IJACT, Volume 3, Issue 2, 2025 ISSN: 2995-5378
http://medicaljournals.eu/index.php/IJACT

INTERNATIONAL JOURNAL OF ALTERNATIVE AND CONTEMPORARY THERAPY

The Use of Sleeping Pills in Medicine and the Relevance of Their Improvement

Rashidov Sokhib Zamon o'g'li, Guliza Toshpulatova Oybek qizi, Shokhsanam Sultonaliyeva Makhmudjon qizi, Dilnoza Akhmadova Sherzod qizi, Shirinjon Masharipova Bakhtiyor qizi

Tashkent medical academy

Abstract: Although there is evidence to support the effectiveness of pharmaceuticals in treating chronic insomnia, there is continuous discussion on how long these drugs should be used. A clinical evaluation of the use of insomnia drugs in relation to the data bolstering the focal statement, "No insomnia medication should be used on a daily basis for durations longer than 3 weeks at a time," was carried out by a panel of sleep specialists. The panelists' evaluation was also contrasted with results from a nationwide survey of psychiatrists, sleep specialists, and practicing doctors. Regarding the suitability of utilizing US Food and Drug Administration (FDA)-approved drugs to treat insomnia that lasts longer than three weeks, survey participants expressed a wide variety of viewpoints. Following a review of the literature, the panel came to the unanimous conclusion that some classes of insomnia drugs, including hypnotics and non-benzodiazepines, have been proven to be safe and effective for long-term use in the right therapeutic setting. The FDA label for doxepin, ramelteon, eszopiclone, and the more recent class of dual orexin receptor antagonists does not state that their use should be restricted. Practice recommendations for the duration of pharmacologic treatment of chronic insomnia should therefore take into account an assessment of the data demonstrating the long-term safety and effectiveness of more recent non-benzodiazepine hypnotics.

Keywords: Insomnia drugs, non-benzodiazepine hypnotics, GABA-A modulators, long-term use, clinical evaluation, and safety.

Introduction. 15–30% of the general population suffers from insomnia, making it one of the most prevalent medical illnesses in the globe. In addition to the symptoms of trouble falling asleep, keeping asleep, and/or waking up earlier than desired at least three times per week, the clinical diagnostic criteria for insomnia disorder also include the resulting functional deficits during the day. The majority of insomnia patients who come in for therapy have had sleep disturbances for at least three months, making them eligible for treatment for chronic insomnia disorder. Compared to men, women are more likely to suffer from insomnia, and its incidence rises with age. Additionally, there is a reciprocal relationship between mood disorders and insomnia, since depression has been demonstrated to predict the persistence of insomnia [1,2,3,4]. Pharmacologic therapy is frequently employed in the management plan for insomnia, even if cognitive behavioral therapy for insomnia (CBT-I) is advised as the initial treatment. The effectiveness of several licensed pharmaceutical therapies, including several different drug classes, including benzodiazepines (BZD) and non-benzodiazepines (non-BZD), is supported by data from numerous randomized controlled trials. Histamine antagonists, melatonin receptor agonists, dual orexin receptor antagonists (DORAs), and GABA-A modulators. When choosing pharmacologic agents for insomnia, guidelines suggest a shared decision-making model that weighs the risks and benefits of particular medication classes and duration of use while taking into account the types of symptoms reported by the patient (difficulty falling asleep, staying asleep, early morning awakening), medical and psychiatric co-morbidities, concurrent pharmacotherapy, and symptom duration [5,6,7]. For instance, BZDs have been linked to the possibility of abuse and dependence, as well as the danger of falls and cognitive impairment. Because older persons are more likely to experience these negative side effects, it is not advised that they use BZDs, especially for an

Copyright © 2025 The Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0), which permits unrestricted use, distribution, and reproduction in any medium provided the original work is properly cited.

extended period of time. Since there is not enough data to properly balance the advantages and disadvantages of long-term pharmacologic treatments for chronic insomnia, the ACP Clinical Practice Guideline on the Management of Chronic Insomnia Disorder in Adults recommends that medication use be restricted to 4-5 weeks. The World Sleep Society supported the European Guidelines for the Diagnosis and Treatment of Insomnia, which also acknowledged this viewpoint [8,9,10,11]. However, the American Academy of Sleep Medicine Clinical Practice Guideline for the Pharmacologic Treatment of Chronic Insomnia in Adults does not include recommendations for duration of use, and studies have looked at the long-term (3 months or longer) safety and efficacy of various insomnia medications (e.g., doxepin, eszopiclone, ramelteon, lemborexant, suvorexant, and daridorexant). A clinical evaluation of the long-term use of insomnia medications is appropriate given the significant ongoing discussion about the proper length of treatment, the availability of long-term efficacy and safety data of the more recent classes of medications, and the fact that insomnia is frequently chronic, lasting months to even years. Examining the data supporting the focal statement, "No insomnia medication should be used on a daily basis for durations longer than 3 weeks at a time," was the aim of this appraisal. Three components made up the appraisal: a national survey to find out how medical professionals felt about long-term use of insomnia drugs; a review of recent clinical and preclinical research on the safety profile of these drugs; and a meeting of an expert panel on insomnia to evaluate the evidence, determine implications for practice, and determine future needs. The literature review evaluated the available short- and long-term data, safety profiles, and the evidence pertaining to the class and mechanism of action of the insomnia medicine [12-21].

This manuscript's primary aim. Furthermore, we contend that how users interact with hypnotics in their daily lives is a crucial but little-studied aspect of comprehending the dynamics of pharmaceuticalization in a time when people are actively managing their own health and illness through the use of medications, whether they are related to sleep or not.

Drug Types for Sleep Disorder Treatment. Some of the medication types used to treat sleep disturbances are listed below. For your specific sleep issues, your doctor can recommend the right prescription. Dopamine agonists known as anti-Parkinsonian medications, such as gabapentin enacarbil (Horizant), pramipexole (Mirapex), ropinirole (Requip), and rotigotine (Neupro), can be used to treat periodic limb movement disorder (also known as nocturnal myoclonus syndrome) and restless legs syndrome. Alprazolam (Xanax), clonazepam (Klonopin), diazepam (Diastat, Valium), estazolam (Prosom), orazepam (Ativan), and temazepam (Restoril) are a few examples of benzodiazepines, which belong to a class of medications known as hypnotics. Parasomnias may be treated with these medications. They are also occasionally used to treat short-term insomnia and bruxism, or teeth grinding [22-26]. Short-term insomnia is treated with non-benzodiazepine hypnotics, such as zolpidem (Ambien), zaleplon (Sonata), and eszopiclone (Lunesta).

Ramelteon (Rozerem), a melatonin receptor activator, was authorized in 2005 and is currently a class apart. Insomnia is treated with it. Anticonvulsants include gabapentin enacarbil (Horizant), carbamazepine (Epitol, Tegretol-Carbatrol), valproate (Depakene, Depakote, Depakon), and pregabalin (Lyrica). Periodic limb movement disorder, nocturnal eating syndrome, restless legs syndrome, and bipolar illness-related insomnia can all be treated with these medications. Antinarcoleptic medications, such as modafinil (Provigil) and methylphenidate (Ritalin), can help those with narcolepsy or sleep apnea, as well as shift workers, be more awake throughout the day. Other medications that can help include pitolisant (Wakix) and sodium oxybate (Xyrem, Xywav) [27-32].

How do sleeping drugs function? The way that each kind of sleeping drug functions varies. While some sleep aids make you drowsy, others block the part of your brain responsible for alertness. Antihistamines are found in most over-the-counter sleeping medications. Antihistamines function by preventing your body from producing histamines, which are chemicals that make you alert. Doxylamine and diphenhydramine are frequently found in antihistamines. The sort of supplement determines how natural sleep aids function. Because it can affect when you go to sleep and wake up, the hormone melatonin encourages slumber. Your nervous system is naturally calmed by Valerian,

Copyright © 2025 The Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0), which permits unrestricted use, distribution, and reproduction in any medium

provided the original work is properly cited.

which also helps you get a better night's sleep. The mechanisms of action of prescription sleep aids vary. For example, benzodiazepines function by activating a substance in your brain called [18-24].

What adverse effects might sleeping medications cause in the long run? Your body may get dependent on sleeping pills if you take them consistently. Your insomnia can worsen when you stop using the medication. We refer to this effect as rebound insomnia. Consult your healthcare professional about how to properly cease using sleep aids if you've been using them for a long period. Stopping the medicines could take months. Additionally, you shouldn't combine alcohol or other sedatives with sleep aids. The risk of overdose exists [25-31]. Certain prescribed sleep aids have the potential to cause parasomnia. When you're mostly asleep, this disruptive sleep condition may cause you to engage in risky actions. Z-drug users may eat, converse, sleepwalk, take medications, or even operate a motor vehicle without realizing it. Your brain isn't completely awake, even though you might seem to be. After they wake up, the majority of people don't recall doing these things. Additionally, sedatives can exacerbate potentially fatal conditions including sleep apnea and snoring [31-38].

Which sleeping medicine is the safest for older adults? There may be safer ways to enhance sleep for people 65 and older, therefore nondrug treatments should usually be tried first. Older folks are particularly at danger from sleeping medicines. The medications may have adverse effects such as confusion, memory loss, and balance problems that can prolong their duration in your body and raise your risk of hip fractures and falls. Consult a healthcare professional if your quality of life is being negatively impacted by sleep problems and no other solutions have worked. They could advise attempting an over-the-counter sleep aid such as Tylenol PM®, Advil PM®, or Benadryl Allergy®. For a brief period, take them at a modest dose, and report any negative effects to your clinician [31,33,34,36].

Cleveland Clinic's note. You shouldn't spend your nights tossing and turning or staring at the clock. Still, before using an over-the-counter sleep aid, you should see a healthcare professional. For better sleep, non-pharmacological therapies and behavioral adjustments are frequently sufficient. However, in certain situations, a healthcare professional could suggest a prescription sleeping drug. They can identify the root cause of your insomnia and recommend the best course of action to improve your quality of sleep. In summary, poor skeletal muscle mass and physical performance, including walking speed, hand grip strength, and number of squats, were associated with both sleep issues and sleeping medication use in older adults living in the community. According to the results of our study, health practitioners who are screening older adults who are at high risk of having low muscle mass and physical performance may find it helpful to know that these individuals have sleep issues and use sleeping tablets [1-1].

Materials and Methods

The methodology of this study involved a comprehensive evaluation of the use of sleeping pills in medical practice, focusing on their effectiveness, safety, and the need for improvements. A systematic literature review was conducted, incorporating clinical trials, meta-analyses, and expert panel assessments on the long-term use of insomnia medications. The study aimed to assess the validity of the widely accepted recommendation that insomnia medications should not be used daily for longer than three weeks. Data were gathered from surveys conducted among psychiatrists, sleep specialists, and general practitioners to analyze their perspectives on prescribing practices, treatment durations, and the perceived risks of long-term use. Additionally, clinical guidelines from institutions such as the FDA and the American Academy of Sleep Medicine were reviewed to determine the regulatory stance on the extended use of hypnotics. The study examined different classes of sleep medications, including benzodiazepines, non-benzodiazepine hypnotics, melatonin receptor agonists, and dual orexin receptor antagonists, evaluating their efficacy, adverse effects, and patient adherence. Special emphasis was placed on identifying the risks associated with prolonged medication use, such as dependence, cognitive impairment, and rebound insomnia. The study also explored alternative treatment strategies, including cognitive behavioral therapy for insomnia (CBT-I), highlighting its effectiveness compared to pharmacological treatments. Findings were synthesized to provide recommendations for optimizing

Copyright © 2025 The Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0), which permits unrestricted use, distribution, and reproduction in any medium

provided the original work is properly cited.

sleep medication use while minimizing adverse effects, contributing to a balanced approach in treating chronic insomnia through pharmacological and non-pharmacological interventions. The research aimed to inform clinical practice by integrating expert opinions, patient adherence data, and safety profiles of sleep medications.

Results and Discussion. Insomnia is a prevalent chronic illness in clinical practice that has detrimental long-term effects on productivity, safety, and health. Pharmacologic therapy is essential in treating persistent insomnia, even if cognitive behavioral therapy is advised as a first-line treatment. The practical conundrum that clinicians face is that, despite the fact that insomnia is frequently chronic, there is a widespread belief that, as advised by the American College of Psychologists, drugs for insomnia should only be used for a brief period of time—four to five weeks. Therefore, the goal of this clinical appraisal exercise was to gather the opinions of a panel of insomnia specialists who reviewed the pertinent research literature and evaluate the quality of the evidence underlying the beliefs and practices of prescribing healthcare professionals (HCPs) in the field [1-7]. The crucial warning that "no insomnia medication should be used on a daily basis for durations longer than 3 weeks at a time" is included in the appraisal's focus statement. The 3-week duration was selected because the 1983 NIH Consensus Development Conference on Drugs and Insomnia: The Use of Medications to Promote Sleep advised using insomnia medications for a treatment period typically of no more than 3 weeks, even though practitioners are not entirely in agreement about how long it is safe to use these medications. This was a very important text that still has an impact on clinical practice [8-12]. Current clinical guidelines, however, advise against using sleep aids for an extended period of time. In practice, health care professionals occasionally run into patients who are reluctant to stop using a medicine that is beneficial and isn't known to have serious negative effects. The conclusion that there is not enough data to balance the advantages and disadvantages of long-term use of pharmacologic therapy for chronic insomnia serves as the main justification for the short-term usage advice. The absence of long-term data from safety and efficacy research, as well as well-controlled investigations on the negative effects or harm of long-term therapy of the older class of BZD hypnotics, are partly to blame for this [1,11,18,21,24]. Additionally, BZD hypnotics have been linked to a higher risk of negative side effects, including impairment of balance, cognitive function, and psychomotor function, which is concerning for older persons. Since most of these trials lacked a control group and results could be influenced by indication, it is crucial to remember that causality cannot be established. Nonetheless, non-BZD, antihistamine, melatonin agonist, and DORA hypnotic drugs have shown long-term efficacy and safety in long-term (6-month or more) placebo-controlled trials, especially in older persons. Although recent research using the more recent MOAs (doxepin and DORAs) supports long-term efficacy and safety as well as the usage of these medications for longer than three weeks every night, FDA labeling offers no recommendations regarding [25-31].

Conclusions. There are various restrictions on this study. Its cross-sectional survey design was the first of its limitations. Second, the results may not be as broadly applicable as they may be due to the convenience sampling technique. Third, another issue was the absence of questionnaire validation. Lastly, the representativeness of the sample is severely impacted, and the results' generalizability is constrained, due to the fact that this study was carried out in a single university and the questionnaire had a low response rate. Furthermore, even though confidentiality was guaranteed, the social stigma associated with usage made it impossible to evaluate how accurate respondents' responses were. Additionally, children who report abusing sleeping pills may be exhibiting cognitive denial or distortion. Future studies should look more closely at the particular trends of sleeping medication abuse.

In conclusion, poor skeletal muscle mass and physical performance, including walking speed, hand grip strength, and number of squats, were associated with both sleep issues and sleeping medication use in community-dwelling elders. The results of our study indicated that health practitioners may find it helpful to examine older adults who are at high risk of having low muscle mass and physical performance if they have sleep issues or take sleeping drugs.

Copyright © 2025 The Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0), which permits unrestricted use, distribution, and reproduction in any medium

provided the original work is properly cited.

References.

1. Zee PC, Bertisch SM, Morin CM, Pelayo R, Watson NF, Winkelman JW, Krystal AD. Long-Term Use of Insomnia Medications: An Appraisal of the Current Clinical and Scientific Evidence. J Clin Med. 2023 Feb 17;12(4):1629. doi: 10.3390/jcm12041629.
2. Bhaskar S., Hemavathy D., Prasad S. Prevalence of chronic insomnia in adult patients and its correlation with medical comorbidities. J. Family Med. Prim. Care. 2016;5:780–784. doi: 10.4103/2249-4863.201153.
3. *Sateia M.J. International classification of sleep disorders-third edition: Highlights and modifications. Chest. 2014;146:1387–1394. doi: 10.1378/chest.14-0970.*
4. Sateia M.J., Buysse D.J., Krystal A.D., Neubauer D.N., Heald J.L. Clinical Practice Guideline for the Pharmacologic Treatment of Chronic Insomnia in Adults: An American Academy of Sleep Medicine Clinical Practice Guideline. J. Clin. Sleep Med. 2017;13:307–349. doi: 10.5664/jcsm.6470.
5. 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
6. Zimmermann M, Papa A. Causal explanations of depression and treatment credibility in adults with untreated depression: Examining attribution theory. Psychol Psychother. 2020;93:537–54.
7. 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
8. Moncrieff, J., Cooper, R.E., Stockmann, T. *et al.* The serotonin theory of depression: a systematic umbrella review of the evidence. *Mol Psychiatry* **28**, 3243–3256 (2023). https://doi.org/10.1038/s41380-022-01661-0
9. Rakhimboev S.D., Sanoev Z.I., Rashidov S.Z., Abdinazarov I.T., Khamroev T.T., Ismailova D.S., & Elmuradov B.J.. (2022). Screening Study of the Anxiolytic Activity of New Triazole Compounds. Texas Journal of Medical Science, 13, 1–4. Retrieved from https://zienjournals.com/index.php/tjms/article/view/2450
10. Noetel M, Sanders T, Gallardo-GÃ³mez D, Taylor P, del Pozo Cruz B, van den Hoek D et al. Effect of exercise for depression: systematic review and network meta-analysis of randomised controlled trials BMJ 2024; 384 :e075847 doi:10.1136/bmj-2023-075847
11. S.D. Rakhimboev, Z.I. Sanoev, T.T. Khamroev, S.Z. Rashidov, I.T. Abdinazarov, D.S. Ismailova, & B.J. Elmuradov. (2022). Screening study of neurotropic properties of new triazole derivative. Oriental Journal of Medicine and Pharmacology, 2(04), 12–20. https://doi.org/10.37547/supsci-ojmp-02-04-02
12. Machado-Vieira R, Salvadore G, Luckenbaugh DA, Manji HK, Zarate CA Jr. Rapid onset of antidepressant action: a new paradigm in the research and treatment of major depressive disorder. J Clin Psychiatry. 2008 Jun;69(6):946-58. doi: 10.4088/jcp.v69n0610.
13. Саноев З.И., Ҳамроев Т.Т., Абдиназаров И.Т., Садиков А.З., Рахимбоев С.Д., Рашидов С.З. N–дезацетиллаппаконитин (N- ДАЛ) нинг тутқаноққа қарши фаоллигини ўрганиш. Oriental

Copyright © 2025 The Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0), which permits unrestricted use, distribution, and reproduction in any medium provided the original work is properly cited.

journal of medicine and pharmacology. Pages: ISSN: 2181-2799 Year 2022 29-37 DOI: https://doi.org/10.37547/supsci-ojmp-02-02-04.

14. Recchia F, Leung CK, Chin EC, et alComparative effectiveness of exercise, antidepressants and their combination in treating non-severe depression: a systematic review and network meta-analysis of randomised controlled trialsBritish Journal of Sports Medicine 2022;56:1375-1380.
15. Sanoev Z.I., Khamroev T.T., Abdinazarov I.T., Rakhimboev S.D., Rashidov S.Z., Evaluation of Anticonvulsant Activity of Allapinine and N-Deacetylappaconitine in Experimental Animals. Journal Healthcare Treatment Development(JHTD). Volume 01 issue 02 October - November 2021. http://journal.hmjournals.com/index.php/JHTD/article/view/1378
16. Kutkat, O., Moatasim, Y., Al-Karmalawy, A.A. et al. Robust antiviral activity of commonly prescribed antidepressants against emerging coronaviruses: in vitro and in silico drug repurposing studies. Sci Rep 12, 12920 (2022). https://doi.org/10.1038/s41598-022-17082-6
17. Т.Т.Ҳамроев, Н.М.Маматқулова, П.А.Нурмахмадова, С.З.Рашидов, И.Т.Абдиназаров, С.Д.Раҳимбоев, Н.Қ.Хидирова, У.М.Якубов. (2022). Adonis turkestanica ўсимлигининг экстракция жараёнида ҳосил бўлган қолдиқ моддаларнинг ўткир заҳарлилиги ва биологик фаоллигини скрининг тадқиқотларда ўрганиш. Eurasian journal of academic research, 2(12), 447–454. https://doi.org/10.5281/zenodo.7332870
18. Alsharji, K. E. Anxiety and depression during the COVID-19 pandemic in Kuwait: the importance of physical activity. Middle East Curr. Psychiatry 27, 60 (2020).
19. da Rosa, T. F. et al. Repositioning or redirection of antidepressant drugs in the treatment of bacterial and fungal infections. Am. J. Ther. 27, e528–e532 (2020).
20. Т.Т. Ҳамроев, Н.М. Маматқулова, З.И. Саноев, С.З. Рашидов, И.Т. Абдиназаров, П.А. Нурмахмадова, Н.Қ. Хидирова, У.М. Якубов. (2022). Adonis turkestanica ўсимлигининг экстракция жараёнида ҳосил бўлган қолдиқ моддаларнинг анксиолитик фаоллигини скрининг тадқиқотларда ўрганиш. Eurasian journal of medical and natural sciences, 2(12), 146–152. https://doi.org/10.5281/zenodo.7332882
21. Papakostas GI, Nutt DJ, et al. Resolution of sleepiness and fatigue in major depressive disorder: A comparison of bupropion and the selective serotonin reuptake inhibitors. Biol Psychiatry. 2006;60(12):1350–5. doi: 10.1016/j.biopsych.2006.06.015.
22. R. S. Z. ugli, T. A. A. ugli, B. Y. I. ugli, S. K. K. qizi, & ugli , M. I. Z. (2024). Features of Anti-Inflammatory Drugs and the Relevance of Creating New Anti-Inflammatory Drugs. American Journal of Bioscience and Clinical Integrity, 1(11), 130–135. Retrieved from https://biojournals.us/index.php/AJBCI/article/view/320
23. Zarate CA, Jr, Singh J, Manji HK. Cellular plasticity cascades: targets for the development of novel therapeutics for bipolar disorder. Biol Psychiatry. 2006;59(11):1006–20. doi: 10.1016/j.biopsych.2005.10.021.
24. Albert PR, Benkelfat C, Descarries L. The neurobiology of depression—revisiting the serotonin hypothesis. I. Cellular and molecular mechanisms. Philos Trans R Soc Lond B Biol Sci. 2012;367:2378–81.
25. Zamon ugli, S. R., Yorqinzhon ugli, N. Z., Abdurazak ugli, K. M., Mirodil qizi, S. M., & Yusufzhon ugli, K. Y. (2024). Insufficient of Existing Drugs Used for Diabetes Ii Types and the Need to Improve Them. International Journal of Integrative and Modern Medicine, 2(11), 294–301. Retrieved from https://medicaljournals.eu/index.php/IJIMM/article/view/1219
26. Jakobsen JC, Gluud C, Kirsch I. Should antidepressants be used for major depressive disorder? BMJ Evidence-Based. Medicine. 2020;25:130–130.

Copyright © 2025 The Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0), which permits unrestricted use, distribution, and reproduction in any medium

provided the original work is properly cited.

27. Kennis M, Gerritsen L, van Dalen M, Williams A, Cuijpers P, Bockting C. Prospective biomarkers of major depressive disorder: a systematic review and meta-analysis. Mol Psychiatry. 2020;25:321–38.

28. Zamon ugli, S. R., Mekhriddin qizi, M. N., Zokirzhon qizi, K. S., Akmal qizi, D. R., & Sirozhiddin qizi, U. N. (2024). Important Aspects and Risk Factors for Hypertension in the Environment and Adverse Climate. International Journal of Integrative and Modern Medicine, 2(11), 302–307. Retrieved from https://medicaljournals.eu/index.php/IJIMM/article/view/1220

29. S. R. Z. ugli , , S. V. M qizi. Madiyorovna , K. A., ugli , E. A. I., & qizi, S. N. Q. (2024). In Patients with Gastroduodenal Peptic Ulcer Disease, an Analysis of the Immunological Properties of H.Pylori Infection. International Journal of Alternative and Contemporary Therapy, 2(11), 93–99. Retrieved from https://medicaljournals.eu/index.php/IJACT/article/view/1214

30. Yoon HS, Hattori K, Ogawa S, Sasayama D, Ota M, Teraishi T, et al. Relationships of cerebrospinal fluid monoamine metabolite levels with clinical variables in major depressive disorder. J Clin Psychiatry. 2017;78:e947–56.

31. S. R. Z. ugli, S. S. S. , ugli, , D. U. O. qizi, , G. N. B. qizi, & , S. A. T. qizi (2024). Modern Methods of Diagnosis of Osteoporosis, Advances in Treatment and Solutions to Existing Problems. International Journal of Alternative and Contemporary Therapy, 2(11), 100–106. Retrieved from https://medicaljournals.eu/index.php/IJACT/article/view/1215

32. Elmurod qizi, D. K., Samandarovna, S. A., Dilshod qizi, K. N., Quyli ugli, U. T., & Zamon ugli, S. R. (2024). Relevance and prospects of the search for drugs with anxiolytic activity. *International Journal of Cognitive Neuroscience and Psychology*, *2*(12), 27–33. Retrieved from https://medicaljournals.eu/index.php/IJCNP/article/view/1320

33. Bobomurod qizi, E. L., Obidzhon qizi, I. O., Dilshodzhon qizi, D. A., Akbar qizi, G. U., & Zamon ugli, S. R. (2024). The role, application and necessity of research in medical practice of drugs with psychostimulating activity. *International Journal of Cognitive Neuroscience and Psychology*, *2*(12), 20–26. Retrieved from https://medicaljournals.eu/index.php/IJCNP/article/view/1319

34. Darker C.D., Sweeney B.P., Barry J.M., Farrell M.F., Donnelly-Swift E. Psychosocial interventions for benzodiazepine harmful use, abuse or dependence. Cochrane Database Syst. Rev. 2015;5:CD009652. doi: 10.1002/14651858.CD009652.pub2.

35. Lader M. Benzodiazepines revisited—Will we ever learn? Addiction. 2011;106:2086–2109. doi: 10.1111/j.1360-0443.2011.03563.x.

36. Sutton E.L. Insomnia. Ann. Intern. Med. 2021;174:ITC33–ITC48. doi: 10.7326/AITC202103160.

37. Morin C.M., Inoue Y., Kushida C., Poyares D., Winkelman J., Guidelines Committee Members. Governing Council of the World Sleep Society Endorsement of European guideline for the diagnosis and treatment of insomnia by the World Sleep Society. Sleep Med. 2021;81:124–126. doi: 10.1016/j.sleep.2021.01.023.

38. Wang M, Cooper R, Green D. Insomnia Medication Use by University Students: A Systematic Review. Pharmacy (Basel). 2023 Oct 27;11(6):171. doi: 10.3390/pharmacy11060171.

Copyright © 2025 The Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0), which permits unrestricted use, distribution, and reproduction in any medium

provided the original work is properly cited.