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PRINCIPLES OF USING MEDICATIONS IN THE TREATMENT AND PREVENTION OF NEUROLOGICAL PATHOLOGIES ACCOMPANIED BY CIRCULATORY DISORDERS

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Abstract. Heart failure, coronary artery disease, arrhythmias, hyperlipidemia, and arterial hypertension are all treated with cardiovascular medications. They also contain anticoagulant and antiplatelet medications, which are crucial for preventing cardiogenic embolism. The expected advantages of treatment greatly outweigh the majority of the neurologic side effects of cardiovascular medications, which are either modest or temporary. More serious neurologic issues need to be identified and treated as soon as possible. Although overtreatment of arterial hypertension can result in weariness or dizziness, it frequently responds well to dose modification or switching to a different medication. The psychological effects of cardiovascular medications are covered in this chapter. There are two interesting sides to this topic. An undesirable side effect of a cardiovascular treatment, such as depression brought on by an antihypertensive medication, can be anticipated and prevented by utilizing the right medication. When molecules act on the adrenergic transmission, these effects are more common. This feature, however, does not fully capture the psychological impacts of cardiovascular therapies. Other medication side effects, such as headaches from vasodilators or myalgia from statins, may be more problematic. Because antithrombotics are known to cause bleeding, risk/benefit ratios must be carefully calculated for each patient. Some neurologic side effects of cardiovascular medications are uncommon and only identified in solitary case reports or small case series, whereas many are well-documented in clinical trials with known incidence and severity. This chapter uses these sources to describe the negative effects that commonly used cardiovascular medications have on the brain, muscles, and nerves.

Keywords. Arrhythmia, cognitive decline, hypercholesterolemia, hypertension, myopathy, neuropathy, adverse event, anticoagulant, antiplatelet, stroke.

Introduction. Cardiovascular medications are used to treat coronary artery disease, heart failure, arrhythmias, hyperlipidemia, and arterial hypertension. In order to prevent cardiogenic embolism, they also contain antiplatelet and anticoagulant medications. The majority of neurologic side effects from cardiovascular medications are mild or temporary, and they are greatly exceeded by the expected advantages of therapy. Other neurologic issues are more severe and need to be identified and treated very once. Although overtreatment of arterial hypertension might result in dizziness or exhaustion, it frequently responds well to dose modification or switching to a different medication. There is a lengthy history of alternative medicine and remedies. In the past, people who practiced what we now call alternative medicine considered it to be conventional medicine. For example, there is proof that Huangdi, the Chinese Emperor, utilized acupuncture as early as 2500 BC. It may have been used as early as the Neolithic period (5000–6000 BC), according to some data. According to more recent research, acupuncture may help treat neurodegenerative conditions like Parkinson's disease (PD), Alzheimer's disease (AD), and amyotrophic lateral sclerosis (ALS) by reducing neuronal

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apoptosis, modulating metabolic activity, and preventing the buildup of toxic proteins like amyloid-β, which is a hallmark of AD [1-7]. In both human and animal models of disease, acupuncture seems to have a neuroprotective impact. Following acupuncture, fMRI shows enhanced activity in regions of the cerebral cortex linked to cognition. Another alternative medicine with roots in ancient India is Ayurveda, which translates from Sanskrit as "The Science of Life." Its basic therapeutic principle is to keep the body's three doshas, or energies, in balance. Oil therapies, intake of herbal combinations, and panchakarma (the "cleansing" or purging of the body) are some of the therapy methods. Ayurveda seems to have a significant influence on the management and treatment of neurological conditions, much like acupuncture. Oil and ghrita Ayurvedic treatments have been demonstrated to significantly repair severe neurological and motor neuron impairments after spinal cord injury. There are historical and scientific precedents for the usefulness and potential of alternative therapies in contemporary clinical neurology, and they have been widely employed for decades, if not millennia. For the majority of neurological disorders, the present standard of therapy consists of medications and other treatments that, for certain people, are prohibitively expensive, may not be very effective, and may have unacceptable side effects or toxicities [8-16]. Surgery is frequently costly, excessively intrusive, and not always curative. For example, it has been shown that even the most cutting-edge surgical methods for treating Parkinson's disease, such as deep brain stimulation (DBS), magnetogenetics, and sonogenetics, are typically only able to lessen the severity of motor symptoms like bradykinesia, rigidity, tremor, and medication-induced dyskinesias. Some of the cognitive symptoms of Alzheimer's disease can be treated with cholinesterase inhibitors such galantamine, rivastigmine, and donepezil, although these medications have only been demonstrated to alleviate symptoms in patients without changing the course of the disease. Furthermore, these medications frequently have harmful side effects; rivastigmine, for instance, can cause bradycardia, seizures, and Stevens-Johnson syndrome in people who are predisposed. For patients who have illnesses that are resistant to the usually recommended treatments or who appear with financial obstacles to receiving traditional care, neurologists and neurosurgeons should take complementary treatment modalities into consideration. Given their many clinical advantages and frequently positive side effect profiles, there is also a case to be made for initiating alternative therapy as soon as a patient is diagnosed. Additionally, alternative treatment plans can be customized to meet the requirements, interests, and symptoms of individual patients [17-23]. There is less chance of negative side effects or toxicities because most, if not all, are non-invasive. There is evidence that traditional medicine may not be as effective in treating some neurological conditions, particularly those associated with the pathophysiology of neuropathic pain; on the other hand, alternative therapies such as acupuncture, mind-body medicine, exercise, nutrition, and supplements have been shown to help these patients. This is particularly important for diseases like dementia, migraines, and carpel tunnel syndrome for which there is now no solution. In order to demonstrate their potential advantages for patients with a variety of neurological disorders, this thorough analysis examines seven new alternative therapy modalities in neurology and supports them with evidence-based reasoning. These therapies, which are commonly referred to by the acronym MANAGED care, include music therapy, art therapy, nature-based therapy, animal-assisted therapy, game-based therapy, essential oil therapy, and dance therapy. Non-clinical research that lacked empirical data, such as theoretical papers, editorials, commentary, and opinion pieces, were not included. Studies that concentrated on treatments unrelated to the MANAGED acronym, such as medication or surgery, were also disqualified [24-32]. The review did not include studies that addressed non-neurological illnesses or those lacked sufficient data (e.g.,

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small sample sizes or low methodological quality). Studies written in languages other than English were also disregarded unless a translation was provided. Additionally, unless full-text versions were accessible for review, we did not include abstracts, conference proceedings, or unpublished publications. These standards guarantee that our review is thorough, targeted, and grounded in excellent data about the efficacy of novel treatments for neurological conditions [33-37].

The main purpose of this manuscript is to provide a brief overview of the results of reputable scientific studies on the principles of using medications in the prevention and treatment of neurological disorders accompanied by circulatory disorders.

One of the most researched alternative therapies is music therapy, which has been used in Mesopotamia, Egypt, Greek antiquity, the Middle Ages, the Renaissance, and the Baroque periods, among other ancient civilizations. Positive impacts on neurological issues have been linked to both listening to and creating music with instruments and/or the voice. Numerous neurological disorders, such as coma, traumatic brain injury (TBI), dementia, epilepsy, and stroke, have been linked to improvements. A systematic review by Zaatar et al. found that music therapy activates a wide and interconnected network of distinct brain areas related to sensory, cognitive, affective, and motor activities. Listening to music activates the auditory cortex, especially the superior temporal gyrus, which processes sound. Music stimulates executive functions like working memory, planning, and attention, all of which depend on the prefrontal cortex. Music has a significant impact on the hippocampus, which is crucial for memory development and retrieval, particularly when it comes to invoking autobiographical memories. This effect is advantageous in diseases like dementia and Alzheimer's disease [1-6]. The amygdala has a role in emotional reactions to music, and enjoyable musical experiences activate the nucleus accumbens, a component of the brain's reward system that releases dopamine. Additionally, music activates the cerebellum and motor cortex, both of which are essential for rhythm processing and movement coordination. This is especially important in motor rehabilitation environments like stroke recovery. Additionally, when listening to music, the default mode network (DMN), which consists of regions including the angular gyrus, posterior cingulate cortex, and medial prefrontal cortex, synchronizes, promoting self-reflection, creativity, and emotional control. When listening to emotionally charged music, the insula, which is engaged in emotional awareness and empathy, is also active. Together, these results demonstrate how music therapy is a potent tool for improving cognitive, affective, and motor abilities since it engages a variety of brain regions. Future studies should look at the ways that music affects particular brain regions and circuits in neurological conditions, as well as the use of multicenter trials to show how effective music therapy is. This type of inquiry may lead to important discoveries and improve therapy strategies in this area [7-15].

Like MT, art therapy is another widely available psychological and physical therapy with well-established therapeutic benefits. Due to its multimodal integration of capabilities such as visuospatial processing, abstraction ability, memory, sensorimotor activity, and hand-eye coordination, art therapy has the potential to repair a wide spectrum of neurologic disorders. Patients with dementia, stroke, epilepsy, and Alzheimer's disease benefit most from art therapy. There is a great chance to use art therapy in the treatment of dementia patients since it can offer significant advantages in situations where medication is insufficient. The effectiveness of various forms of art therapy for dementia patients, their corresponding clinical effects, and the processes underlying their success were all investigated in a study by Windle et al. They discovered that both the dynamic production of art and the aesthetic sensations of viewing art

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were beneficial in the treatment of dementia patients. The feelings and therapeutic catharsis that come with making and seeing art are referred to here as an aesthetic experience [17-24]. In particular, they discovered that certain types of art therapy were linked to enhancements in social connectedness, cognitive functions including recollection, and psychological well-being. Art therapy has been shown to be successful in lessening the intensity of anxiety and traumatic stress disorders in immigrant communities since many types of art transcend language boundaries. Patients with Parkinson's disease can also benefit from art therapy. Following art therapy, improvements are observed in motor and visuospatial processing, cognition, mood, motivation, self-image, self-efficacy, interpersonal functioning, creativity, and general level of functioning. Notably, there are neither universally applicable neuroaesthetic principles nor a conventional set of therapeutic exercises for art therapy interventions. Given this, it may be beneficial for art therapists and other medical practitioners to consider and establish a standard set of art therapeutic principles and activities that should be part of the art therapeutic protocol based on current scientific evidence regarding efficacy [26-33].

Since the 19th century, animal companionship has been utilized as an adjuvant to medical therapy. The use of animals in therapeutic and clinical settings has not received much attention in the past. However, due to growing research interest, especially in the field of mental health, animal-assisted therapy (AAT) has gained greater recognition in recent years as a scientifically viable kind of therapy. Because of this, hospitals, care facilities, and other establishments all around the world have integrated AAT into their regular programming, particularly in settings for the treatment of young patients. Charry-Sánchez et al.'s review assessed and verified the beneficial impact of animal therapy on a range of neurological disorders [5-14]. The employment of service dogs significantly reduced the symptoms of post-traumatic stress disorder (PTSD) in another cross-sectional research of 141 active and retired U.S. military personnel. Additionally, AAT shows great potential in the treatment of dementia sufferers. Initiating controlled social engagement with trained service animals has been shown to significantly reduce patient agitation and caregiver stress, according to a large body of research. Increased nutritional intake, reduced anxiety, and increased autonomy, social integration, strength, and balance were seen in dementia patients who engaged with fish, dogs, and donkeys. Therefore, AAT is useful in lowering parental anxiety about their children, even though the findings in pediatric cancer patients are equivocal. This implies that AAT may play a general function in helping caretakers of patients with long-term illnesses. The use of AAT to alleviate chronic pain is a new area of research in pediatric AAT. The treatment of juvenile chronic pain with AAT appears to be successful, according to preliminary research evaluated by Locher et al. However, this association needs more investigation and clarification [33-40].

Anyone who is physically capable of doing dance can use it as a therapeutic modality. Specifically, people with dementia and Parkinsonian syndromes/movement abnormalities have shown many advantages while using dance movement therapy (DMT). Hokkanen et al. selected 29 dementia patients at random from a nursing home: 14 had Alzheimer's disease, 8 had vascular dementia, and the remaining patients had unidentified/idiopathic dementia. The patients were divided into two study groups at random: a control group that did not receive DMT and an experimental group that did. Other factors, such age and drugs, were taken into account by the researchers. First, a clock drawing exam and a word list delayed recall task were used to assess both groups' visuospatial abilities. Additionally, the instrumental activities of daily living (IADLs) subscale was used to grade them. Both groups underwent additional testing after the experimental group received therapeutic intervention [7-14]. The DMT-treated group fared better than the control group in both visuospatial ability and IADLs grade, but there

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was no discernible change in memory tests. In all three experiments, the control group's performance either stayed the same or declined. Additionally, DMT helps people with Parkinsonian symptoms improve their mood, mobility, balance, and motor function. Additionally, individuals treated with DMT exhibit good adherence to their recommended treatment regimens because of its accessibility and beneficial connections with mood. Clinicians are urged to investigate DMT as a therapy option when examining patients, particularly those with neurological motor problems, given its many advantages. For patients with a variety of neurological disorders, hiring licensed dance movement therapists can be a great, affordable treatment choice [25-34].

Discussion. Patients are increasingly using non-pharmacological and alternative therapies to control their symptoms and enhance their quality of life due to the limitations of pharmaceutical and surgical interventions for neurological disorders including Parkinson's and Alzheimer's disease. This change emphasizes how urgently accessible, efficient, and reasonably priced therapies are needed. A variety of alternative and customized therapies, such as game therapy, animal-assisted therapy, dance therapy, art therapy, music therapy, aroma therapy, and shinrin-yoku therapy, are examined in this review of the literature. These techniques have shown encouraging outcomes in reducing symptoms and improving wellbeing in people with neurological conditions. Additionally, these therapies provide a comprehensive strategy that enhances conventional medical interventions, highlighting the significance of incorporating several therapeutic methods [6-11]. The psychological effects of cardiovascular medications are discussed in this chapter. There are two different facets to this interesting topic. An unintended side effect of a cardiovascular treatment, such as depression brought on by an antihypertensive medication, can be anticipated and prevented by utilizing the right medication. When molecules act on the adrenergic transmission, these outcomes occur more frequently. Nevertheless, this feature does not fully capture the psychological impacts of cardiovascular therapies. Cardiovascular and psychiatric disorders are often closely related, and certain psychiatric symptoms brought on by cardiovascular events (such as anxiety related to atrial fibrillation) may be alleviated by taking the right cardiovascular and, after careful evaluation, psychiatric medications together. Lastly, some mental illnesses may benefit from cardiovascular medications that are specifically designed to address the mental symptoms (e.g., beta-blockers in post-traumatic stress disorder) [15-21]. These effects are not unexpected because many cardiovascular medications do identify targets that are found in both the brain and the cardiovascular system. Additionally, a number of cardiovascular medications may reach targets in the central nervous system (CNS) by passing across the blood-brain barrier. Lastly, it should be emphasized that a number of cardiovascular treatments are lifelong, which makes it more crucial to fully comprehend the range of pharmacological actions of the medications prescribed and to recognize that the patient's sensitivity to the CNS effects of the chosen therapy may alter as they age. For general topics, the chapter cites well-established literature; for practical applications, it cites recent works. Their potential in contemporary clinical practice is still unrealized despite their historical origins in non-clinical contexts. The results point to the need for more research, especially large-scale cohort studies, to confirm the effectiveness of these tailored treatments and promote their broad use. The investigation of alternative medicines offers a compelling way to improve patient care while concurrently addressing financial issues within the healthcare system in a time of rising healthcare expenses [25-32].

Conclusion. The preliminary evidence is strong, even though some of the alternative therapies presented may require larger research to completely prove the link between their implementation and clinical benefits. Some of the results from research on the effectiveness of

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various alternative treatments are compiled in Table 1. Alternative therapies offer affordable, mostly non-invasive ways to lessen the severity of many neurological diseases in the current healthcare environment, where pharmacotherapies are becoming more and more expensive due to widespread tolerance and harmful side effects. All of these treatments, if nothing else, are linked to increases in patients' quality of life, which is equally vital to human health as other traditional characteristics of health.

Given the limitations of medication and surgery in treating and curing numerous neurological and neurodegenerative disorders, this is especially pertinent. These treatments will become even more accurate and effective in their scope as we learn more about brain plasticity and how these treatments impact it in specific patients. In order to further evaluate the long-term effectiveness and mechanisms of these therapies, future research should give priority to large-scale, randomized controlled trials. Additionally, clinical practice should start incorporating proven alternative therapies into multidisciplinary care models, particularly for patients with neurological diseases that are chronic or resistant to therapy. The safe and efficient use of these treatments can be further improved by establishing uniform standards and providing healthcare professionals with training. Alternative therapies have the potential to revolutionize neurological care in the future with a cooperative, evidence-based approach.

References.

1. Kelly MA. Neurological complications of cardiovascular drugs. Handb Clin Neurol. 2021;177:319-344. doi: 10.1016/B978-0-12-819814-8.00020-2. PMID: 33632450.
2. Govoni, S. (2020). Psychiatric and Neurological Effects of Cardiovascular Drugs. In: Govoni, S., Politi, P., Vanoli, E. (eds) Brain and Heart Dynamics. Springer, Cham. https://doi.org/10.1007/978-3-319-90305-7_46-1
3. Hou, K., Wu, ZX., Chen, XY. et al. Microbiota in health and diseases. Sig Transduct Target Ther 7, 135 (2022). https://doi.org/10.1038/s41392-022-00974-4
4. Aripov A.N., Aripov O.A., Akhundjanova L.L., Nabiev A.U., Nabieva D.A., & Khamroev T.T. (2022). Study the effect of yantacin on some indicators of cellular renewal and on the level of protein expression on rat hepatocytes in chronic heliotrine liver damage. International Journal of Medical Sciences And Clinical Research, 2(05), 06–13. https://doi.org/10.37547/ijmscr/Volume02Issue05-02.
5. Chojnacki, C.; Konrad, P.; Błońska, A.; Medrek-Socha, M.; Przybylowska-Sygut, K.; Chojnacki, J.; Poplawski, T. Altered Tryptophan Metabolism on the Kynurenine Pathway in Depressive Patients with Small Intestinal Bacterial Overgrowth. Nutrients 2022, 14, 3217.
6. Aripov A. N, Akhunzhanova L. L, Nabiev A. U, Aripov A. O, Khamroev T. T.. Antifibrotic Efficacy of a New Phytocomposition of Essential Phospholipids with Glycyrrhizic Acid, Ecdysterone, Lycopene and Proanthacyanidin in Experimental Severe Chronic Hepatitis Compared with Phosphogliv. Biomed Pharmacol J 2023;16(3).Pages : 1815-1825. DOI : https://dx.doi.org/10.13005/bpj/2761
7. Socała K., Doboszewska U., Szopa A., Serefko A., Włodarczyk M., Zielińska A., Poleszak E., Fichna J., Wlaź P. The Role of Microbiota-Gut-Brain Axis in Neuropsychiatric and Neurological Disorders. Pharmacol. Res. 2021;172:105840. doi: 10.1016/j.phrs.2021.105840.
8. Aripov A.N, Akhunjanova L.L, Khamroev T.T, Aripov Abdumalik Nigmatovich, Akhunjanova Lola Lazizovna, & Khamroev Tolmas Tolibovich. (2022). Differential Analysis of Chronic Toxic Hepatitis Caused by The Introduction of Heliotrin Solution

ISSN: 2692-515-x, Impact Factor: 9.23
American Academic publishers, volume 6, issue 04,2026
Journal: https://www.academicpublishers.org/journals/index.php/ijai

in Various Ways. Texas Journal of Medical Science, 4, 58–62. Retrieved from https://zienjournals.com/index.php/tjms/article/view/670

9. Rashidov S.Z., Rakhimboev S.D., Sanoev Z.I., Abdinazarov I.T., Khamroev T.T., Ismailova D.S., & Elmuradov B.J.. (2022). Study of psychoactive activity potassium salt 5-(o-aminophenyl)-1,3,4- oxadiazole-2-thion (D-361). International Journal of Medical Sciences And Clinical Research, 2(09), 1–5. https://doi.org/10.37547/ijmscr/Volume02Issue09-01
10. Góralczyk-Bińkowska, A.; Szmajda-Krygier, D.; Kozłowska, E. The Microbiota–Gut–Brain Axis in Psychiatric Disorders. Int. J. Mol. Sci. 2022, 23, 11245.
11. Heiss C.N., Olofsson L.E. The Role of the Gut Microbiota in Development, Function and Disorders of the Central Nervous System and the Enteric Nervous System. J. Neuroendocrinol. 2019;31:e12684. doi: 10.1111/jne.12684.
12. Арипов А.Н., Арипов О.А., Ахунджанова Л.Л., Набиев А.Ў., Нишанбаев С.З., Набиева Д.А., Ҳамроев Т.Т. Тажриба шароитида сафорофлавонолозиднинг гепатотроп фаоллигини ўрганиш. Oriental Journal of Medicine and Pharmacology, 2(02), 55–64. https://doi.org/10.37547/supsci-ojmp-02-02-07
13. Angst D., Gessier F., Janser P., Vulpetti A., Wälchli R., Beerli C., et al. Discovery of LOU064 (Remibrutinib), a potent and highly selective covalent inhibitor of Bruton's Tyrosine Kinase. J. Med. Chem. 2020;63(10):5102–5118. doi: 10.1021/acs.jmedchem.9b01916.
14. Zakhidova L.T., Saidkhodjaeva D.M., Sanoev Z.I., Tukhtasheva V.F., Rakhmanova H.A.., Hamroyev T.T. Toxicological Characteristics Of N-Deacetyllappaconitine Under Chronic Administration In White Rats. The American Journal of Applied Sciences, 3(03), 34-41. https://doi.org/10.37547/tajas/Volume03Issue03-06
15. Guerra E., Garcia-Sanchez Y., Jornet-Gibert M., Nuñez J., Balaguer-Castro M., Madden K. Clinical practice guidelines: The good, the bad, and the ugly. Injury. 2022;54((Suppl. S3)):S26–S29. doi: 10.1016/j.injury.2022.01.047.
16. Khamroev T.T., Sanoev Z.I., Rakhimboev S.D., Abdinazarov I.T., Rashidov S.Z. Effect of antiarrhythmic substance N – dezacetyllapoconitin on the central nervous system. ISJ Theoretical &Applied Science, 07 (99), 153-157. http://soi.org/1.1/TAS-07-99-31 Doi:https://dx.doi.org/10.15863
17. Asahina Y., Wurtz N.R., Arakawa K., Carson N., Fujii K., Fukuchi K., et al. Discovery of BMS-986235/LAR-1219: a potent formyl peptide receptor 2 (FPR2) selective agonist for the prevention of heart failure. J. Med. Chem. 2020;63(17):9003–9019. doi: 10.1021/acs.jmedchem.9b02101.
18. Sanoev Z.I., Abdinazarov I.T., Rakhimboev S.D., Rashidov S.Z., Hamroyev T.T. Study Of The General Pharmacological Properties Of A New Antiarrhythmic N-Deacetyllappaconitine With Oral Administration. The American Journal of Medical Sciences and Pharmaceutical Research, 3(03), 60-64. https://doi.org/10.37547/TAJMSPR/Volume03Issue03-08
19. Patton E.E., Zon L.I., Langenau D.M. Zebrafish disease models in drug discovery: From preclinical modelling to clinical trials. Nat. Rev. Drug Discov. 2021;20:611–628. doi: 10.1038/s41573-021-00210-8.
20. Sanoev Z. I, Ismailova D. S, Rakhimboev S. D. O, Khamroev T, T, Elmuradov B. Z, Abdinazarov I. T, Rashidov S. Z. O. Synthesis and Research Anticonvulsant Activity of Annulated Triazolo-Thiadiazine Derivative in Laboratory Animals. Biomed Pharmacol J 2023;16(4). DOI : https://dx.doi.org/10.13005/bpj/2820

ISSN: 2692-515-x, Impact Factor: 9.23
American Academic publishers, volume 6, issue 04,2026
Journal: https://www.academicpublishers.org/journals/index.php/ijai

21. Stokes, J.M.; Yang, K.; Swanson, K.; Jin, W.; Cubillos-Ruiz, A.; Donghia, N.M.; MacNair, C.R.; French, S.; Carfrae, L.A.; Bloom-Ackermann, Z. A deep learning approach to antibiotic discovery. Cell 2020, 180, 688–702.e613.
22. Sanoev, Z.I., Djaxangirov, F.N., Sadikov, A.Z., Sagdullaev, S.S. Hamroyev T.T. Antiarrhythmic activity of N-deacetyllappaconitine when administered orally. Annals of the Romanian Society for Cell Biology,2021,25(2), 2339–2346. https://doi.org/10.37547/tajas/Volume03Issue03-06
23. Thafar, M.A.; Alshahrani, M.; Albaradei, S.; Gojobori, T.; Essack, M.; Gao, X. Affinity2Vec: Drug-target binding affinity prediction through representation learning, graph mining, and machine learning. Sci. Rep. 2022, 12, 4751.
24. Sokhib Rashidov Zamon o‘g‘li, Muslimakhon Kamolova Mirzokhidjon qizi, Ikhvoliddin Mirzaev Komiljon o‘g‘li, Nodira Pardaeva Botir qizi, Sevara Rakhmatullaeva Shukhrat qizi/. (2025). The importance of cardiotonic drugs in medical practice, the range of applications and the advantages of their use. International Journal of Cognitive Neuroscience and Psychology, 3(5), 95–100. Retrieved from https://medicaljournals.eu/index.php/IJCNP/article/view/1856
25. Frileux, S.; Boltri, M.; Doré, J.; Leboyer, M.; Roux, P. Cognition and Gut Microbiota in Schizophrenia Spectrum and Mood Disorders: A Systematic Review. Neurosci. Biobehav. Rev. 2024, 162, 105722.
26. Sanoev Zafar Isomiddinovich, Rashidov Sokhib Zamon ugli, Raximboev Sukhrob Davlatyor ugli, Abdinazarov Ibrokhim Tuychievich, Khamroev Tolmas Tolibovich, Ismailova Dilnoza Safaralievna, & Elmuradov Burkhon Juraevich. (2022). Research of Anticonvulsant Activity of Compound 5- (P-Aminophenyl) - 1,3,4-Oxadiazole-2-Thion. Texas Journal of Medical Science, 13, 17–21. Retrieved from https://zienjournals.com/index.php/tjms/article/view/2434
27. Yu. R. Mirzaev, T. T. Khamroev, E. M. Ruzimov, B. N. Khandamov, & Sh. M. Adizov. (2022). Evaluation of the Effect on the Nervous System of Substances with an Alkaloid Structure Having Antitumor Activity. Journal Healthcare Treatment Development(JHTD) ISSN : 2799-1148, 2(06), 6–10. Retrieved from http://journal.hmjournals.com/index.php/JHTD/article/view/1577
28. Kong Y.K., Song K.-S., Jung M.E., Kang M., Kim H.J., Kim M.J. Discovery of GCC5694A: A potent and selective sodium glucose co-transporter 2 inhibitor for the treatment of type 2 diabetes. Bioorg. Med. Chem. Lett. 2022;56 doi: 10.1016/j.bmcl.2021.128466.
29. Aripov A.N., Aripov O.A., Akhunjanova L.L., Nabiev A.O., Nabieva D.A., & Khamroev T.T. (2022). Study the antifibrous efficacy of plant proanthocyanidin in rats with chronic heliotrine liver damage. Frontline Medical Sciences and Pharmaceutical Journal, 2(05), 16–25. https://doi.org/10.37547/medical-fmspj-02-05-03.
30. Sokhib Rashidov Zamon o‘g‘li, Nilufar Ergasheva Ag’zamjon qizi, Elyor Zokirboyev Anvarjon o‘gli, Umidjon Akramov Abdusamad o‘g‘li, & Aziza Egamberdieva Farkhod qizi. (2025). Drugs That Increase the Tone of the Human Body and Pharmacological Characteristics of Immunodeficiency Agents. American Journal of Biomedicine and Pharmacy, 2(5), 300–306. Retrieved from https://biojournals.us/index.php/AJBP/article/view/1065
31. Günther J., Hillig R.C., Zimmermann K., Kaulfuss S., Lemos C., Nguyen D., et al. BAY-069, a Novel (Trifluoromethyl) pyrimidinedione-Based BCAT1/2 Inhibitor and

ISSN: 2692-515-x, Impact Factor: 9.23
American Academic publishers, volume 6, issue 04,2026
Journal: https://www.academicpublishers.org/journals/index.php/ijai

Chemical Probe. J. Med. Chem. 2022;65(21):14366–14390. doi: 10.1021/acs.jmedchem.2c00441.

32. Sokhib Rashidov Zamon o‘g‘li, Murodjon Nabiev Mahammadkarim o‘g‘li, Mo'tabar Yoqubjonova Khusanboy qizi, Shakhzodakhon Bekmurodova Po‘latjon qizi, & Jumanazar To‘ychiev Saidqul o‘g‘li. (2025). Comparative Analysis of Drugs Used for Anemia and Drugs Storing Iron. Research Journal of Trauma and Disability Studies, 4(5), 190–195. Retrieved from https://journals.academiczone.net/index.php/rjtds/article/view/5141
33. Rosa J.G.S., Lima C., Lopes-Ferreira M. Zebrafish larvae behavior models as a tool for drug screenings and pre-clinical trials: A review. Int. J. Mol. Sci. 2022;23:6647. doi: 10.3390/ijms23126647.
34. Sokhib Rashidov Zamon o‘g‘li, Shakhzoda Abduraimova Abdusattor qizi, Nigora Yusufjonova Mirrakhim qizi, Diyora Turdibekova Erkinjon qizi, & Makhsuma Dovutkho’jayeva Maqsudjonovna. (2025). Classification, Indications for Use, Range of Applications and Disadvantages of Medicines against Nematodes and Leishmania. Research Journal of Trauma and Disability Studies, 4(5), 196–201. Retrieved from https://journals.academiczone.net/index.php/rjtds/article/view/5142
35. Sokhib Rashidov Zamon o‘g‘li, Nigora Yusufjonova Mirrakhim qizi, Diyora Turdibekova Erkinjon qizi, Makhsuma Dovutkho’jaeva Maqsudjonovna, Shakhzoda Abduraimova Abdusattor qizi, Analysis of the effect of medicines used in medical practice for various diseases on the fetus , european journal of modern medicine and practice: Vol. 5 No. 5 (2025) 342-347.
36. Cockerill G.S., Angell R.M., Bedernjak A., Chuckowree I., Fraser I., Gascon-Simorte J., et al. Discovery of sisunatovir (RV521), an inhibitor of respiratory syncytial virus fusion. J. Med. Chem. 2021;64(7):3658–3676. doi: 10.1021/acs.jmedchem.0c01882.
37. Sokhib Rashidov Zamon o‘g‘li, Elyor Zokirboev Anvarjon ògli, Umidjon Akramov Abdusamad o‘g‘li, Aziza Egamberdiyeva Farkhod qizi, Munisa Qo‘shbekova Ro‘zimbek qizi. (2025). Analysis of general and specific pharmacological properties of fat-soluble vitamins. International Journal of Cognitive Neuroscience and Psychology, 3(5), 101–106. Retrieved from https://medicaljournals.eu/index.php/IJCNP/article/view/1857
38. Yang H, Wang A, Yang J, Luo R and Yang Y (2025) Alterations in gut microbiota composition in neurodevelopmental disorders: a systematic review and meta-analysis. Front. Microbiol. 16:1650212. doi: 10.3389/fmicb.2025.1650212
39. Mingming You, Nan Chen, Yuanyuan Yang, Lingjun Cheng, Hongzhang He, Yanhua Cai, Yating Liu, Haiyue Liu, Guolin Hong. The gut microbiota–brain axis in neurological disorders. MedCommVolume 5, Issue 8 e656. https://doi.org/10.1002/mco2.656
40. Lee AW-C, Hirani R, Ogulnick J, Tiwari RK, Etienne M. Emerging Therapies for Neurological Disorders: A Clinical Review of MANAGED (Music, Art, Nature-Based, Animal-Assisted, Game, Essential Oil, Dance) Care. NeuroSci. 2025; 6(2):51. https://doi.org/10.3390/neurosci6020051