

Impact of Drug Abuse on Cases of Sleep Disorders (Insomnia) and Anxiety Disorders (Anxiety) : Literature Review

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ABSTRACT

Drug abuse is the regular or intermittent use of external drugs for at least one month without a doctor's prescription. Drug abuse is divided into two, namely drug abuse and drug misuse, drugs are often found in cases of sleep disorders and anxiety. According to the CDC, as many as 15,000 people have lost their lives to drugs. The adverse effects of other drugs that users feel directly, namely psychological effects such as emotional changes and physical effects such as sensory dysfunction and body functions. The purpose of this study was to determine the effect of drugs on cases of insomnia and anxiety. The method used in this article review is to conduct a literature search on databases from Google Scholar, PubMed and Science Direct with a maximum year of publication in the last 10 years. The results, the results, between disorders, relationships and drug relationships were found. Drug abuse in cases of insomnia and anxiety is caused by a lack of knowledge about the proper use of drugs and the long-term side effects of using inappropriate drugs that lead to dependence. The effect on health is in the form of difficulty concentrating, reduction, decreased drug dose sensitivity, mental changes and behavior of users. The treatment needed in these cases is in the form of further handling of the dose and therapy required by the doctor, non-pharmacological therapy and avoiding triggers for the recurrence of treatment behavior. For this reason, it is necessary to monitor, prevent and properly handle drug cases to minimize the occurrence of excess drug risks.

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1. INTRODUCTION

Drug abuse is the use of drugs outside of drugs that are relatively regular or intermittent for at least one month without a doctor's prescription [1]. According to Muhammadiyah (2004), drug abuse is divided into two, namely the use of drugs for purposes other than medical treatment called Drug Abuse and the use of drugs in ways or doses that are not recommended by professionals called Drug Misuse.

The Central Disease Center (CDC) reports, that currently 15,000 people lose their lives each year due to excessive or inappropriate consumption of painkillers and sedatives. That is, the number of deaths from the abuse of this drug exceeds the number of deaths from heroin and cocaine addiction [2].

Drug abuse has two adverse effects that users feel directly, namely psychological impact and physical impact. Psychological impacts include emotional and psychological changes while physical impacts include sensory dysfunctions and other bodily functions [3].

Some of the originators of drug abuse are due to sleep disorders and anxiety disorders. Based on research that has been carried out by Surilena (2014), insomnia can cause depression and abuse or dependence of benzodiazepines [4]. Every year there are about 20-50% of reports of cases of sleep disorders in adults and serious sleep disorders as much as 17% [5]. The National Comorbidity reported that the prevalence rate of one in 4 people who had at least one of the characteristics of an anxiety disorder was 17.7% [6]. According to, Haghghat, et al (2014) there is a correlation between sleep disorders and anxiety disorders by taking sedatives. The thing to note is, the use of sedatives or sedative class drugs, namely benzodiazepines, is often misused and causes unwanted risky side effects. Based

on data obtained from the National Narcotics Agency (BNN) regarding the 2019 Drug Abuse Prevalence Survey, benzodiazepine class drugs are ranked second in the types of drugs that are often abused after marijuana [3].

Drug abuse in the Drug Abuse category in cases of sleep disorders and anxiety disorders, usually using sedative class drugs, namely benzodiazepines. While drug abuse in the Drug Misuse category in cases of sleep disorders, usually using antihistamine class drugs, namely Chlorpheniramin Maleat or (CTM) [61]

Benzodiazepines work mainly on gamma-aminobutyric acid receptors (GABA), through molecular interaction, increasing the degree of inhibition of brain signals inhibiting the central nervous system and causing sedation and sensation of relief. Benzodiazepines and related drugs are usually effective when first prescribed, and most of the discomforts and problems arise with prolonged use [6]. Chlorpheniramine Maleate (CTM) is an alkylamine derivative that works competitively by inhibiting H₁ histamine receptors that can penetrate the blood brain barrier. One of the side effects is like a sedative effect [8].

Therefore, the authors conducted a further study of this case to determine the impact of drug abuse on cases of insomnia and anxiety. The purpose of this literature study is to be used as up-to-date information related to drug abuse in insomnia and anxiety and its effect on the health of its users.

2. METHOD

The method used in this article review is systematic review, which is the results obtained from various combinations of related articles. What is used in this review article is a national and international scientific article with a maximum publication in the last 10 years. Article searches were conducted with the keywords "Drug Abuse", "Drug Misuse", "Insomnia" and "Anxiety" on Google Scholar, PubMed and Science Direct. The results of the search from the database were 57,160 articles. There are 37,500 articles that were excluded due to inconsistency with the criteria for the desired article publication year, which is a maximum of the last 10 years. And a total of 19,626 articles were re-excluded due to inconsistency with the desired title and discussion. After a thorough reading of 16 articles, exclusion was carried out again because there was a discrepancy with the desired topic. The final results obtained by 5 articles that meet the inclusion requirements are discussing the effects of drug abuse on cases of sleep disorders and anxiety and are used as a review.

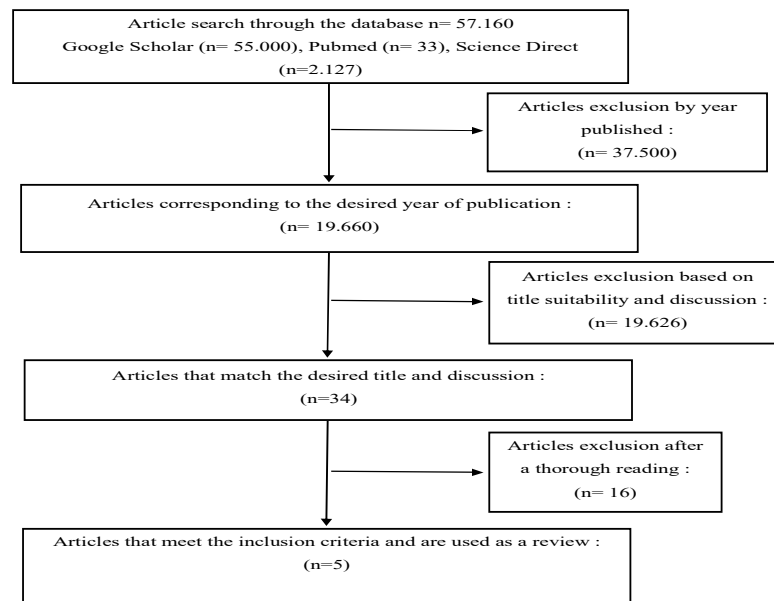


Figure 1. Research Method

3. RESULTS AND DISCUSSION

Table 1. Contains data from the results of a review on 5 articles on drug abuse in cases of sleep disorders (Insomnia) and anxiety disorders (Anxiety)

References	Drug Class	Purpose	Findings
Tuarissa (2014). ^[1]	Antihistamines	To find out the profile of the use of CTM drugs in residents of Bailang Village and Karombasan Village in Manado City.	CTM is misused as a sleeping pill due to the lack of public knowledge regarding the use of CTM drugs.
Surilena (2014). ^[4]	Sedative	Evaluating cases of abuse of alprazolam doses in the elderly with insomnia.	The patient has depression, insomnia and the occurrence of alprazolam dependence.
Mendra, <i>et al</i> (2021). ^[6]	Sedative	To investigate the relationship between previous substance abuse and the efficacy and safety of benzodiazepine treatment in patients with anxiety disorders.	Patients with a history of drug abuse showed no improvement within 6 months of benzodiazepine use, and drug abuse was not associated with the safety of benzodiazepine treatment.
Heydari & Isfeedvajani (2013). ^[9]	Sedative	Researching cases of abuse and zolpidem dependence.	Zolpidem has the potential for loss of selectivity to GABA-A receptors and may have pharmacological effects similar to classic benzodiazepines. Receptor mutations may be a contributing factor to zolpidem dependence.
Vigo & Cardinali (2019). ^[10]	Sedative	Knowing the problems in public health regarding the efficacy of benzodiazepine drugs in the treatment of insomnia that are hampered by side effects including dependence, and abuse of benzodiazepine drugs.	In the absence of new alternatives to treat insomnia, there is a misconception that consumers prefer to take sleeping pills to achieve a good night's sleep.

Sleep disorders or insomnia are a health problem that is one of the most common complaints in society. Insomnia is characterized by poor sleep quality, difficulty to sleep and maintain sleep [11]. Anxiety disorders or anxiety are vague and widespread concerns associated with feelings of insecurity and helplessness with an untargeted emotional state. Anxiety disorders cause difficulty sleeping, take more than 60 minutes to fall asleep, have scary dreams, can not wake up in the morning, feel less refreshed in the morning [12,13].

Pharmacological therapies given in cases of sleep disorders are drugs that act on GABA-A receptors, melanin receptors as well as drugs that act as orexin receptor antagonists and histamine-1 receptor antagonists [11]. In the case of anxiety disorders, pharmacological therapies commonly given are drugs of the Selective Serotonin Reuptake Inhibitors (SSRIs), Serotonin-Norepinephrine Reuptake Inhibitors (SNRIs) and benzodiazepines [14].

Abuse of benzodiazepines in patients with anxiety disorders can lead to recidivism and addiction [6]. When benzodiazepines are used at high doses (mainly used to induce sedation), benzodiazepines significantly suppress the production of endogenous inhibitors, resulting in the effect of drug breakup [15]. The two main effects of its abuse are a decrease in the sensitivity of the dosage of the drug and addiction. Side effects occur only with increased dosing and long-term use, and in case of overdose or

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dependence side effects include drowsiness, confusion, dizziness, blurred vision, weakness, slurred speech, lack of coordination, difficulty breathing, coma [7]. In chronic cases of abuse addiction has an impact on mental and behavioral changes that also affect the relationship and performance of the addict..

The use of CTM is often abused in society because some people only understand that the indication of CTM is to help patients sleep. Even though CTM is included in the antihistamine group of drugs, which are drugs used to treat allergy symptoms. Side effects include, difficulty concentrating, drowsiness, hypotension, muscle weakness, tinnitus, euphoria, headache, central nervous system stimulation and blood disorders [1].

Treatment in cases of drug abuse of sleep disorders and anxiety in benzodiazepine group drugs is to reduce the dose of therapy slowly and of course must be in accordance with the direction of a professional or doctor, apply non-pharmacological therapy and avoid behaviors that can trigger abuse. In the case of benzodiazepine drug abuse, the patient will be dependent and the occurrence of dose tolerance causes the addict to be in a repetitive cycle. Because by lowering the dose suddenly, it will actually have a bad impact on health [15]. The case of Drug Misuse in CTM should be taken into consideration that the use of drugs should be based on appropriate indications and drug information services are carried out by pharmacists so that there are no misunderstandings in the use of drugs. The use of CTM can be stopped if the sufferer already feels cured, if not stopped CTM side effects can affect concentration in daily life [1]. Of course, it will be detrimental, because concentration and full awareness are needed in carrying out daily activities.

4. CONCLUSION

Drug abuse categories Drug Abuse and Drug Misuse are very easy to find in the environment. Starting from improper treatment indications and abuse of prevalent dosages, resulting in side effects that can be detrimental and harmful to health. The impact of drug abuse in cases of sleep disorders and anxiety is a decrease in the sensitivity of drug doses, addiction, the occurrence of the effects of dropping out of drugs, difficulty concentrating, excitability. Therefore, it is necessary to carry out supervision, prevention and appropriate treatment in cases of drug abuse to minimize the occurrence of further risks of drug abuse. With this literature study, it is hoped that it can minimize similar cases.

REFERENCES

- [1] Tuarissa, S. Profil Penggunaan Obat Klorfeniramin Maleat Pada Masyarakat di Kelurahan Bailang Dan Kelurahan Karombasan Kota Manado. PHARMACON. 2014; 3(4).
- [2] Haghghat, M., Tabatabaee, S. M., & Boogar, I. R. Relation of anxiety, sleep disorders and drug abuse with patient's tendency toward sedative drugs in Semnan prison. Asian J Med Pharm Res. 2014; 4, 40-45.
- [3] Badan Narkotika Nasional. Drug Abuse Prevalence Survey 2019. Jakarta : Research, Data, And Information Center National Narcotics Board. 2020.
- [4] Surilena, S. Ketergantungan Alprazolam pada Lanjut Usia dengan Insomnia dan Depresi. Damianus Journal of Medicine. 2014; 13(3), 224-232.
- [5] Anwar, Z. (2013). Penanganan gangguan tidur pada lansia. Research Report.
- [6] Mendra, N. N. Y., Ikawati, Z., & Kristanto, C. S. Efektivitas dan Keamanan Terapi Benzodiazepin pada Pasien Gangguan Ansietas dengan Riwayat Penyalahgunaan Obat. Indonesian Journal of Clinical Pharmacy. 2021; 10(3), 201-208
- [7] Arshad, S., Butt, J., Iqbal, J., & ul Hassan, S. S. Abuses and Misuses of Benzodiazepines and Antidepressants; A Review. Mod. Appl. Pharm. Pharmacol. 2018; 1, 1-6.
- [8] Gunawan S.G. Farmakologi dan Terapi. Jakarta: Departemen Farmakologi dan Terapeutik Fakultas Kedokteran Universitas Indonesia pp. 2007; 210-31.
- [9] Heydari, M., & Isfeedvajani, M. S. Zolpidem dependence, abuse and withdrawal: A case report. Journal of Research in Medical Sciences: The Official Journal of Isfahan University of Medical Sciences. 2013;18(11), 1006

- [10] Vigo, D. E., & Cardinali, D. P. Melatonin and Benzodiazepine/Z-Drug Abuse. *Psychiatry and Neuroscience Update*. 2019; 427-451.
- [11] Bollu, P. C., & Kaur, H. Sleep medicine: insomnia and sleep. *Missouri medicine*, 116(1). 2019; 68.
- [12] Sohat, F., Bidjuni, H., & Kallo, V. Hubungan Tingkat Kecemasan Dengan Insomnia Pada Lansia Di Balai Penyantunan Lanjut Usia Senja Cerah Paniki Kecamatan Mapanget Manado. *Jurnal Keperawatan*. 2014; 2(2).
- [13] Sadock BJ, Sadock VA, Ruiz P. Anxiety Disorder. In: Pataki CS, Sussman N, editors. *Kaplan & Sadock's synopsis of psychiatry*, 11th ed. Philadelphia: Wolters Kluwer; 2015.
- [14] Vildayanti, H., Puspitasari, I. M., & Sinuraya, R. K. Farmakoterapi Gangguan Anxietas. *Farmaka*. 2018; 16(1), 196-213.
- [15] Sholehah, L. R. Penanganan insomnia. *E-Journal Udayana*. 2013; 1-21