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## **TREATMENT OF ADDICTION TO HYPNOTICS AND SEDATIVES IN PRIMARY HEALTH CARE — COOPERATION OF PHYSICIANS AND PSYCHOLOGISTS**

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**sedatives**  
**primary healthcare**  
**psychotherapy**

### **Summary**

Addiction to chemical psychoactive substances is a state of psychological or both mental and physical dependence on such substances. Addiction manifests itself as a temporary or permanent necessity to receive these substances. Most practicing physicians, psychologists, and psychotherapists face this problem in their everyday work. The primary care physician, to whom the patient usually has the easiest access and often the most trust, should coordinate the recovery process from addiction. If appropriate, the primary care physician should refer the patient to a psychologist or psychiatrist. In psychological support, the first place is psychoeducation about the effects of the substances taken and their adverse effects. A valuable method in the treatment of this addiction, which can be used to maintain the motivation to continue abstinence, is cognitive-behavioural therapy. Such therapy is designed to improve the patient's quality of life by modifying his/her behaviour and thinking. A proper patient-psychotherapist relationship is crucial. In drug therapy, the dose of medications should be gradually reduced and benzodiazepines with a short half-life should be replaced with others, having long half-lives. It is also important to treat causally other mental disorders.

### **Introduction**

According to the dictionary definition, addiction to chemical psychoactive substances is a state of psychological or mental and physical dependence on these substances, manifested by periodic or permanent compulsion to take them. Such use is supposed to cause that the addicted person will experience effects of the drug that he/she considers beneficial (*e.g.* euphoric or sedative effect) or will avoid unpleasant symptoms of withdrawal syndrome [1]. Addiction to sleeping pills and sedatives is a common problem encountered by most

practising physicians, psychologists, and psychotherapists in their everyday work. According to statistics from the United States of America (USA), in 2008, approximately 75 million prescriptions were prescribed for the commonly used sedative drugs – benzodiazepines (BDAs). The prevalence of their use was 4-5% for the general population [2-4]. In Europe, the problem of addiction to sleeping and sedative drugs is equally large, a fact that is widely emphasized in the literature [5-9].

Addiction occurs not only with BDAs but also with non-benzodiazepine sleep medications (so-called “Z” drugs, from the initial letter of their names: zolpidem, zopiclone, zoleplon). Introduced to the pharmaceutical market in the late 1980s (about 30 years after BDAs), they were supposed to be characterized by the lack of potential to cause their compulsive use. (They bind selectively to one subunit of the GABA<sub>A</sub> receptor -  $\omega 1$ , associated with sleep-inducing effects.) With time, it turned out that “Z” drugs have a euphoric potential and some patients take them with highly developed tolerance also during the day [9-12].

The problem of addiction to sleeping and sedative drugs is often a complex issue that requires an interdisciplinary solution. This process should involve the primary care physician (PCP), with whom the patient has the most contact and in whom he or she often has the most confidence. The support of a psychologist, psychotherapist, or psychiatrist is often necessary [13-15]. This paper attempts to describe an appropriate model of management of a patient addicted to sleeping and sedative drugs, focusing on the role of the PCP and psychologist.

### **Epidemiology of addiction to sleeping pills and sedatives**

In the USA in 2008, the prevalence of BDA use in the general population was 4-5% and increased with age. Women were twice as likely to use these substances as men. Patients who were prescribed opioids were significantly more likely to use BDAs than nonusers. It is worth noting that, according to the study, 2.3%-12.7% of USA residents have used sedatives or sleeping pills without medical indication in their lifetime. Almost 10% of individuals in this group met criteria for abuse or dependence [2-4, 16-17]. A cross-sectional survey of the general Canadian population conducted in 2003 found a very similar prevalence of sedative use to that in the USA. Among the 20,745 individuals who participated in the study, the percentage of sedative drug use was 5.5%. The factors doubling the risk of using these drugs were at least grade II obesity in men ( $BMI \geq 35 \text{ kg/m}^2$ ) or significant underweight in women ( $BMI < 18.5 \text{ kg/m}^2$ ) [18, 19]. The cited data show the seriousness of the problem of sedative drug addiction in highly developed countries of North America.

Turning to European data, a German study from 2010-2014 can be cited, in which data of 32,182 patients over 65 years of age were analysed. It was found that after the first inclusion of BDAs, the percentage of patients treated with them for more than 6 months was high and increased with age (for those aged 65-70 years it was 12.3%; for 71-80 years: 15.5%; for 81-90 years: 23.7%; and for people older than 90 years: 31.6%) and was not significantly different for men (15.5%) and women (17.1%). A large proportion of patients required long-term use of BDAs for medical reasons. It should be remembered that their excessive intake causes many adverse effects, especially intensified among seniors (increased risk of falls, cognitive impairment, disorientation) [20, 21]. According to data from a systematic review of studies conducted in Germany, it is estimated that the number of BDA addicts in this country is between 128,000 and 1,600,000. The authors of the article from 2015 [6] emphasized that most studies estimating dependence on sedative drugs do not take into account substances prescribed in private medical practices (they are not registered in State insurance systems) and, on the other hand, some studies do not include elderly addicts.

In Poland, data on BDA use are not as up-to-date as in the USA or Germany. It is known that in Poland as early as in the 1960s and 1970s the frequency of BDA use increased significantly, *e.g.* for oxazepam a 10-fold and for diazepam a 5-fold increase in use over those 10 years was observed. In a study conducted in 1984 on a random sample of Polish residents aged 15 years and older, it was found that 5.5% of the respondents had taken sedative drugs in the preceding 12 months [22-24]. In recent years, the Polish literature reports that the problem of BDA dependence is similar to that in other European countries, and among people over 65 years of age, the frequency of use of these drugs varies between a dozen and twenty-something percent [22, 25-27]. According to Polish National Health Fund data from 2009-2011, BDA drug overdose was the third most common cause of hospital admissions for poisoning (10,340 admissions out of a total of 254,425 total admissions that were due to poisoning). Only alcohol and carbon monoxide were more likely to lead to hospitalization for intoxication [28].

### **Principles of diagnosing addiction to sedative drugs**

In the detailed definition of addiction the phrase appears that it is an acquired condition, relating to physical and mental health. It is characterized by a periodic or constant need to perform an activity and/or consume a psychoactive substance. Drug addiction is a complex disease of the central nervous system that involves the need to continually acquire and use a substance in order to experience its effects on the psyche and, over time, to avoid

missing the substance (withdrawal syndrome). In the ICD-10 classification, mental and behavioural disorders caused by taking sleeping and sedative substances have the code F13.2 [1, 29-31]. The mechanism of drug dependence is related to the emergence of tolerance to the substance and the tendency to continuously increase the dose. This process affects both the patient's personality and his/her environment [22].

The criteria of drug addiction are worth emphasizing:

- the use of a substance quickly becomes habitual,
- the use of this substance is regular,
- addiction is the main cause of health, financial and work problems,
- the use of the substance becomes compulsive,
- it becomes impossible to quit on one's own to use the substance,
- there is an inner compulsion to use the substance,
- withdrawal symptoms appear [29, 31].

Current knowledge about the tendency to addiction to BDAs provides a lot of information about the risk of addiction. The most frequently mentioned factors associated with it are: alcohol abuse, gender (women over 40 are most vulnerable), loneliness, lack of social support, co-occurrence of neurotic, anxiety, depressive disorders and sleep disorders. Alcohol abusers are particularly at risk. BDA use may easily get out of control in them and cause further addiction [31, 32].

Chronic BDA use also results in fresh memory impairment, amnesia, confabulations, memory gaps, and even dementia syndrome. Examples of behavioural patterns that suggest a person is addicted:

- suggesting to a physician that only "this drug" is effective,
- forcing a physician to prescribe a particular drug,
- asking or even begging for that particular drug,
- reporting symptoms that are not actually present,
- exaggerating symptoms,
- frequently losing prescriptions,
- a tendency to visit more than one physician to get a prescription for a particular drug,
- prescription forgery,
- stealing medications.

Drug addiction has a similar course to alcohol addiction and is characterized by similar symptoms. Taking BDA for sleep disorders can involve addiction after just a few days or weeks. People struggling with insomnia tend to increase the dosage of the drug and

sometimes take more than one medication. When BDAs are used in individuals with anxiety disorders, tolerance usually develops more slowly [31-33].

In the addiction literature, patterns have been given that account for the behaviour of addicts who have a strong need to have access to drugs. This is primarily an escalation of use, which involves gradually increasing the dose of medication when the current one fails to cope with the symptoms experienced. This is often done without consulting a physician. At this point, it should be mentioned that sometimes the reason for this behaviour is that a physician initially prescribes a too low (subtherapeutic) dose of the drug in consultation with the patient, due to fear of addiction [32, 33].

Another pattern indicative of addiction is drug seeking. This means that the patient uses manipulation and exhibits a demanding attitude in order to obtain the needed substances. The patient may even coerce the physician to prescribe a particular drug and to do so, they report symptoms that are not present or exaggerate existing symptoms. In addition, in order to satisfy their needs, patients use visits to various physicians to obtain medications (doctor-shopping phenomenon). Addicted patients also use the method of begging the physician if they encounter resistance. It is worth emphasizing that compulsive drug users may use various methods to influence the physician's attitude in a way that is beneficial to them. It is important to recognize when the patient should necessarily take the drug and when he/she is simply addicted to it [33, 34].

Another characteristic mechanism found in addicts is the system of illusion and denial. It involves the production of various illusions about oneself and leads to a loss of self-awareness in many aspects of life (changes in the cognitive sphere). At first, the mechanism of illusion and denial is usually weak and the patient perceives his/her problems in a realistic way. Over time, however, the problem of dependence on a harmful substance is completely suppressed, and the person abusing tranquillizers and/or alcohol may completely fail to see the connection between this fact and a significant deterioration in health and daily functioning. Also worth noting are the mechanism of compulsive emotion regulation. The person takes excessive amounts of sedative drugs that have a sedative effect and, in order to avoid negative feelings, including anxiety, limits the experience of positive emotions. Over time, the mood is artificially regulated by the drugs taken, and the person loses the ability to experience feelings and isolates themselves from the surrounding world [35, 36].

An important part of the functioning of people addicted to tranquillizers and sleeping pills is the withdrawal syndrome. Its occurrence and symptoms depend on the strength of the

sleeping and sedative effect of the substance in question. Moreover, the regularity of taking the doses and the duration of pharmacotherapy are also important.

The main symptoms of abstinence syndrome occurring when the drug intake is stopped are: anxiety, apathy, excessive tiredness, memory and concentration disorders, nausea, vomiting, sweating, watery eyes, hypersensitivity to noise, smells, double vision, tremors, and painful muscle cramps. Moreover, the spectrum of symptoms of abstinence syndrome includes consciousness disturbances, psychomotor agitation, depersonalization, delusions, and hallucinations [22, 34].

The factors negatively influencing the course of withdrawal from sedative drugs are severe abstinence syndromes co-occurring with seizures, the use of very large doses of drugs in the recent past, elder age, somatic diseases, other mental disorders, a period of substance use longer than one year. Psychological support is valuable at the onset of drug withdrawal and after quitting [33, 34, 37].

### **Management in primary care**

The management of the PCP in the area of pharmacotherapy in the case of addiction to sleeping pills and sedatives consists, among other things, of planning a gradual reduction in the doses of the substances used. After some time they can then be completely withdrawn. The role of the PCP is certainly to coordinate the treatment process with a psychologist and/or psychiatrist. Patients who should be referred for specialist treatment are those who are taking high doses of BDAs or “Z” medications, who exhibit a range of abnormal treatment behaviours (especially presenting to multiple physicians for the same medication), or who are in an unstable living situation or who have already been diagnosed with other mental disorders. Patients who are addicted not only to sedative medications, but also to alcohol or drugs, also require referral to specialists to further guide their treatment [3, 38-41].

When prescribing BDAs or “Z” drugs by the PCP to a person who has not taken them before, it should be borne in mind that the risk of addiction is higher in patients with already diagnosed mental disorders. They should be informed about the risk of addiction and warned against increasing doses on their own [38-41]. Selected principles of management of patients addicted to BDA and “Z” drugs are presented in the table.

**Table1. Pharmacological management of patients addicted to sleeping and sedative drugs in primary care**

Medication group	Examples of substances	Medication principles
<b>Benzo-diazepines</b>	<p>short or intermediate <math>t_{1/2}</math>:</p> <p>alprazolam bromazepam lorazepam oxazepam temazepam</p> <p>long <math>t_{1/2}</math>:</p> <p>chlordiazepoxide diazepam clorazepate clonazepam medazepam nitrazepam</p>	<ul style="list-style-type: none"> <li>- providing brief advice on the use of BDAs and their side effects,</li> <li>- gradual reduction in the dose of the drug taken (depending on the risk of addiction: reduction of BDA dose by 50% of the initial dose in each subsequent week, withdrawal time: 4-6 weeks</li> <li style="text-align: center;">or</li> <li>- decreasing by 10-25% every 2 weeks, withdrawal time: 4-8 weeks),</li> <li>- avoiding prolonging the withdrawal process, <i>e.g.</i> &gt; 6 months,</li> <li>- avoid abrupt withdrawal of BDAs taken for a long time (risk of seizures, delirium, psychotic episode, increased anxiety),</li> <li>- switching from BDA with short <math>t_{1/2}</math> to BDA with long <math>t_{1/2}</math>,</li> <li>- substitution of several different BDAs for one BDA (<i>e.g.</i> diazepam),</li> <li>- avoid accompanying BDA with opioids (increased sedative effect, risk of apnoea),</li> <li>- not reducing doses of opioid and BDA at the same time (avoiding simultaneous onset of withdrawal syndrome from both substances),</li> <li>- hospitalizing patients with severe BDA dependence (daily dose in terms of diazepam <math>\geq</math> 100 mg/day) for drug withdrawal,</li> <li>- remembering that insomnia and anxiety should be treated first with non-pharmacological treatment (psychotherapy, relaxation techniques),</li> <li>- using BDAs to treat alcoholic delirium, but not overextending their administration,</li> <li>- causal treatment of people with depression who abuse BDAs (antidepressants),</li> <li>- use of other adjunctive medications (<i>e.g.</i> mood-stabilizing carbamazepine, other anti-anxiety medications, beta-blockers) that may be effective but are poorly studied in treating BDA addiction,</li> <li>- if sleep medication use is necessary, use other drugs, <i>e.g.</i> trazodone, doxepin, mirtazapine, trimipramine, diphenhydramine, hydroxyzine rather than BDAs,</li> <li>- taking into account that patients may also go to other physicians for prescriptions for BDAs (doctor-shopping)</li> </ul>
<b>Non-benzo-diazepine sleep medications</b>	<p>zopiclone zaleplon zolpidem eszopiclone</p>	<ul style="list-style-type: none"> <li>- gradually reduce the dose of the drug you are taking,</li> <li>- avoid abrupt withdrawal of "Z" drugs taken for a long time (risk of seizures, delirium, psychotic episode, increased anxiety),</li> <li>- causal treatment of people with depression who abuse "Z" drugs (use antidepressants),</li> </ul>

		- replacement of “Z” drugs with long-acting BDAs, which are then gradually withdrawn,
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Compiled from [38-44]

BDAs - benzodiazepines,  $t_{1/2}$  - biological half-life, “Z” drugs - non-benzodiazepine sleep medications (zopiclone, zolpidem, zaleplon, eszopiclone)

In case of significant difficulties with withdrawal from harmful substances, the patient may be referred to one of the Alcohol Abstinence Syndrome Treatment Units (in Polish *OLAZA – Oddział Leczenia Alkoholowych Zespołów Abstynencyjnych*) or Addiction Treatment Units. Initially, the therapy is provided on a 24-hour basis and then, after the therapy is completed, the addict can continue the therapy:

- in a 24-hour (in-hospital) form in an Addiction Treatment Unit,
- in the form of day treatment in a day treatment centre,
- in an outpatient form at an outpatient clinic.

Treatment at the Addiction Therapy Units in Poland lasts up to 56 days. The condition for admission to them is to have a referral for drug treatment from a psychiatrist or PCP [45, 46]. In this case, the importance of the role of the primary care physician in helping the addicted person is well illustrated.

Often, working with a drug-dependent patient requires long-term measures – he/she may be referred to one of the addiction treatment facilities (alcohol and codependence treatment centres, addiction treatment clinics). Further psychotherapy may be provided there to prevent relapse [47].

A meta-analysis of 24 studies evaluating the efficacy of different treatments for BDA dependence found that the chance of discontinuation was significantly increased by gradual reduction of the drug dose: odds ratio (OR) = 5.96 with 95% confidence interval (CI) = 2.08-17.11 compared to routine care. Psychological treatment together with gradual dose reduction was superior to both routine care (OR = 3.38, 95% CI = 1.86-6.12) and gradual dose reduction alone (OR = 1.82, 95% CI = 1.25-2.67). Thus, the most effective therapeutic option is a complementary management including psychotherapy and gradual, careful dose reduction of the medication under medical supervision [40, 48].

### **Psychological management**

A number of programs offering substitution treatment for alcohol or opioid addicts have been implemented in Poland but to the knowledge of the authors, there are no programs dedicated strictly to patients addicted to BDA or “Z” drugs. People who are simultaneously dependent on drugs and alcohol, or who are heavily dependent on drugs, are usually referred

to outpatient or inpatient treatment; these are the most preferred forms of treatment for them. Patients who are accompanied by anxiety disorders, sleep problems, or depressive disorders are referred to psychiatric or psychological outpatient care to treat the root causes of addiction. The non-pharmacological method used to treat addiction is mainly Cognitive-Behaviour Therapy (CBT) [22, 49-51].

CBT refers to a group of therapies according to which a person's maladaptive emotions and behaviours can be explained using regularities governing cognitive processes (cognitive component) and using learning theories (behavioural component). According to the cognitive model, thinking is the basis of behavioural disorders; by changing thought processes, changes can be made at the emotional and behavioural levels. Changing dysfunctional behaviours that cause addictions includes, among others, the *in vivo* exposure technique (real-life conditions), systematic desensitization method (desensitization, *i.e.*, overcoming fear and avoidance through gradual exposure to an object), and developing coping skills [49-51].

The main importance in the process of psychotherapy is to build a proper therapeutic relationship (psychotherapist-patient), through which the set goals can be achieved more easily. The lack of a proper therapeutic relationship can result in failure in recovery from addiction, even when many correct treatment procedures and programs are used. Using CBT can be very successful in treating addiction, and CBT interventions can significantly reduce relapse rates, reduce symptoms, and eliminate substance abuse problems at the same time. In Poland, there are crisis intervention centres where people can go in person or get help by phone, and where they can receive psychological support and further recommendations. Helplines are also available [52-55].

During or after psychotherapy designed to help the patient recover from addiction, many questions may arise about post-treatment functioning relating to, among other things, the anxiety associated with relapse. The patient's motivation and values are crucial in maintaining abstinence from psychoactive drugs. It is a good idea to keep in touch with people who have successfully quit and with a therapist who can help keep you motivated and provide guidance in times of doubt and weakness. It is valuable to work on self-esteem and self-confidence, as these traits are key to persevering in abstinence from previously abused drugs [55, 56].

## Conclusions

The issue of addiction to BDAs and “Z” drugs is an extremely important clinical problem; often it is not caught quickly. Some patients, especially at the beginning of their addiction, have insight into their situation and remain critical of themselves. They seek help from a physician, psychologist, or psychotherapist. Taking into account the lifestyle in the modern world, the exposure to numerous psychological burdens and the duration of chronic stress, it can be assumed that the problem discussed in this paper will grow. Often drug addiction is the result of a person’s inability to cope with difficult situations, which results in the emergence of abnormal patterns of behaviour. The key to recovery is motivation to change, as well as support from loved ones during psychotherapy and gradual withdrawal. In the process of overcoming the addiction, an important element is the cooperation with the physician, whose role is to help in gradual decreasing of the dose of taken substances, until the moment of their complete withdrawal. The role of the PCP is certainly to refer the patient to a psychotherapist or psychiatrist. Of course, all therapeutic relationships should be based on mutual honesty and trust, and during visits the patient should be informed in detail about the actions taken and the plan for recovery.

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