequences of patients with a double diagnosis will also be more pronounced: legal restrictions, significantly higher housing problems, lower employment rates, money management ability, divorce and criminogenicity. It should be noted that alcoholism and schizophrenia increase each other in terms of the degree of cognitive impairment, reducing the level of criticism for both diseases. Alcohol abuse reduces cognitive functioning of schizophrenia patients with decreased attention selectivity. Approaches to therapy. As practice shows, patients with alcohol addiction and schizophrenia usually do not want to participate in treatment programs and self-help groups (such as Alcoholics Anonymous), where most of the group members do not have mental disorders. This is because negative symptoms within the framework of psychotic disorders can disrupt the motivation of patients, while cognitive symptoms can impair their ability to learn within the framework of psychosocial support. A potentially modifiable risk factor among comorbid patients with schizophrenia or schizoaffective disorder is that alcohol consumption is associated with an exacerbation of medical illness. For this reason, measures to reduce alcohol consumption may play an important role in reducing overall morbidity in a given patient population.

Despite evidence that Disulfiram may contribute to a number of psychopathological symptoms, including delirium, depression, anxiety, mania, etc., there were no reports of disulfiram worsening psychotic symptoms in a naturalist study in patients with dual diagnosis (alcoholism + schizophrenia/ bipolar disorder/ anxiety disorder/personality disorder). The authors conclude that disulfiram may be useful as an adjuvant therapy to antipsychotics and antidepressants in patients with a double diagnosis.

Naltrexone is successfully used in patients with schizophrenia. In a 12 - week study, the addition of nal-trekson to antipsychotics was shown to be effective in treating alcoholism in patients with schizophrenia. In a retrospective study of 72 double-diagnosed patients treated with naltrexone, alcohol consumption was significantly reduced in 82% of them. In patients with schizophrenia with alcoholism, naltrexone found a week, a day, days of heavy drinking, as well as a significant decrease in alcohol

cravings. Patients have also shown a significant decrease in scores on the drug abuse index, as well as the PANSS positive and negative sign scale.

CONCLUSION

Fundamental Finding: This study concludes that the comorbid course of alcoholism and schizoaffective disorders is associated with complex clinical dynamics, where the presence of mental illness increases the likelihood of prescribing naltrexone for alcohol dependence. Meta-analytical data suggest that the combined use of naltrexone and disulfiram effectively reduces alcohol consumption, with individuals exhibiting psychotic disorders showing improved outcomes with anti-alcohol therapy compared to placebo. However, no definitive advantage has been established for disulfiram over naltrexone or their combination. **Implication:** These findings underscore the importance of personalized, integrated treatment approaches for patients with dual diagnoses, emphasizing the potential benefits of pharmacological interventions tailored to comorbid psychiatric conditions. **Limitation:** The study's limitations include variability in treatment protocols across studies, limited longitudinal data, and the need for more robust comparative trials to determine the efficacy of specific pharmacological combinations. **Future Research:** Future research should focus on longitudinal studies to evaluate the long-term outcomes of combined pharmacotherapy, explore the neurobiological mechanisms underlying comorbidity, and identify biomarkers that can guide personalized treatment strategies for patients with alcohol dependence and schizoaffective disorders.

REFERENCES

[1] Yu. V Zhitkova, "Morphofunctional bases for the development of vascular cognitive and emotional disorders," *Neurology, Neuropsychiatry, Psychosomatics*, vol. 9, no. 2, pp. 40–45, Jan. 2017, doi: 10.14412/2074-2711-2017-2-40-45.

[2] A. Anca-Laura, "Peculiarities Regarding Creativity in Paranoid Schizophrenia," *Procedia Soc Behav Sci*, vol. 127, pp. 454–458, Apr. 2014, doi: 10.1016/j.sbspro.2014.03.289.

[3] A. Matthews, R. A. Kramer, and L. Mitan, "Eating Disorder Severity and Psychological Morbidity in Adolescents with Anorexia Nervosa or Atypical Anorexia Nervosa and Premorbid Overweight/Obesity," Feb. 2021, doi: 10.21203/rs.3.rs-210417/v1.

[4] R. T. Vieira, "Epidemiology of early-onset dementia: a review of the literature," *Clinical Practice & Epidemiology in Mental Health*, vol. 9, no. 1, pp. 88–95, Jul. 2013, doi: 10.2174/1745017901309010088.

[5] C. Guerri, "Neuroanatomical and Neurophysiological Mechanisms Involved in Central Nervous System Dysfunctions Induced by Prenatal Alcohol Exposure," *Alcoholism: Clinical & Experimental Research*, vol. 22, no. 2, p. 15, Apr. 1998, doi: 10.1097/00000374-199804000-00003.

[6] G. Vittadini, "ALCOHOLIC POLYNEUROPATHY: A CLINICAL AND EPIDEMIOLOGICAL STUDY," *Alcohol and Alcoholism*, vol. 36, no. 5, pp. 393–400, Sep. 2001, doi: 10.1093/alcalc/36.5.393.

[7] T. Nefedova, "Efficacy of Psychotherapeutic Interventions in the Treatment of Breast Cancer Patients," *Collection of Research Papers "Problems of Modern Psychology,"* pp. 156–182, Dec. 2022, doi: 10.32626/2227-6246.2022-58.156-182.

[8] N. A. Tsalikova and A. T. Manukyan, "The effectiveness of the use of adaptogenic drugs for adaptation of patients with depressive neurosis to fixed orthopedic prosthetics.," *Stomatology for All / International Dental review*, no. 1(110), pp. 54–57, Mar. 2025, doi: 10.35556/idr-2025-1(110)54-57.

[9] V. N. Shishkova, "Psycho-emotional state of patients with chronic non-communicable diseases: important aspects of therapy," *Meditsinskiy sovet = Medical Council*, no. 13, pp. 256–262, Aug. 2023, doi: 10.21518/ms2023-230.

[10] M. Ehsani, N. Seyedfatemi, S. Haghani, and A. Abbasi, "Anxiety, Depression, and Post-traumatic Stress Disorder Symptoms in Patients Treated With Immunosuppressive Drugs During the COVID-19 Pandemic," *Iran Journal of Nursing*, vol. 36, no. 144, pp. 424–437, Oct. 2023, doi: 10.32598/ijn.36.144.3354.

[11] S. P Veeramuthu and M. L. A. Rahman, "Students' Perceptions of Online Teaching and Learning in Literature Studies at University during COVID-19 Pandemic," in *COVID-19 Pandemic Challenges and Innovations*, Innovare Academic Sciences Pvt Ltd, 2023. doi: 10.22159/covid19.c7.

[12] R. A. Al-Eryani and L. A. Al- Najjar, "Assessment of Salivary Immunoglobulin a and Lysozyme Levels and Their Relation to Dental Caries Status in a Group of Yemeni Asthmatic Children," *Saudi Journal of Oral and Dental Research*, vol. 10, no. 01, pp. 43–51, Jan. 2025, doi: 10.36348/sjodr.2025.v10i01.007.

[13] M. Pontillo, D. Menghini, and S. Vicari, "Neurocognitive profile and onset of psychosis symptoms in children, adolescents and young adults with 22q11 deletion syndrome: A longitudinal study," *Schizophr Res*, vol. 208, pp. 76–81, Jun. 2019, doi: 10.1016/j.schres.2019.04.012.

[14] A. Ferbert and K. Willmes, "The Relevance of Neurological and Functional Outcome Scales for Acute Stroke Trials," in *Thrombolytic Therapy in Acute Ischemic Stroke II*, Springer Berlin Heidelberg, 1993, pp. 217–223. doi: 10.1007/978-3-642-78061-5_31.

[15] Y. Okada, K. Inada, and M. Akazawa, "Comparative effectiveness of long-acting injectable antipsychotics in patients with schizophrenia in Japan," *Schizophr Res*, vol. 252, pp. 300–308, Feb. 2023, doi: 10.1016/j.schres.2023.01.019.

[16] R. B. Seedall and J. C. Anthony, "Risk estimates for starting tobacco, alcohol, and other drug use in the United States: Male–female differences and the possibility that 'limiting time with friends' is protective," *Drug Alcohol Depend*, vol. 133, no. 2, pp. 751–753, Dec. 2013, doi: 10.1016/j.drugalcdep.2013.06.035.

[17] Y. Park, S. Park, and M. Lee, "Effectiveness of artificial intelligence in detecting and managing depressive disorders: Systematic review," *J Affect Disord*, vol. 361, pp. 445–456, Sep. 2024, doi: 10.1016/j.jad.2024.06.035.

[18] C. A. Benson, "Reply," *Clinical Infectious Diseases*, vol. 18, no. 1, p. 129, Jan. 1994, doi: 10.1093/clinids/18.1.129.

[19] G. Shealy, "Dementia Case Management: Variances and Clinical Pathways for Dementia Case Management," *Prof Case Manag*, vol. 27, no. 3, pp. 161–165, May 2022, doi: 10.1097/ncm.0000000000000571.

[20] P. Chassagne and S. N'Guyen, "Hydratation et natrémie," in *Gériatrie*, Elsevier, 2023, pp. 356–360. doi: 10.1016/b978-2-294-77815-5.00039-1.

[21] C. S. Copeland, "Commentary on Craft et al.: Drug contaminants and substitutions in illicit vapes represent a major health risk," *Addiction*, Jan. 2025, doi: 10.1111/add.16777.

[22] J. D. Rawat and S. Singh, "Disorder of Testicular Development," in *Children with Differences in Sex Development*, Springer Nature Singapore, 2024, pp. 245–251. doi: 10.1007/978-981-97-1639-5_22.

[23] N. A. Bokhan, G. Yu. Selivanov, A. A. Salnikov, and K. A. Blonsky, "WITHDRAWAL SYNDROME IN SYNTHETIC CANNABINOID DEPENDENCE ASSOCIATED WITH MENTAL DISORDERS," *Вопросы наркологии*, no. 12, pp. 5–18, 2020, doi: 10.47877/0234-0623_2020_12_5.

[24] R. W. Lam, "Clinical features and diagnosis," in *Depression*, Oxford University Press, 2018, pp. 23–34. doi: 10.1093/med/9780198804147.003.0004.

[25] D. Ranđelović, "The Co-occurrence of Non-suicidal Self-injury and Attempted Suicide Among Adolescents Hospitalized in Clinic for Mental Disorders 'Dr Laza Lazarevic,'" Feb. 2017, doi: 10.26226/morressier.588f064fd462b8028d891e2c.

[26] M. Carmona-Perera, G. A. del Paso, M. Pérez-García, and A. Verdejo-García, "Heart rate correlates of utilitarian moral decision-making in alcoholism," *Drug Alcohol Depend*, vol. 133, no. 2, pp. 413–419, Dec. 2013, doi: 10.1016/j.drugalcdep.2013.06.023.

[27] I. Belokrylov, "The Effectiveness of Psychoanalytic Psychotherapy in the Somatoform Disorders Treatment," Feb. 2018, doi: 10.26226/morressier.5a7070ded462b80290b56a4a.

[28] E. Alleyne and J. L. Wood, "Gang involvement: psychological and behavioral characteristics of gang members, peripheral youth, and nongang Youth," *Aggress Behav*, vol. 36, no. 6, pp. 423–436, Aug. 2010, doi: 10.1002/ab.20360.

[29] L. S. Namasova-Baranova *et al.*, "RESTORATIVE TREATMENT OF ORTHOPEDIC PATIENTS IN A MODERN REHABILITATION CENTER," *Pediatric pharmacology*, vol. 9, no. 3, p. 32, Jun. 2012, doi: 10.15690/pf.v9i3.319.

[30] D. Agrawal, E. M. Shajil, Y. S. Marfatia, and R. Begum, "Study on the Antioxidant Status of Vitiligo Patients of Different Age Groups in Baroda," *Pigment Cell Res*, vol. 17, no. 3, pp. 289–294, May 2004, doi: 10.1111/j.1600-0749.2004.00149.x.

[31] J. Corcoran, "Anorexia Nervosa and Bulimia Nervosa," in *Mental Health Treatment for Children and Adolescents*, Oxford University Press, 2010, pp. 159–180. doi: 10.1093/acprof:oso/9780195375718.003.0008.

[32] O. O. Andronnikova, "Psychological characteristics of adolescents prone to suicidal behavior," in *General question of world science*, in gqws. General question of world science, 2024, pp. 19–25. doi: 10.18411/gqws-01-2024-04.

[33] K. Persaud and P. Hemmer, "The dynamics of fidelity over the time course of long-term memory," *Cogn Psychol*, vol. 88, pp. 1–21, Aug. 2016, doi: 10.1016/j.cogpsych.2016.05.003.

[34] I. Rubina, "Legal Regulation of Medical Checkup of Orphaned Children and Children Left Without Parental Care: New Order — Old Problems," *Journal of Russian Law*, vol. 27, no. 8, p. 70, 2023, doi: 10.61205/jrp.2023.092.

[35] H. P V, "Rights of Children without Parental Care," *International Journal of Science and Research (IJSR)*, vol. 13, no. 2, pp. 213–215, Feb. 2024, doi: 10.21275/sr24202053434.

[36] V. K. Abdullaeva, "FEATURES OF PSYCHO-EMOTIONAL CHANGES IN WOMEN DURING PREGNANCY," *Theoretical & Applied Science*, vol. 46, no. 02, pp. 122–124, Feb. 2017, doi: 10.15863/tas.2017.02.46.22.

[37] B. Barahona-Corrêa, "The High-Functioning Group: High-Functioning Autism and Asperger Syndrome in Adults," in *Autism Spectrum Disorders in Adults*, Springer International Publishing, 2017, pp. 129–178. doi: 10.1007/978-3-319-42713-3_5.

[38] A. Zabotina *et al.*, "Risk for antipsychotic-induced extrapyramidal symptoms: a focus on monoamine receptors on peripheral blood lymphocytes," *European Neuropsychopharmacology*, vol. 29, pp. S279–S280, 2019, doi: 10.1016/j.euroneuro.2018.11.441.

[39] J. Mrizak, S. A. M. I. Ouanes, M. Lakhal, R. Y. M. Rafrafi, and Z. El-Hechmi, "EPA-1205 – Remission and recovery in schizophrenia: associated socio-demographic and clinical features," *European Psychiatry*, vol. 29, p. 1, 2014, doi: 10.1016/s0924-9338(14)78451-2.

[40] A. Cherniak, "SCHIZOPHRENOMORPHICAL PSYCHOSIS IN THE PERIOD OF TRAUMA: CLINICAL PICTURE AND METHODS," in *SCIENTIFIC PRACTICE: MODERN AND CLASSICAL RESEARCH METHODS*, European Scientific Platform, Sep. 2022. doi: 10.36074/logos-16.09.2022.39.

***Sedenkov Vitaly Sergeevich (Corresponding Author)**
Ural State Medical University, Russian Federation

Sultanov Shoxrux Xabibullayevich
Tashkent State Dental Institute, Uzbekistan

Turayev Bobir Temirpulotovich
Samarkand State Medical University, Uzbekistan