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# LONG-TERM USE OF BENZODIAZEPINES IN PATIENTS WITH AND WITHOUT PERSONALITY DISORDERS

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**LONG-TERM USE OF BENZODIAZEPINES IN PATIENTS WITH AND WITHOUT PERSONALITY DISORDERS**

Personality disorders (PD) are prevalent co-morbid conditions among addicted individuals. Our study aimed to determine whether long-term, continuous use of benzodiazepines (over a year) leads to the development of symptoms of dependence considering the presence or absence of personality disorders. The group consisted of 78 benzodiazepine users who used the benzodiazepine as a monotherapy for at least 1 year before a screening. Patients completed a group of questionnaires: a semi-structured questionnaire for sociodemographic data as well as for basic data on the use of benzodiazepines, Wisconsin Personality Inventory, and Benzodiazepine Dependence Self-Report Questionnaire. The group was divided into two subgroups: the group of subjects with personality disorders (60.26%) and those without personality disorders (39.74%). These two groups were mutually compared concerning: (a) correlates of benzodiazepine dependence (problematic use of benzodiazepines, preoccupation with benzodiazepines, lack of compliance, and withdrawal syndrome) and (b) intensity of benzodiazepine dependence. In the whole group, approximately 70% of subjects had positive indicators for physical dependence (lack of compliance due to a rise of tolerance in 73.08% and withdrawal in 70.51% of subjects). The psychological dependence indicator (preoccupation with benzodiazepines) was positive in 94.87% of subjects, as well as for social aspects of dependence (problematic use of BDZs) in 93.59%. The total score, or intensity of benzodiazepine dependence, was statistically higher in the group with personality disorder. Patients with a personality disorder had more frequent and more intensive preoccupation with benzodiazepine and lack of compliance. Co-occurrence of two or more personality disorders increases the intensity of preoccupation with a benzodiazepine.

Keywords: Benzodiazepine, dependence, personality, withdrawal.

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# DUGOTRAJNA UPOTREBA BENZODIAZEPINA KOD PACIJENATA SA I BEZ POREMEĆAJA LIČNOSTI

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Poremećaji ličnosti (PL) su veoma česta komorbidna stanja među zavisnicima. Naša studija je imala za cilj da utvrdi da li dugotrajna, kontinuirana upotreba benzodiazepina (preko godinu dana) dovodi do razvoja simptoma zavisnosti uzimajući u obzir prisustvo ili odsustvo poremećaja ličnosti. Grupu je činilo 78 osoba koje su koristili benzodiazepin kao monoterapiju najmanje godinu dana pre skrininga. Pacijenti su popunjavali grupu upitnika: polustrukturisani upitnik za sociodemografske podatke kao i za osnovne podatke o upotrebi benzodiazepina, Visconsin upitnik za procenu ličnosti i Samoupitnik o zavisnosti od benzodiazepina. Grupa je podeljena u dve podgrupe: grupu ispitanika sa poremećajima ličnosti (60,26%) i one bez poremećaja ličnosti (39,74%). Ove dve grupe su međusobno upoređene u pogledu: (a) korelata

zavisnosti od benzodiazepina (problematična upotreba benzodiazepina, preokupacija benzodiazepinima, nedostatak komplijanse i apstinencijalni sindrom) i (b) intenziteta zavisnosti od benzodiazepina. U celoj grupi, oko 70% ispitanika imalo je pozitivne pokazatelje fizičke zavisnosti (nedostatak komplijanse zbog porasta tolerancije kod 73,08% i apstinencijalni sindrom kod 70,51% ispitanika). Pokazatelj psihološke zavisnosti (preokupacija benzodiazepinima) bio je pozitivan kod 94,87% ispitanika, a za socijalne aspekte zavisnosti (problematična upotreba BDZ) kod 93,59%. Ukupan skor, odnosno intenzitet zavisnosti od benzodiazepina, bio je na statistički značajnom nivou veći u grupi sa poremećajem ličnosti. Pacijenti sa poremećajem ličnosti imali su češću i intenzivniju preokupaciju benzodiazepinima i nedostatak komplijanse. Istovremena pojava dva ili više poremećaja ličnosti povećava intenzitet preokupacije benzodiazepinom.

Ključne reči: Benzodiazepini, zavisnost, ličnost, apstinencijalni sindrom.

## Introduction

Benzodiazepines (BDZ) are a group of drugs with a wide range of uses, particularly for anxiety and insomnia. They have sedative, anxiolytic, hypnotic, anticonvulsant and muscle relaxant properties. The short-term use of benzodiazepines is safe and has many benefits. In contrast, long-term use leads to dependence (1). The shortest period for the development of dependence due to continuous use of benzodiazepines varies in different studies. It ranges from one month (2) to, in most studies, 3 to 6 months (3,4). Those most at risk are people who take benzodiazepines for more than four months, people who take high doses of benzodiazepines, older people, and people with a current or previous history of another type of dependence, as well as people who take high-potency benzodiazepines with a short half-life (2,5).

Previous research has shown that certain personality traits are important for the development, maintenance, and progression of benzodiazepine dependence and the intensity of withdrawal symptoms. The temperament and character profile of benzodiazepine users differed from that of other drug users in the association between higher harm avoidance, self-transcendence, and lower self-centeredness (6). Neuroticism and introversion, a high degree of passivity and dependence as specific personality traits, have been associated with a more pronounced abstinence syndrome in benzodiazepine addicts and with a more complicated process of reduction and withdrawal from the benzodiazepine drug (7,8)

Unfortunately, the approach has rarely been applied to personality pathology, i.e., the relationship between personality disorders and benzodiazepine dependence. According to various systematic reviews, personality pathology is present in 5–91% of individuals with substance use disorders. However, little is known about the presence of personality pathology in patients with benzodiazepine dependence. Personality pathology has a significant and

independent impact on the process of discontinuing benzodiazepines. It exacerbates the subjective severity of withdrawal symptoms. It also increases the likelihood of premature withdrawal failure (7). Adults diagnosed with personality disorders and addictions such as benzodiazepine dependence represent a significantly impaired subpopulation. They are a challenge for the treatment and rehabilitation of people with a substance use disorder (9).

Aims

Our study aimed to determine whether long-term continuous use of benzodiazepines (over one year) leads to the development of dependence symptoms, taking into account the presence or absence of personality disorders. We also wanted to investigate any differences in the clinical manifestation of benzodiazepine dependence between individuals with and without personality disorder.

**Patients and methods**

This cross-sectional study was conducted for 12 months at the Centre for Mental Health, Clinical Center Nis.

*Subjects*

One hundred and forty-nine patients were referred to a psychiatrist by a general practitioner for long-term use of benzodiazepines as monotherapy. At baseline, we conducted an in-depth psychiatric interview, assessed current psychiatric status and the presence of psychiatric illness, and examined medical records from previous medical/psychiatric history. We obtained data on the history of benzodiazepine use and the reasons for initiating these medications.

To be included in the study, patients had to fulfill the following criteria: (1) long-term use of benzodiazepines before screening (daily use for more than one year); (2) no other psychiatric disorders during screening; (3) age of 18-65 years.

After the clinical examination, the inclusion criteria were met in 83 patients. They were informed about the study and had to sign a consent form for inclusion in the study. All participants completed a set of questionnaires and then returned them in a sealed envelope. Five patients did not complete the questionnaires correctly (omission of items), so their data was excluded from further statistical analysis. The final group consisted of 78 subjects who had been taking benzodiazepines as monotherapy for at least one year at the time of screening (diazepam, bromazepam, lorazepam, alprazolam and clonazepam).

*Instruments*

Patients completed a questionnaire consisting of the following:

1. Semi-structured questionnaire, with which we collected data on the general socio-demographic characteristics of the patients (age, place of residence, marital status, educational level) and the basic data on benzodiazepine use (duration of BDZ use, type of BDZ, frequency of use).
2. **Wisconsin Personality Inventory (WISPI)** (10)

The participants completed the WISPI in paper and pencil form. This self-report questionnaire provides both categorical diagnoses and dimensional scores for 11 categories of personality disorders. The questionnaire consists of 214 items rated on a 10-point scale. We obtained two scores produced by the WISPI scoring program: (a) mean scores (the average of the ratings for the items on each scale) and (b) z-scores (calculated using the standard sample data from Klein et al., 1993). In the second method, a specific personality disorder was diagnosed if a patient had a z-score of 1.96 or more on a PD scale (i.e., their score was significantly higher than that of the norm sample at $p < 0.05$) (11). The WISPI measures the following personality dimensions: paranoid (PAR), schizoid (SCH), schizotypal (STP), histrionic (HIS), narcissistic (NAR), antisocial (AS), borderline (BL),

avoidant (AVO), dependent (DEP), obsessive-compulsive (OC) and passive-aggressive (PA).

3. **Benzodiazepine Dependence Self-Report Questionnaire (Bendep-SRQ)** - The BDEPQ is the first scale to comprehensively assess dependence on BZDs, as all existing scales focus solely on withdrawal symptoms (12). This questionnaire consists of 20 items and was used to measure the severity of benzodiazepine dependence. Each item of the Bendep-SRQ had five response options ranging from 1 - 'Not at all true for me' to 5 - 'Completely true for me'. After processing the data, we obtained the results in four homogeneous subscales (13). Each subscale represents a correlate or indicator of benzodiazepine dependence:

a. Problematic use of benzodiazepines - This subscale measures the degree of awareness of one's problematic benzodiazepine use.

b. Preoccupation with benzodiazepines - It measures the level of concern, preoccupation, or obsession with the availability of benzodiazepines.

c. Lack of compliance - This measures the degree of compliance with a prescription or therapeutic benzodiazepine regimen.

d. Withdrawal syndrome - It measures the degree of benzodiazepine withdrawal experienced.

Based on the responses, it was possible to calculate dimensional (providing a continuous measure of severity) and/or categorical (classifying severity into distinct groups) scores for the indicators of benzodiazepine dependence and the overall severity of benzodiazepine dependence.

The intensity for each subscale was calculated by summing the items in each scale (five items with response options from 1 to 5, meaning that each subscale can have a value from 5 to 25) (dimensional approach) (14).

We calculated the intensity and estimated the presence of indicators (categorical approach) based on dichotomous scores of Rasch modeling. In this process, each item's response was assigned a score of either 0 or 1, depending on its severity. If the response to the item was 1 or 2, the dichotomous score was zero; if the response was 3, 4, or 5, the dichotomous score was one. Since each indicator consists of 5 items, each indicator has a score/intensity ranging from zero to five. We consider an indicator to be positive/present/clinically significant if the score is between one and five (13).

This questionnaire is highly valid in the outpatient setting and has been used in many previous research studies to measure BZD dependence (14).

The group was then divided into two subgroups based on the Wisconsin Personality Inventory (WISPY) (10):

(a) group of subjects with personality disorders (with PD) (N=47; 60.26%)

b) Group of subjects without personality disorders (without PD) (N=31; 39.74%).

These two groups were compared concerning the correlates of benzodiazepine dependence (problematic use of benzodiazepines, preoccupation with benzodiazepines, lack of compliance, and withdrawal syndrome) and the intensity of benzodiazepine dependence.

Statistics

Statistical analysis was performed using IBM SPSS Statistics for Windows, version 21.0 (IBM Corp, 2012). Student’s t-tests and chi-square tests determined statistically significant differences between groups. A P-value of $<0.05$ was considered statistically significant.

**Results**

**A/ Characteristics of the Sample**

The group had a significantly higher percentage of female subjects (88.46%). The average age of participants was 39.58 years. The highest percentage of patients were from urban areas (76.92%), in a relationship or married (82.05%), and had at least 12 years of education (79.49%). (Table 1).

The average duration of using benzodiazepines was 87.33 months (8-360). The frequency of positive benzodiazepine dependence indicators among respondents with chronic benzodiazepine use was very high. Preoccupation with benzodiazepines was present in 94.87% of the subjects, problematic use in 93.59%, while lower compliance was observed in 73.08% of the subjects. The symptoms of physical dependence or withdrawal symptoms were present in 70.51% of the subjects (Table 1).

Regarding personality disorders, the most frequent ones were obsessive-compulsive personality disorder (30.77%) and paranoid personality disorder (25.64%). These two disorders had the highest average scores (4.47 and 4.93 respectively) (Table 1).

**Table 1:** Sociodemographic and clinical characteristics of the group (N=78)

| | N | % | Mean | SD |
|---|---|---|---|---|
| Age | | | 39,58 | 11,56 |
| Female gender | 69 | 88,46 | | |
| Place of residence | | | | |
| City | 60 | 76,92 | | |
| In a relationship / married | 64 | 82,05 | | |
| Education | | | | |
| 8 grades | 2 | 2,56 | | |
| 12 grades | 62 | 79,49 | | |
| 15 grades | 7 | 8,97 | | |
| ≥16 grades | 7 | 8,97 | | |
| Number of PD | | | | |
| None | 31 | 39,74 | | |
| One | 17 | 21,79 | | |
| Two or more | 30 | 38,47 | | |
| PDs - frequency and mean intensity scores | | | | |
| Obsessive-compulsive | 24 | 30,77 | 4,93 | 1,29 |
| Paranoid | 20 | 25,64 | 4,47 | 1,47 |
| Schizoid | 15 | 19,23 | 3,62 | 1,28 |
| Borderline | 11 | 14,10 | 3,28 | 1,39 |
| Narcissistic | 11 | 14,10 | 3,81 | 1,31 |
| Dependent | 11 | 14,10 | 3,26 | 1,55 |
| Passive-aggressive | 11 | 14,10 | 3,67 | 1,12 |
| Histrionic | 9 | 11,54 | 3,77 | 1,00 |
| Avoidant | 7 | 8,97 | 4,14 | 1,86 |
| Schizotypal | 5 | 6,41 | 2,58 | 0,94 |
| Antisocial | 2 | 2,56 | 1,43 | 0,43 |
| Mean duration of using BDZ | | | 87,33 | 76,41 |
| Correlates of BDZ dependence - | | | | |
| Problematic use of BDZ | 73 | 93,59 | 3,31 | 1,58 |
| Preoccupation with BDZ | 74 | 94,87 | 3,19 | 1,41 |
| Lack of compliance | 57 | 73,08 | 1,87 | 1,56 |
| Withdrawal | 55 | 70,51 | 2,18 | 1,81 |

PD = personality disorder; BDZ = benzodiazepines; SD = standard deviation.

The average intensity of benzodiazepine dependence was 54.85±16.89, however, in the group with personality disorder the intensity was significantly higher than in the group without it (59.15±15.22 vs. 49.04±17.50; p=0,007)

**B/ Indicators of benzodiazepine dependence depending on the presence of personality disorders.**

*1. Differences in frequency of benzodiazepine dependence indicators between the groups with and without personality disorder*

Comparing the groups of subjects with and without personality disorders, a significantly higher frequency of two correlates was found in the group of subjects with personality disorders - preoccupation with benzodiazepines and low compliance (Table 2).

**Table 2:** Frequency of benzodiazepine dependency indicators in the group with and without personality disorders

| | Problematic use of BDZ | | Preoccupation with BDZ | | Lack of compliance | | Withdrawal syndrome | |
|---|---|---|---|---|---|---|---|---|
| | N | % | N | % | N | % | N | % |
| **With personality disorder** | 45 | 95.7% | **47** | **100,0%** | **39** | **83.0%** | 34 | 72.3% |
| **Without personality disorder** | 22 | 90.3% | **27** | **87.1%** | **18** | **58.1%** | 21 | 67.7% |
| Pearson Chi square | 0.915 | | **6.392** | | **5.893** | | 0.19 | |
| df | 1 | | **1** | | **1** | | 1 | |
| p value | 0.339 | | **0.011*** | | **0.015*** | | 0.663 | |

BDZ= benzodiazepines; CI= Confidence interval; *p<0,05

*2. Intensity of the benzodiazepine dependence indicators in the groups with and without personality disorders*

A similar result was obtained when these two groups were compared in terms of the intensity of benzodiazepine indicators. A statistically significant difference was found concerning preoccupation with benzodiazepines and low compliance (Table 3).

**Table 3**: Intensity of the benzodiazepine dependency indicators in the groups with and without personality disorder

| | | N | Mean | Std. Deviation | Std. Error Mean | T-test | df | P value |
|---|---|---|---|---|---|---|---|---|
| Problematic use | With PD | 47 | 3.53 | 1.472 | 0.215 | | | |
| | Without PD | 31 | 2.97 | 1.703 | 0.306 | 1.556 | 76 | 0.124 |
| Preoccupation with benzodiazepines | With PD | 47 | **3.64** | 1.206 | 0.176 | | | |
| | Without PD | 31 | **2.52** | 1.458 | 0.262 | **3.700** | **76** | **0.000**** |
| Lack of compliance | With PD | 47 | **2.19** | 1.527 | 0.223 | | | |
| | Without PD | 31 | **1.39** | 1.498 | 0.269 | **2.293** | **76** | **0.025*** |
| Withdrawal syndrome | With PD | 47 | 2.23 | 1.879 | 0.274 | | | |
| | Without PD | 31 | 2.1 | 1.72 | 0.309 | 0.326 | 76 | 0.745 |

PD=personality disorder; *p<0,05; **p<0,001.

The co-occurrence of two or more personality disorders was of significance concerning the intensity of preoccupation with benzodiazepines. The highest rates of preoccupation with benzodiazepines were found in patients with co-occurrence of 1-3 personality disorders (p <0.003).

**Discussion**

Benzodiazepine dependence is the condition resulting from the repeated and continuous use of benzodiazepine drugs. Since 1981, the WHO has propagated a psycho-physiological-social model for dependence on all psychoactive substances, the so-called drug dependence syndrome. The four scales of the Bendep-SRQ reflect the psychological, physiological and social aspects of BZD dependence (13,14). If we consider the content of the Bendep-SRQ items for the assessment of benzodiazepine indicators (13), we can conclude that "Problematic use" seems to reflect a social aspect of benzodiazepine dependence, „Preoccupation" the psychological aspect; „Lack of compliance" reflects an increase in tolerance or the physiological aspect, and „Withdrawal" (14).

In our study, approximately 70% of subjects had positive indicators for physical dependence (lack of compliance in 73.08% and withdrawal in 70.51% of subjects). The psychological dependence indicator was highly frequent (preoccupation with BDZs in 94.87% of subjects), as well as for social aspects (problematic use of BDZs in 93.59%). A significantly higher number of subjects was of the female gender, which is consistent with previous research that has shown that the female gender is more frequent in benzodiazepine users (15). Gender is a well-known factor associated with the development of benzodiazepine dependence since several studies suggested that women are more vulnerable to this condition (2).

The result of our study was in concordance with previous studies and confirms that the frequency of personality disorders is high among people with dependence on psychoactive substances. Current data indicate that the frequency ranges between 65% and 90% of subjects treated for substance abuse or dependence (16). Research that dealt with personality disorders in benzodiazepine addicts found that predominantly borderline personality disorder, but also antisocial personality disorder, are associated with misuse of benzodiazepines and a more

severe form of abstinence syndrome (17). Borderline personality disorder, avoidant personality disorder, and dependent personality disorder are the most common disorders among benzodiazepine addicts. Patients with cluster B personality disorders have the worst prognosis regarding discontinuing BZD (18). Some authors indicate that histrionic, dependent, or anankastic personality disorders are personality factors that predispose to dependence (19).

In our study, a large percentage of subjects with benzodiazepine dependence had at least one personality disorder (60.26%). Among them, the most frequent were obsessive-compulsive personality disorder (30.77%) and paranoid personality disorder (25.64%).

After the division into subgroups, it was established that there were differences in the expression of benzodiazepine dependence in the groups with and without personality disorders. First, the total score (e.g. intensity) of benzodiazepine dependence was statistically higher in the group with personality disorder. That means greater symptom severity and more suffering for a person. When comorbidity with personality disorders was present, there was a greater likelihood that certain indicators of benzodiazepine dependence would be present as well.

According to our results, if a person with benzodiazepine dependence had a personality disorder, there is a greater chance of presenting a more frequent and more intensive behavior associated with poor compliance, which is usually the result of an increase in tolerance. Our patients with a comorbid personality disorder had a higher chance of expressing more frequent and more intensive preoccupation with benzodiazepine or craving and safety behavior related to the constant need for availability of the drug.

The co-occurrence of two or more personality disorders in the same person was associated with a more frequent occurrence of preoccupation with benzodiazepine, too. They spend a great deal of time thinking about medication and its availability, get nervous if

medication is out of reach, feel safe only if medication is with them, expect scheduled time to take a medication, etc.

The limiting factor of this research was a relatively small number of subjects. Also, the study involved a significantly higher number of women, but this relationship was probably the result of a greater use of benzodiazepines among females, as well as of the fact that men are less likely to seek treatment (20).

The importance of the data obtained was predominantly clinical. Information about which patients are at a high risk of developing benzodiazepine dependence can help clinicians take measures to modify the risk. Those may involve selecting therapeutic methods and techniques, pre-preparation of specific treatment, close monitoring during treatment, or adding adjunctive interventions. The conclusions based on our results are that more caution is needed when administering benzodiazepines to people who have a comorbid personality disorder. In our opinion, the presence of personality disorders should be considered in the duration of the treatment planning. A personality assessment should guide clinical decisions on tapering BDZ in addition to considerations such as dosage, residual psychopathology, duration, etc. (7).

**Conclusion**

Our results suggested that benzodiazepine dependence was commonly associated with personality disorders. This association could contribute to the increase in the intensity of benzodiazepine dependence, as well as in the increased intensity and frequency of preoccupation with benzodiazepine and lack of compliance during treatment. Cumulative effects of the co-occurrence of two or more personality disorders may additionally increase preoccupation with a benzodiazepine.

References:


1. Umbricht A, Velez ML. Benzodiazepine and nonbenzodiazepine hypnotics (z-drugs): the other epidemic. Textbook of Addiction Treatment: International Perspectives. 2021:141-56.
2. de las Cuevas C, Sanz E, de la Fuente J. Benzodiazepines: more" behavioural" addiction than dependence. Psychopharmacology. 2003 May;167:297-303.
3. Petursson H, Lader MH. Benzodiazepine dependence. British Journal of Addiction. 1981 Jun;76(2):133-45.
4. Uhlenhuth EH, DeWIT HA, Balter MB, Johanson CE, Mellinger GD. Risks and benefits of long-term benzodiazepine use. Journal of Clinical Psychopharmacology. 1988 Jun 1;8(3):161-7.
5. Salzman C, Balter M, Ellinwood E, Gallant DM, Gillin JC, Greenblatt DJ, Griffiths R, Hollister LE, Kleber HD, O'Brian C, Pincus H. American Psychiatric Association task force on benzodiazepine dependency, toxicity, and abuse. Washington: American Psychiatric Press; 1990.
6. Schneider Jr R, Ottoni GL, Carvalho HW, Elisabetsky E, Lara DR. Temperament and character traits associated with the use of alcohol, cannabis, cocaine, benzodiazepines, and hallucinogens: evidence from a large Brazilian web survey. Brazilian Journal of Psychiatry. 2015 Jan 20;37:31-9.
7. Schweizer E, Rickels K, De Martinis N, Case G, Garcia-Espana F. The effect of personality on withdrawal severity and taper outcome in benzodiazepine dependent patients. Psychological Medicine. 1998 May;28(3):713-20.
8. Nordfjærn T, Bjerkeset O, Moylan S, Berk M, Gråwe RW. Clusters of personality traits and psychological symptoms associated with later benzodiazepine prescriptions in the

general population: The HUNT Cohort Study. Addictive Behaviors. 2013 Oct 1;38(10):2575-80.

9. Fraser R, Isaif L, Teles D, Laporte L. Personality Disorders and Addiction Disorders. Textbook of Addiction Treatment: International Perspectives. 2021:1373-89.
10. Klein MH, Benjamin LS, Rosenfeld R, Treece C, Husted J, Greist JH. The Wisconsin personality disorders inventory: Development, reliability, and validity. Journal of Personality Disorders. 1993 Dec;7(4):285-303.
11. Smith TL, Klein MH, Benjamin LS. Validation of the Wisconsin personality disorders inventory-IV with the SCID-II. Journal of Personality Disorders. 2003 Jun 1;17(3):173-87.
12. Baillie AJ, Mattick RP. The benzodiazepine dependence questionnaire: development, reliability and validity. The British Journal of Psychiatry, 1996;169(3): 276-281.
13. Kan CC, Breteler MH, Timmermans EA, Van der Ven AH, Zitman FG. Scalability, reliability, and validity of the benzodiazepine dependence self-report questionnaire in outpatient benzodiazepine users. Comprehensive psychiatry. 1999 Jul 1;40(4):283-91.
14. Manthey L, Lohbeck M, Giltay EJ, Veena T, Zitman FG, Penninx BW. Correlates of benzodiazepine dependence in the Netherlands Study of Depression and Anxiety. Addiction. 2012;107(12):2173-82.
15. Canham SL, Gallo J, Simoni-Wastila L. Perceptions of benzodiazepine dependence among women age 65 and older. Journal of gerontological social work. 2014 Nov 17;57(8):872-88.
16. Goretti S, Sanchéz MS, Borja PL, Rivera GB, Lara MR. The relationship between personality disorders and substance abuse disorders. European Psychiatry. 2017 Apr;41(S1):S473-4.

17. Votaw VR, Geyer R, Rieselbach MM, McHugh RK. The epidemiology of benzodiazepine misuse: a systematic review. Drug and alcohol dependence. 2019 Jul 1;200:95-114.
18. Edinoff AN, Nix CA, Hollier J, Sagrera CE, Delacroix BM, Abubakar T, Cornett EM, Kaye AM, Kaye AD. Benzodiazepines: uses, dangers, and clinical considerations. Neurology international. 2021 Nov 10;13(4):594-607.
19. Konopka A, Wysiecka JP, Samochowiec J. Benzodiazepine misuse and addiction. risk factors and adverse behavioral aspects. InNeuropathology of drug addictions and substance misuse 2016 Jan 1 (pp. 327-333). Academic Press.
20. Andrews G. Comorbidity and the general neurotic syndrome. The British Journal of Psychiatry. 1996 Jun;168(S30):76-84.