Upotreba anksiolitika kod studenata medicine na Medicinskom fakultetu u Osijeku

/ *Use of Anxiolytics in Medical Students at the Faculty of Medicine Osijek*

Romana Marušić[1,2], Dora Karl[2], Marija Olujić[2,3], Petra Jurić[2], Kristina Kralik[4], Tatjana Bačun[5], Dunja Degmečić[6]

[1] Odjel za internu medicinu, Nacionalna memorijalna bolnica Vukovar, Vukovar, Hrvatska; [2] Medicinski fakultet, Sveučilište Josipa Jurja Strossmayera u Osijeku, Osijek, Hrvatska; [3] Oftalmološka klinika dr. Balog, Osijek, Hrvatska; [4] Katedra za medicinsku statistiku i medicinsku informatiku, Sveučilište Josipa Jurja Strossmayera u Osijeku, Osijek, Hrvatska; [5] Klinika za internu medicinu, Klinički bolnički centar Osijek, Osijek, Hrvatska; [6] Klinika za psihijatriju, Klinički bolnički centar Osijek, Osijek, Hrvatska

/ [1] *Department of Internal Medicine, National Memorial Hospital Vukovar, Vukovar, Croatia;* [2] *Faculty of Medicine, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia;* [3] *Balog Ophthalmologic Polyclinic, Osijek, Croatia;* [4] *Department of Biophysics, Medical Statistics and Medical Informatics, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia;* [5]*Department of Internal Medicine, University Hospital Centre Osijek, Osijek, Croatia;* [6]*Department of Psychiatry, University Hospital Centre Osijek, Osijek, Croatia*

ORCID ID: 0000-0003-0392-2943 (Romana Marušić)
ORCID ID: 0000-0001-6567-6114 (Dora Karl)
ORCID ID: 0000-0003-1150-8742 (Marija Olujić)
ORCID ID: 0000-0002-7248-9891 (Petra Jurić)
ORCID ID: 0000-0002-4481-6365 (Kristina Kralik)
ORCID ID: 0000-0001-7012-5325 (Tatjana Bačun)
ORCID ID: 0000-0003-2199-4043 (Dunja Degmečić)

Uvod: Anksiolitici su jedni od najčešće propisivanih lijekova te su veoma popularni zbog svoje široke terapijske primjene. *Cilj:* Cilj je ispitati učestalost korištenja anksiolitika kod studenata medicine.

Metode: U istraživanju je sudjelovalo 222 studenata od 1. do 6. godine Studija medicine na Medicinskom fakultetu Osijek rješavajući anonimni upitnik. *Rezultati*: Od 222 studenata 19,5 % koristilo je benzodiazepin. Djevojke ih koriste značajno češće od muškaraca. Najčešće indikacije za korištenje su osjećaj tjeskobe i anksioznost. Najčešće korišten benzodiazepin je alprazolam. Najviše ih koriste studenti 6. godine medicine, dok ih studenti 1. godine ne koriste. Razlozi za korištenje razlikuju se prema godinama studiranja; glavni razlog korištenja na 3. godini je nadolazeći ispit, dok su na 5. i 6. godini razlozi uzimanja benzodiazepina obiteljski i ljubavni problemi. Jednom u više mjeseci benzodiazepine koristi 59,1 % studenata, dok ih 5 % koristi svaki dan, 20,9 % studenata koristi i smatra korisnima biljne preparate za smirenje. Pomoć stručnjaka za svoje probleme potražilo je 32,6 % studenata koji su koristili benzodiazepine, dok ih je 41,9 % o tome razmišljalo. *Zaključci*: Unatoč tome što su studenti medicine izloženi velikom stresu te anksiolitike koriste češće nego opća populacija, njihova je uporaba racionalna i kontrolirana.

/ Introduction: *Anxiolytics are one of the most prescribed drugs due to their wide therapeutic use.*

Aims: *Our goal is to examine the frequency of anxiolytics use in medical students. Materials and methods: 222 medical students from 1st to 6th year at the Faculty of Medicine in Osijek participated in the research by solving an anonymous questionnaire. Results: Of the 222 students, 19.5% used anxiolytics. Women use them significantly more than men. The most common indication for use is anxiety. The most used benzodiazepine is alprazolam. They are mostly used by 6th-year medical students. Reasons for benzodiazepine use vary depending on the year of study; 3rd-year students use benzodiazepines due to upcoming exams, while for the 5th and 6th year students, family and love problems are more*

common reasons. 59.1% of students use benzodiazepines once every few months, while 5% use them daily. 20.9% use and consider herbal sedatives useful. 32.6% of students who used benzodiazepines sought professional help, while 41.9 % thought about it. Conclusions: Even though medical students are exposed to great stress and use anxiolytics more than the general population; their use is rational and controlled.

ADRESA ZA DOPISIVANJE / *CORRESPONDENCE:*
Romana Marušić, dr. med.
Medicinski fakultet u Osijeku
31000 Osijek, Hrvatska
E-mail: romana.marusic55@gmail.com

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UVOD

Benzodiazepini su najčešće propisivani anksiolitici koji imaju široku primjenu od 1959. godine kada je uveden prvi benzodiazepin, klordiazepoksid, pod tvorničkim imenom Librium. Godine 1963. uveden je diazepam (Valium) koji je postao najpropisivaniji lijek u svijetu zahvaljujući svojoj visokoj potentnosti, širokom spektru djelovanja i jakom miorelaksirajućem djelovanju (1-3).

Benzodiazepini su popularni zbog svoje široke terapijske primjene: anksiozni poremećaj, panični poremećaj, opsesivno kompulzivni poremećaj, socijalna fobija, posttraumatski stresni poremećaj, nesanica, epilepsija, motorički poremećaji, shizofrenija, agitirana stanja (1). Dobro se podnose, imaju brz početak djelovanja, nizak rizik za interakciju s drugim lijekovima, malo nuspojava te dostupan antidot (flumazenil) pri predoziranju, no nekontrolirana i neracionalna upotreba može dovesti do težeg stanja zbog razvoja ovisnosti i tolerancije (4,5).

Potentni lijekovi s kratkim poluvremenom eliminacije (tablica 1) imaju najveći rizik za stvaranje ovisnosti (5). Brzina djelovanja ovisi o lipofilnosti. Među najlipofilnijim benzodiazepinima je diazepam koji zbog brzog prolaska krvno-moždane barijere ima najbrži nastup (pola sata na-

INTRODUCTION

Benzodiazepines are the most prescribed anxiolytics that have been widely used since 1959 when the first benzodiazepine, chlordiazepoxide, was introduced under the brand name Librium. In 1963, diazepam (Valium) was introduced, which became the most prescribed drug in the world due to its high potency, broad spectrum of action, and strong muscle relaxant effect (1-3).

Benzodiazepines are very popular due to their wide therapeutic application; anxiety disorder, panic disorder, social phobia, post-traumatic stress disorder, insomnia, and agitated states (1). They are well tolerated, have a rapid onset of action, low risk of interaction with other drugs, few side effects, and available antidote (flumazenil), but uncontrolled and irrational use can lead to a more difficult condition due to the development of addiction and tolerance (4,5).

Potent drugs with a short elimination half-life (Table 1) have the highest risk of developing addiction (5). The onset of action depends on the lipophilicity of the drug. Among the most lipophilic benzodiazepines is diazepam, which has the fastest onset due to the rapid passage of the blood-brain barrier, but due to rapid redistribution into adipose tissue, the effect soon

TABLICA 1. Farmakokinetička svojstva nekih benzodiazepina (4,5,7-9)
TABLE 1. Pharmacokinetic properties of some benzodiazepines (4,5,7-9)

Benzodiazepini s kratkim djelovanjem / Short-acting benzodiazepines	T_{max} (sati) / T_{max} (hours)	$T_{1/2}$ (sati) / $T_{1/2}$ (hours)	Opis / Description	Uobičajena anksiolitička doza / Usual anxiolytic dose	Indikacije / Indications
Triazolam	1	2-3	Brz nastup i kratko trajanje učinka / Fast onset and short duration of effect	0.125-.025	Nesanica / Insomnia
Benzodiazepini sa srednje dugim djelovanjem / Intermediate-acting benzodiazepines					
Alprazolam	1-2	12-15	Brza oralna apsorpcija / Fast oral absorption	0,25-0,5 dva do tri puta na dan / 0,25 - 0,5 two to three times a day	Panični napadaj, anksioznost / Panic attack, anxiety
Lorazepam	1-6	10-20	Nema aktivnih metabolita / No active metabolites	1-2 mg jedanput ili dva puta na dan / 1 - 2 mg one or two times a day	Anksioznost, odvikavanje od alkohola, uvod u opću anesteziju / Anxiety, alcohol withdrawal, introduction to general anaesthesia
Oksazepam / Oxazepam	2-4	10-20	Nema aktivnih metabolita / No active metabolites	15-30 mg, tri do četiri puta na dan / 15 - 30 mg, three to four times a day	Anksioznost, odvikavanje od alkohola / Anxiety, alcohol withdrawal
Benzodiazepini s dugim djelovanjem / Long-acting benzodiazepines					
Flurazepam	1-2	40-100	Aktivni metabolit: dezalkilflurazepam / Active metabolite: N-Desalkylflurazepam	15-30 mg	Nesanica / Insomnia
Diazepam	1-2	20-80	Aktivni metabolit: dezmetildiazepam / Active metabolite: desmethyldiazepam	5 mg, dva puta/dan / 5 mg, two times a day	Anksioznost, odvikavanje od alkohola, sedacija, epileptički status, spazam mišića / Anxiety, alcohol withdrawal, sedation, status epilepticus, muscle spasms

T_{max}- vrijeme do vršnih vrijednosti koncentracije u krvi, $T_{1/2}$- vrijeme polueliminacije uključujući i poluvijek metabolita / T_{max}- time to peak blood concentration values, $T_{1/2}$- half-life including half-life of metabolites

kon oralne primjene, a maksimalni učinak nakon jednog sata), no zbog brze redistribucije u masno tkivo ubrzo dolazi do slabljenja učinka. Radi brzog prodiranja u SŽS ovisnici najčešće uzimaju diazepam zajedno s opijatima (1). Primijećene su spolne razlike u vremenu raspada i eliminaciji pri korištenju diazepama; u mlađih žena je brže nego u muškaraca, dok na primjeni alprazolama nisu zabilježene razlike (6).

U SAD-u je provedena nacionalna anketa u kućanstvima te je izvješteno da 4 % ispitanika koristi lijekove za smirenje, a 6 % ih koristi za spavanje. Slične procjene iz Velike Britanije izvještavaju da 3 % stanovništva koristi benzodiazepine (10). Njihova potrošnja dosegla je čak

weakens (1). Gender differences in disintegration and elimination times were observed with diazepam; it is faster in younger women than in men, while no differences were observed in the use of alprazolam (6).

In the United States (US), a national household survey was conducted, and it was reported that 4% of the respondents use them as tranquilizers and 6% use them for sleep. Similar estimates from the United Kingdom (UK) report that 3% of the population uses benzodiazepines (10). Their consumption reached as much as 30% for people over 65 in France, more than 20% in Canada and Spain, 15% in Australia, and between 9% and 12% in the United States.

30 % kod osoba starijih od 65 godina u Francuskoj, više od 20 % u Kanadi i Španjolskoj, 15 % u Australiji te između 9 % i 12 % u SAD. Studija provedena u Lleidi pokazala je godišnju prevalenciju prepisanih benzodiazepina od 18,8 % kod žena te 9,6 % kod muškaraca. Upotreba se povećavala s godinama dosežući 36,1 % kod osoba starijih od 65 godina. Najčešće indikacije za korištenje bile su anksioznost (24 %) i depresija (19 %), dok je nesanica zabilježena u 2 % ispitanika (11).

Prevalencija anksioznosti kod studenata medicine iznosi od 29,2 % do 38,7 %. Smatra se da je studij medicine psihički najzahtjevniji fakultet te da je prevalencija anksioznih poremećaja mnogo veća nego na ostalim fakultetima (12). Studija provedena na Medicinskom fakultetu u Zagrebu usporedila je konzumiranje psihoaktivnih tvari kod studenata. Prevalencija korištenja psihoaktivnih tvari barem jednom u životu, od kojih su najčešći benzodiazepini, iznosila je 33 % u 2000. godini u usporedbi s 15 % 1989. (13).

Prema izvješću HALMED-a iz 2019. godine diazepam je najčešće propisivani anksiolitik i zauzima sedmo mjesto (39,39 definiranih dnevnih doza na 1000 stanovnika na dan (DDD/TSD)) potrošnje svih lijekova. Zatim slijedi alprazolam koji zauzima deseto mjesto prema potrošnji lijekova (27,76 DDD/TSD) (14). Prema posljednjem višegodišnjem komparativnom izvješću o potrošnji lijekova 2018. godine 78/1000 stanovnika koristi anksiolitike, dok je taj broj u 2014. godini iznosio 73/1000 stanovnika. Bilježi se porast od 2,1 % godišnje od 2014. do 2018. godine (15).

Istraživanje u Americi pokazalo je da žene koriste anksiolitike dva put češće nego muškarci. Ista studija pokazala je kako čak ¼ ispitanika u svim dobnim skupinama dugotrajno uzima benzodiazepine (16). Nekoliko studija pokazalo je kako je više ljudi uzimalo benzodiazepin prepisan od liječnika opće prakse nego od psihijatra. Uvjeti koji povećavaju rizik za dugotrajnu pri-

A study conducted in Lleida showed an annual prevalence of prescribed benzodiazepines of 18.8% in women and 9.6% in men. Usage increased with age reaching 36.1% in people over 65 years of age. The most common indications for use were anxiety (24%) and depression (19%), while insomnia was reported in 2% of respondents (11).

The prevalence of anxiety in medical students ranges from 29.2% to 38.7%. It is considered to be the most psychologically demanding faculty and the prevalence of anxiety disorders is much higher than in other academic institutions (12). A study conducted at the Faculty of Medicine in Zagreb compared the consumption of psychoactive substances by students. The prevalence of psychoactive substance use at least once in a lifetime, of which benzodiazepines are the most common, was 33% in 2000 compared to 15% in 1989 (13).

According to the 2019 HALMED report, diazepam is the most prescribed anxiolytic and ranks seventh (39.39 defined daily doses per 1000 inhabitants per day (DDD/TSD)) of all drug consumption. It is followed by alprazolam, which ranks tenth in terms of drug consumption (27.76 DDD/TSD) (14). According to the last multi-year comparative report on drug consumption in 2018, 78/1000 inhabitants use anxiolytics, as compared to 2014 when that number was 73/1000 inhabitants. In the period from 2014 to 2018, there was an increase of 2.1% per year (15).

Research in the US has shown that women use anxiolytics twice as often as men. The same study showed that one quarter of subjects in all age groups took benzodiazepines over a longer period of time (16). Several studies have indicated that more people are prescribed benzodiazepines by general practitioners than by psychiatrists. Factors that increase the risk of long-term use of benzodiazepines in both sexes are age over 35 years, low education,

mjenu benzodiazepina u oba spola su: dob starija od 35 godina, nisko obrazovanje, niski prihodi, nezaposlenost, depresivno stanje (16-18).

Neprimjerena uporaba benzodiazepina svjetski je javnozdravstveni problem. Zbog velike potrošnje benzodiazepina u općoj populaciji cilj nam je istražiti učestalost i indikacije uzimanja ovih lijekova kod studenata medicine kao i njihovo poznavanje mogućih nuspojava. Mnogi pacijenti nisu svjesni rizika koji nose ove lijekovi, razvoja tolerancije i ovisnosti te ih koriste prečesto zbog njihovog trenutnog djelovanja koje im olakšava nošenje s problemima. Kako su studenti medicine budući liječnici, važno je ispitati njihove stavove i poznavanje nuspojava benzodiazepina kako bi sljedeće generacije doktora medicine bolje upoznali svoje pacijente s određenim nuspojavama, dužini liječenja te interakcijama.

ISPITANICI I METODE

U istraživanju, koje je ustrojeno po načelu presječnog istraživanja te provedeno u razdoblju veljače i ožujka 2021. godine, sudjelovalo je 222 studenata od 1. do 6. godine studija medicine na Medicinskom fakultetu Osijek.

Za potrebe istraživanja kreiran je anonimni upitnik kojim su se bilježili i ispitivali: spol, godina studiranja, korišteni lijekovi iz skupine benzodiazepina, dužina i razlozi uzimanja lijeka, poznavanje biljnih preparata za smirenje, poznavanje mogućnosti ovisnosti o lijeku te subjektivna procjena korisnosti lijeka. Upitnik je izrađen za potrebe ovog istraživanja. Odgovori na navedena pitanja bili su ponuđeni, a ispitanici su zaokruživali odgovor koji se odnosi na njih. Za stavove vezane uz upotrebu anksiolitika korištena je Likertova ljestvica, a ispitanici su izrazili slaganje na peterostupanjskoj ljestvici zaokružavajući odgovore od 1 (u potpunosti se ne slažem) do 5 (u potpunosti se slažem). Prije samog provođenja ankete ispitanici su bili

low income, unemployment, and depression (16-18).

AIM

The misuse of benzodiazepines is a worldwide public health problem. Due to the high consumption of benzodiazepines in the general population, our aim was to investigate the frequency and indications of taking these drugs in medical students, as well as their knowledge of possible side effects. Also, based on the use of benzodiazepines, we examine the frequency of anxiety disorders in medical students and their ways of dealing with them.

METHODS

Subjects and methods

The research was organized on the principle of cross-sectional research and conducted in the period from February to March 2021 and involved 222 students from 1st to 6th year of study at the Faculty of Medicine at the University of Osijek.

For the purposes of the research, an anonymous questionnaire was created to record and examine gender, year of study, drugs used from the benzodiazepine group, length and reasons for taking the drug, knowledge of herbal sedatives, knowledge of drug dependence and subjective assessment of drugs' usefulness. Respondents were offered responses to the above questions and asked to mark the appropriate answer accordingly. A Likert scale was used for the attitudes related to the use of anxiolytics, and respondents expressed their agreement on a five-point scale by marking the answers ranging from 1 (completely disagree) to 5 (completely agree). Before conducting the survey, respondents were informed about its content and the purpose of

upoznati s njezinim sadržajem i svrhom. Istraživanje je odobreno od Etičkog povjerenstva Medicinskog fakulteta u Osijeku.

Statističke metode

Kategorijski podatci su predstavljeni apsolutnim i relativnim frekvencijama. Razlike u kategorijskim varijablama testirane su χ^2 testom, a po potrebi Fisherovim egzaktnim testom. Normalnost raspodjele testirana je Shapiro Wilkovim testom. Razlike u kontinuiranim varijablama između dviju nezavisnih skupina testirane su Mann Whitneyevim U testom, a između više od dviju skupina Kruskal Wallisovim testom. Razina značajnosti je postavljena na Alpha = 0,05. Za statističku analizu korišten je statistički program *MedCalc® Statistical Software version 19.6 (MedCalc Software Ltd, Ostend, Belgium; https://www.medcalc.org; 2020) i SPSS (IBM Corp. Released 2013. IBM SPSS Statistics for Windows, Version 21.0. Armonk, NY: IBM Corp.).*

REZULTATI

Istraživanje je provedeno na 222 studenta od kojih je 80 (36 %) mladića i 142 (64 %) djevojaka. Najviše ispitanika je sa 6. godine studija, 53 (23 %). Anksiolitike su značajno češće koristile djevojke u odnosu na mladiće (χ^2 test, P = 0,007). Negativan stav prema upotrebi anksiolitika i stav da im nisu potrebni je najučestaliji stav prema anksioliticima kod onih ispitanika koji ih nisu koristili. Značajno više mladića, 15 (18,8 %) ima negativan stav prema upotrebi anksiolitika u odnosu na djevojke (χ^2 test, P < 0,001). Najčešće korišten benzodiazepin je alprazolam (Helex, Xanax, Misar), kako navode 22 (51,2 %) studenta, bez značajne razlike u odnosu na spol. Za 32 (14,4 %) studenata tjeskoba i anksioznost su najčešći razlozi uzimanja anksiolitika i to značajnije kod djevojaka u odnosu na mladiće (χ^2 test, P = 0,009), a za isti broj studenata nadolazeći ispit je većinom

conducting it. The research was approved by the Ethics Committee of the Faculty of Medicine in Osijek.

Statistical methods

Category data are presented in absolute and relative frequencies. Differences in categorical variables were tested by the $\chi 2$ test and, if necessary, by Fisher's exact test. The normality of the distribution was assessed using the Shapiro Wilk test. Differences in continuous variables between the two independent groups were compared using Mann-Whitney U test, and between more than two groups using Kruskal Wallis test. The significance level was set to Alpha=0.05. MedCalc® Statistical Software version 19.6 (MedCalc Software Ltd, Ostend, Belgium; https://www.medcalc.org; 2020) and SPSS (IBM Corp. Released 2013) were used for statistical analysis. (IBM SPSS Statistics for Windows, Version 21.0 Armonk, NY: IBM Corp.).

RESULTS

The study was conducted on 222 students, of whom 80 (36%) were male and 142 (64 %) were female. Anxiolytics were used significantly more often by female students than the male (χ^2 test, P = 0.007). Significantly more male students (18.8%) had a negative attitude towards the use of anxiolytics compared to the female students (χ^2 test, P < 0.001). According to 51.2% of students, the most frequently used benzodiazepine was alprazolam, with no significant difference in gender distribution. For 14.4% of students, anxiety was the most common reason for taking anxiolytics, which was more significant in female than in male students (χ^2 test, P = 0.009). The same number of students answered that an upcoming exam was in most cases the event that preceded taking anxiolytics, which was

događaj koji prethodi uzimanju anksiolitika, također značajnije kod djevojaka u odnosu na mladiće (χ^2 test, P = 0,009) (tablica 2).

also more significantly expressed in female compared to male students (χ^2 test, P = 0.009) (Table 2).

TABLICA 2. Obilježja ispitanika prema spolu
TABLE 2. Characteristics of respondents by gender

	Broj (%) / Number (%)			P*
	Mladići / Men	Djevojke / Women	Ukupno / In total	
Godina studija / Year of study				
1.	9 (11,3)	16 (11,3)	25 (11,3)	0,11
2.	20 (25)	23 (16,2)	43 (19,4)	
3.	8 (10)	17 (12)	25 (11,3)	
4.	12 (15)	26 (18)	38 (17)	
5.	19 (24)	20 (14)	39 (18)	
6.	12 (15)	40 (28)	52 (23)	
Koristili su bilo kada anksiolitike (benzodiazepine) / They have used anxiolytics at least once in a lifetime (benzodiazepines)	8 (10)	35 (24,8)	43 (19,5)	**0,007**
Postoji li razlog zašto niste koristili anksiolitike? / Is there a reason why you did not use anxiolytics?				
Bojim se kako će djelovati na mene / I am afraid it will affect me	3 (3,8)	11 (7,7)	14 (6,3)	0,24
Bojim se osude okoline / I am afraid of the condemnation of others	1 (1,3)	4 (2,8)	5 (2,3)	0,66†
Nisu mi dostupni / They are not available to me	4 (5)	3 (2,1)	7 (3,2)	0,26†
Imam negativan stav prema upotrebi anksiolitika / I have a negative attitude towards the use of anxiolytics	15 (18,8)	6 (4,2)	21 (9,5)	**<0,001**
Nisu mi potrebni / I do not need them	57 (71,3)	91 (64,1)	148 (66,7)	0,28
Koji ste benzodiazepin najčešće koristili? / Which benzodiazepine did you use the most?				
Alprazolam (Helex, Xanax, Misar)	4 (50)	18 (51,4)	22 (51,2)	0,69†
Diazepam (Normabel, Apaurin)	3 (37,5)	14 (40)	17 (39,5)	
Bromazepam (Lekotam, Lexaurin, Lexilium)	1 (12,5)	1 (2,9)	2 (4,7)	
Oksazepam (Praxiten) / Oxazepam	0	2 (6)	2 (5)	
Zbog čega najčešće uzimate anksiolitike? / What is the reason you take anxiolytics most often?				
Tjeskoba i anskioznost / Anxiety	5 (6,3)	27 (19)	32 (14,4)	**0,009**
Napadaj panike / Panic attack	0	7 (4,9)	7 (3,2)	0,05†
Nesanica / Insomnia	4 (5)	13 (9,2)	17 (7,7)	0,26
Bol / Pain	2 (2,5)	1 (0,7)	3 (1,4)	0,27†
Ostalo / Other	0	2 (1,4)	2 (0,9)	0,54†
Koji događaj većinom prethodi uzimanju anksiolitika? / Which event mostly leads to taking anxiolytics?				
Nadolazeći ispit / Upcoming exam	5 (6,3)	27 (19)	32 (14,4)	**0,009**
Obiteljski problemi / Family problems	1 (1,3)	7 (4,9)	8 (3,6)	0,26†
Problemi u ljubavnom odnosu / Relationship problems	1 (1,3)	3 (2,1)	4 (1,8)	>0,99†
Nezadovoljstvo samim sobom / Dissatisfaction with oneself	3 (3,8)	12 (8,5)	15 (6,8)	0,18
Ostalo / Other	2 (2,5)	4 (2,8)	6 (2,7)	>0,99†

*χ^2 test, †Fisherov egzaktni test
/ *χ^2 test, †Fisher exact test

Anksiolitike su značajnije koristili studenti 3. i 6. godine studija u odnosu na ostale godine (Fisherov egzaktni test, P < 0,001). Nema značajnih razlika prema godini studija na pitanje zašto anksiolitike ne uzimaju, te prema tome koji anksiolitik najčešće koriste. Ispitanici 3. godine studija značajno više koriste anksiolitike zbog tjeskobe i anksioznosti (Fisherov egzaktni test, P = 0,001), i to većinom zbog nadolazećeg ispita (Fisherov egzaktni test, P = 0,01), dok studenti 5. i 6. godine značajnije češće koriste anksiolitike zbog obiteljskih problema (Fisherov egzaktni test, P = 0,002) i problema u ljubavnom odnosu (Fisherov egzaktni test, P = 0,03) (tablica 3).

Aritmetička sredina dobi u kojoj su prvi puta probali anksiolitik je 20 godina (SD 2,2 godine) u rasponu od 14 do 24 godine. Svi su upoznati s mogućnosti razvoja ovisnosti i tolerancije pri svakodnevnom uzimanju benzodiazepina. Najviše studenata, 25/42 (59,1 %) koristi jednom u više mjeseci anksiolitik, dok samo 2 (5 %) anksiolitike koriste svakodnevno. U većini slučajeva anksiolitik je preporučio liječnik ili član obitelji, a oni su bili i najčešće osobe koje su im dale anksiolitik. Biljne preparate za smirenje nisu koristili, jer ih ne smatraju dovoljno djelotvornim 12 (27,9 %) studenata, a 17 (40 %) nije upoznato s njima, dok 9 (20,9 %) ispitanika navodi da koriste biljne preparate za smirenje i pomažu im. Pomoć stručnjaka za svoje probleme potražilo je 14 (32,6 %) ispitanika, 18 (41,9 %) je razmišljalo, ali nije potražilo pomoć, dok 11 (25,6 %) ispitanika smatra da im pomoć nije potrebna, bez značajne razlike u odnosu na spol (tablica 4).

Većina ispitanika slaže se s tvrdnjom da se osjeća opuštenije i sigurnije uz anksiolitike te da se s njima mogu bolje nositi sa svojim problemima. Većina ih se ne boji da će postati ovisni o njima te nisu primijetili da unazad godinu dana uzimaju češće nego ranije. Slaganje oko tvrdnje da ne govore drugima da uzimaju anksiolitike zbog straha od osude među ispitanicima je podijeljeno (tablica 5).

Anxiolytics were used significantly more by students in the 3rd and 6th year compared to other years of study (Fisher's exact test, P < 0.001). There were no significant differences by the year of study concerning the reasons why students did not take anxiolytics, and by which anxiolytic they used the most. Subjects in the 3rd year of study used anxiolytics significantly more due to anxiety (Fisher's exact test, P = 0.001), mostly due to an upcoming exam (Fisher's exact test, P = 0.01), while students in the 5th and 6th year used anxiolytics more often due to family (Fisher's exact test, P = 0.002) or love problems (Fisher's exact test, P = 0.03) (Table 3).

The arithmetic mean of the age at which students first tried an anxiolytic was 20 years (SD 2.2 years), ranging from 14 to 24 years. Everyone was familiar with the possibility of developing addiction and tolerance when taking benzodiazepines on daily basis. 59.1% of students used anxiolytics once in several months, while 5 % of respondents used anxiolytics every day. In most cases, the anxiolytic was recommended by a doctor or a family member, and they were also, in most cases, people who gave them the anxiolytic. Herbal sedatives were not used by 67.9% of the students because 27.9% did not consider them to be effective enough, whereas 40% of students were not familiar with them and 20.9% stated that they had used herbal sedatives and found them helpful. 32.6% of the respondents sought professional help for their problems, 41.9% of them thought about seeking help and 25.6% believed that they did not need help, without a significant difference in gender distribution (Table 4).

Most respondents agreed with the statement that they felt more relaxed and safer with anxiolytics and that they could deal with their problems better. Most of them were not afraid of becoming addicted to anxiolytic and responded that they did not notice taking them more often compared to the previous year. The respondents had divided opinions relating to the claim that they were not telling others that they used anxiolytics because of the fear of condemnation (Table 5).

TABLICA 3. Obilježja ispitanika prema godini studija
TABLE 3. Characteristics of respondents by year of study

	Broj (%) prema godini studija / Number (%) by year of study							P*
	1.	2.	3.	4.	5.	6.	Ukupno / In total	
Koristili su bilo kada anksiolitike (benzodiazepine) / They have used anxiolytics at least once in a lifetime (benzodiazepines)	0	4 (9,5)	10 (40)	5 (13,2)	6 (15,4)	18 (34,6)	43 (19,5)	**<0,001**
Postoji li razlog zašto niste koristili anksiolitike? / Is there a reason why you did not use anxiolytics?								
Bojim se kako će djelovati na mene / I am afraid it will affect me	4 (16)	4 (9,3)	0	1 (2,6)	3 (7,7)	2 (3,8)	14 (6,3)	0,19
Bojim se osude okoline / I am afraid of the condemnation of others	1 (4)	1 (2,3)	0	2 (5,3)	0	1 (1,9)	5 (2,3)	0,68
Nisu mi dostupni / They are not available to me	0	4 (9,3)	1 (4)	0	1 (2,6)	1 (1,9)	7 (3,2)	0,23
Imam negativan stav prema upotrebi anksiolitika / I have a negative attitude towards the use of anxiolytics	3 (12)	6 (14)	3 (12)	1 (2,6)	4 (10,3)	4 (7,7)	21 (9,5)	0,54
Nisu mi potrebni / I do not need them	20 (80)	28 (65,1)	12 (48)	30 (78,9)	28 (71,8)	30 (57,7)	148 (66,7)	0,06
Koji ste benzodiazepin najčešće koristili? / Which benzodiazepine did you use the most?								
Alprazolam (Helex, Xanax, Misar)	0	2/4	8/10	2/5	3/6	7/18	22 (51,2)	0,78†
Diazepam (Normabel, Apaurin)	0	2/4	2/10	3/5	3/6	7/18	17 (39,5)	
Bromazepam (Lekotam, Lexaurin, Lexilium)	0	0	0	0	0	2/18	2 (4,7)	
Oksazepam (Praxiten) / Oxazepam	0	0	0	0	0	2/18	2 (4,7)	
Zbog čega najčešće uzimate anksiolitike? / What is the reason you take anxiolytics most often?								
Tjeskoba i anksioznost / Anxiety	0	3 (7)	9 (36)	3 (7,9)	4 (10,3)	13 (25)	32 (14,4)	**0,001**
Napadaj panike / Panic attack	0	1 (2,3)	0	0	3 (7,7)	3 (5,8)	7 (3,2)	0,32
Nesanica / Insomnia	0	1 (2,3)	3 (12)	2 (5,3)	3 (7,7)	8 (15,4)	17 (7,7)	0,11
Bol / Pain	0	1 (2,3)	0	1 (2,6)	0	1 (1,9)	3 (1,4)	0,95
Ostalo / Other	0	0	0	0	0	2 (3,8)	2 (0,9)	0,55
Koji događaj većinom prethodi uzimanju anksiolitika? / Which event mostly leads to taking anxiolytics?								
Nadolazeći ispit / Upcoming exam	0	3 (7)	7 (28)	4 (10,5)	6 (15,4)	12 (23,1)	32 (14,4)	**0,01**
Obiteljski problemi / Family problems	0	0	1 (4)	0	0	7 (13,5)	8 (3,6)	**0,002**
Problemi u ljubavnom odnosu / Relationship problems	0	0	0	0	0	4 (7,7)	4 (1,8)	**0,03**
Nezadovoljstvo samim sobom / Dissatisfaction with oneself	0	1 (2,3)	3 (12)	2 (5,3)	1 (2,6)	8 (15,4)	15 (6,8)	0,05
Ostalo / Other	0	1 (2,3)	0	1 (2,6)	0	4 (7,7)	6 (2,7)	0,33

*Fisherov egzaktni test
/ *Fisher exact test

TABLICA 4. Učestalost i preporuka za korištenje anksiolitika u skupini studenata koji ih koriste (n=43)
TABLE 4. Frequency and recommendation for the use of anxiolytics in a group of students using them (n=43)

	Mladići / Men	Djevojke / Women	Ukupno / In total	P*
Koliko često koristite anksiolitike / How often do you use anxiolytics?				
1x u više mjeseci / Once in few months	4/7	21 (60)	25 (59,5)	0,92
Više od 1x mjesečno / More than once per month	0	1 (2,9)	1 (2,4)	
1x mjesečno / Once per month	2/7	5 (14,3)	7 (16,7)	
Više od 1x tjedno / More than once per week	0	1 (3)	1 (2)	
1x tjedno / Once per week	1/7	5 (14)	6 (14)	
Svaki dan / Everyday	0	2 (6)	2 (5)	
Ukupno / In total	7/7	35 (100)	42 (100)	
Tko vam je preporučio uzimanje anksiolitika / Who recommended you taking anxiolytics?				
Liječnik / Doctor	2/8	18 (51,4)	20 (46,5)	0,20
Član obitelji / Family member	2/8	9 (25,7)	11 (25,6)	
Prijatelji / Friend	0	1 (2,9)	1 (2,3)	
Kolege s fakulteta / Colleagues	1/8	0	1 (2)	
Pročitao/la sam u knjizi/ na internetu / I read it in a book /online	1/8	1 (3)	2 (5)	
Samoinicijativno sam odlučio / I decided on my own	2/8	6 (17)	8 (19)	
Ukupno / In total	8/8	35 (100)	43 (100)	
Tko vam je dao anksiolitik / Who gave you anxiolytics?				
Liječnik / Doctor	3/8	17 (48,6)	20 (46,5)	0,50
Član obitelji / Family member	4/8	17 (48,6)	21 (48,8)	
Prijatelji / Friends	1/8	1 (2,9)	2 (4,7)	
Ukupno / In total	8/8	35 (100)	43 (100)	
Dob u kojoj su prvi puta probali anksiolitik [Aritmetička sredina (SD)] / **Age at which they first tried the anxiolytic** [Arithmetic mean (SD)]	20,8 (2,1)	19,7 (2,2)	20 (2,2)	0,26†
Jeste li ikada koristili biljne preparate za smirenje i kako procjenjujete njihovu djelotvornost? / Have you ever used herbal sedatives and how do you evaluate their effectiveness?				
Jesam, pomažu mi / I have, they are useful for me	4/8	5 (14,3)	9 (20,9)	0,18
Jesam, ne pomažu mi / I have, they are not useful for me	0	5 (14,3)	5 (11,6)	
Nisam, ne smatram ih dovoljno djelotvornim / I have not, I do not find them effective enough	1/8	11 (31,4)	12 (27,9)	
Nisam, nisam upoznat/a s njima / I have not, I am not familiar with them	3/8	14 (40)	17 (40)	
Ukupno / In total	8/8	35 (100)	43 (100)	
Jeste li ikada potražili pomoć stručnjaka za svoje probleme? / Have you ever sought the help of an expert for your problems?				
Jesam / I have	3/8	11 (31,4)	14 (32,6)	0,61
Razmišljala sam o tome, ali nisam / I have thought about it, but I have not	2/8	16 (45,7)	18 (41,9)	
Nisam, smatram da mi nije potrebno / No, I do not think I need it	3/8	8 (22,9)	11 (25,6)	
Ukupno / In total	8/8	35 (100)	43 (100)	

SD – standardna devijacija, *Fisherov egzaktni test, †Studentov t test
/ SD – standard deviation, *Fisher exact test, †Student t test

TABLICA 5. Ocjena tvrdnji vezanih uz korištenje anksiolitika
TABLE 5. Evaluation of claims related to the use of anxiolytics

	Broj (%) ispitanika / Number (%) of respondents					
	U potpunosti se ne slažem / I totally agree	2	3	4	U potpunosti se slažem / I totally disagree	Ukupno / In total
Kada uzmem anksiolitik, osjećam se puno opuštenije i bolje. / When I take an anxiolytic, I feel much more relaxed and better.	1 (2,3)	3 (7)	5 (11,6)	29 (67,4)	5 (11,6)	43 (100)
Osjećam se sigurnije kada znam da imam uz sebe anksiolitik. / I feel safer when I know I have an anxiolytic with me.	12 (27,9)	2 (4,7)	11 (25,6)	12 (27,9)	6 (14)	43 (100)
Osjećam da se uz anksiolitike mogu bolje nositi sa svojim problemima. / I feel that with anxiolytics I can deal better with my problems.	5 (11,6)	3 (7)	12 (27,9)	18 (41,9)	5 (11,6)	43 (100)
Bojim se da ne postanem ovisan/na o anksioliticima zbog prekomjerne upotrebe. / I am afraid of becoming addicted to anxiolytics due to overuse.	24 (55,8)	9 (20,9)	4 (9,3)	3 (7)	3 (7)	43 (100)
Ne govorim drugima da koristim anksiolitike jer me strah osude. / I do not tell others that I use anxiolytics because I fear condemnation.	11 (25,6)	7 (16,3)	6 (14)	15 (34,9)	4 (9,3)	43 (100)
U posljednjih godinu dana anksiolitike uzimam češće nego ranije. / In the last year, I have been taking anxiolytics more often than before.	16 (37,2)	4 (9,3)	7 (16,3)	8 (18,6)	8 (18,6)	43 (100)

RASPRAVA

Naše je istraživanje pokazalo da je 19,5 % studenata probalo benzodiazepine, no najviše ih koristi jedanput u više mjeseci i upoznati su s rizicima dugotrajnog konzumiranja benzodiazepina. Studenti medicinskih fakulteta nose se s velikim pritiskom tijekom studija. Cilj je osposobiti se za daljnji rad, biti kompetentan i empatičan liječnik te neprestano unaprjeđivati svoje znanje. To sa sobom nosi velik stres i pritisak tako da se medicinski fakulteti smatraju jednim od akademskih i emocionalno najzahtjevnijim fakultetima. Prekomjerni stres djeluje na psihološko stanje studenata dovodeći do anksioznosti i depresije. Anksioznost privlači manje pozornosti od depresije i često ostane neprepoznata i neliječena. Osim intenzivnog osjećaja straha i panike anksioznost se može očitovati brojnim simptomima kao što su mučnina, tahikardija, vrtoglavica, otežano disanje, urinarna inkontinencija. Također narušava pažnju i koncentraciju što studentima medicine kao budućim liječnicima ometa pružanje efikasne medicinske

DISCUSSION

Our research has shown that 19.5% of students tried benzodiazepines, but most of them use benzodiazepines once every several months and were aware of the risks of long-term benzodiazepine consumption. Medical students were coping with a lot of pressure during their studies. The aim was to prepare them for further work and to train them to become competent and empathetic physicians. This implies an increased level of stress and pressure. For those reasons, medical studies are generally considered to be the most demanding, both academically and emotionally. Excessive stress has its impact on the psychological state of students leading to the development of anxiety and depression. Anxiety usually attracts less attention than depression and, in most cases, remains unnoticed and untreated. Aside from feelings of fear and panic, anxiety may also be manifested with numerous symptoms such as nausea, tachycardia, dizziness, heavy breathing, and urinary incontinence. Moreover, it decreases the level of attention and concentration, which

skrbi pacijentima. Prema meta-analizi koja je analizirala 69 studija i uključila oko 40 000 studenata medicine ustanovljeno je da je veća prevalencija anksioznosti među studenticama. Također, veća anksioznost primijećena je na klinici (posljednje godine studija) nego na pretklinici. Razlog tome je suočavanje studenata s teško bolesnim pacijentima i smrti što može svakako utjecati na pojedinca. Prevalencija anksioznosti veća je među studentima medicine u usporedbi s njihovim kolegama s drugih fakulteta. Procjenjuje se da iznosi oko 33 % (12,19). U studiji provedenoj među studentima medicine u Brazilu, 34,6% je prijavilo depresivne simptome, 37,2 % anksiozne te 47,1 % osjeća da su pod stresom (20). Smatra se da su mnogi studenti medicine perfekcionisti te neurotični što je velika predispozicija za razvijanje anksioznih poremećaja. Uz to, akademsko opterećenje, nedostatak sna, opsežni ispiti imaju veliku ulogu u razvoju poremećaja (12). Također, studenti medicinskog studija su skloniji konzumiranju benzodiazepina. Pretpostavlja se da su razlog poznavanje lijekova, lakoće nabavljanja. Većina ih koristi zbog anksioznosti, nesanice, stresa, prekomjernog rada te depresije, dok 3,5 % konzumira iz zabave, znatiželje ili eksperimentiranja (21).

Naše istraživanje potvrđuje češću konzumaciju benzodiazepina kod djevojaka. Žene su sklonije depresiji, distimiji i anksioznim poremećajima. Procjenjuje se da životna prevalencija depresije kod žena iznosi 21,3 %, a kod muškaraca 12,7 %. Također, prevalencija generaliziranog anksioznog poremećaja je 6,6 % kod žena u usporedbi s 3,3 % kod muškaraca (6). Zbog navedenih rezultata nije iznenađujuća ovolika razlika u konzumiranju benzodiazepina između spolova.

Dok je u Hrvatskoj najčešće korišten anksiolitik diazepam, studenti medicine najčešće koriste alprazolam. Istraživanje provedeno u

presents an excessive disturbance to future physicians. According to the meta-analysis that analysed 69 studies including approximately 40 000 medical students, it was determined that the prevalence of anxiety was higher among female students. Furthermore, higher anxiety has been noticed while attending clinical subjects in comparison to pre-clinical subjects. As the main reasons, dealing with illnesses of a patient and being faced with the death of a patient were considered. The prevalence of anxiety has been higher among medical students compared to their colleagues attending other studies. The estimated value is 33% (12,19). A study conducted among medical students in Brazil provided the following data: 34.6% reported symptoms of depression, 37.2% symptoms of anxiety, and 47.1% reported feeling under a lot of stress (20). It has been considered that the majority of medical students were perfectionists and neurotic, which leads to a higher predisposition of developing a anxiety disorder (12). Nevertheless, medical students were more prone to the consumption of benzodiazepines. It was well presumed that the key reason was related to general knowledge about medications and, generally speaking, a simple way of purchasing them. Most students reported that they used benzodiazepines because of anxiety, insomnia, stress, excessive work or depression, while 3.5% of them reported using benzodiazepines for fun, out of curiosity or just to experiment (21).

Female students at the Faculty of Medicine in Osijek reported more frequent consumption of benzodiazepines in comparison to male students, which is in accordance with previous research. Women were more prone to develop depression, dysthymia, and anxiety disorders. It has been estimated that the lifetime prevalence of depression in women is at 21.3% in comparison to 12.7% in men. Also, the prevalence of generalized anxiety disorder was at 6.6% in women, compared to 3.3% in men (6). Taking into account the above results, the difference between the consumption of benzodiazepines was not surprising.

Ujedinjenom Kraljevstvu (UK) pokazalo je da se prevalencija korištenja alprazolama značajno razlikuje ovisno o dobi (P < 0,001) te da ga najčešće koriste ispitanici u dobi od 16 do 24 godine što potvrđuje i naše istraživanje (22).

Razlozi zbog kojih ispitanici uzimaju benzodiazepine razlikuju se s obzirom na godinu studiranja; studenti 3. godine češće uzimaju zbog nadolazećih ispita, dok su kod starijih studenata češći obiteljski razlozi i problemi u ljubavnom odnosu. Prema istraživanju provedenom u Belgiji, svaki treći brucoš (34,9 %) prijavio je probleme s mentalnim zdravljem koji utječu na akademski život (23). Kod mlađih studenata češća je zabrinutost oko fakulteta i ispita, dok stariji studenti počinju brinuti o raznim egzistencijskim problemima, a zabrinutost oko fakulteta je manja (12).

Slično ranijim istraživanjima najčešće indikacije za uzimanje anksiolitika kod studenata su tjeskoba i anksioznost nakon kojih slijedi nesanica. Njihov učinak na organski sustav je višestruk; djeluju anksiolitički, sedativno, antikonvuzivno te dovode do relaksacije mišića. Također imaju hipnotički učinak; skraćuju latenciju za uspavljivanje, NREM (engl. *nonrapid eye movement*) faza je produljena, dok je REM (engl.*rapid eye movement*) skraćena. U zdravih osoba ne opaža se značajan učinak na kardiovaskularni sustav (4). Ipak, neke studije pokazale su povoljan učinak benzodiazepina na kardiovaskularni sustav; u bolesnika s infarktom miokarda benzodiazepini smanjuju razinu katekolamina u krvi, pripomažu inhibiciji agregacije trombocita te smanjuju vaskularni otpor koronarnih arterija (24). Također, uzrokuju anterogradnu amneziju ovisnu o dozi; mogu narušiti sposobnost učenja novih informacija i otežavati rad koji zahtijeva angažiran kognitivni proces. Nemaju utjecaja na prethodno naučene informacije. Ovaj učinak može biti koristan kod nekih pretraga kao što je endoskopija jer

In Croatia, diazepam is the most commonly used anxiolytic medicine, although, in general, medical students mostly use alprazolam. Research conducted in the UK has shown that the prevalence of alprazolam usage depends on age (P < 0.001) and that it was mostly used by respondents of 16 to 24 years of age, which confirms this research finding (22).

The reasons for taking benzodiazepines varied depending on the year of study, i.e., 3rd-year students used benzodiazepines due to upcoming exams, while older students used benzodiazepines due to family reasons or romantic relationship issues. According to research conducted in Belgium, every third first-year medical student (34.9%) reported mental health issues affecting their academic life (23). In younger students, there was a highly developed worry about studying and taking exams, while older students expressed worry about various existential problems and, on the contrary, the worry about faculty decreases (12).

Similar to earlier studies, the most common reason for the consumption of anxiolytics in students was anxiety followed by insomnia. They have multiple effects, such as anxiolytic and anticonvulsive effects, sedation, and muscle relaxation together with a hypnotic effect, as well as decreased latency of sleeping, prolonged nonrapid eye movement phase and shortened rapid eye movement phase. In healthy people, an effect on the cardiovascular system has not been observed (4). Some studies have also shown an advantageous effect of benzodiazepines on the cardiovascular system. In the patients who suffered a heart attack, benzodiazepines could decrease the level of catecholamines in the bloodstream, reinforce the inhibition of thrombocyte aggregation and decrease vascular resistance of coronary arteries (24). Moreover, benzodiazepines may cause dose-depending anterograde amnesia, impair the capability of learning new information and aggravate activities requiring ongoing cognitive processes. They do not have any effect on previously learned information.

osoba može surađivati, a kasnije ima amneziju na taj događaj (4).

U studiji u kojoj je sudjelovalo 997 žena u Quebecu, 18,5 % prijavilo je upotrebu biljnih pripravaka kao pomoć kod nesanice, od kojih je biljka kamilica bila najčešće korištena. Iz istraživanja u Sjedinjenim Američkim Državama (SAD) navedeno je kako 2,9 % (oko 1,05 milijuna) koriste biljne preparate za nesanicu. Među najkorištenijima izdvajaju se ašvaganda (lat. *Withania somnifera*), hmelj (lat. *Humulus lupulus*), matičnjak (*Melissa officinalis*), Njemačka kamilica (lat. *Matricaria recutita*) i valerijana (lat. *Valeriana*) (25). Njihova uporaba kod studenata medicine iznosi 20,9 %, dok 40 % nije s njima upoznato .

Svi su studenti upoznati s nuspojavama benzodiazepina. Najvažnija neželjena nuspojava je razvitak ovisnosti i tolerancije. Od ostalih nuspojava navode se pospanost, oslabljena pažnja, usporene psihomotorne reakcije, smetnje pamćenja, paradoksna ekscitacija, agresivnost, depersonalizacija (3). Zbog razvoja tolerancije savjetuje se maksimalno korištenje benzodiazepina četiri tjedna u kontinuitetu (1). Ovisnost se brže razvija pri uzimanju benzodiazepina s dugim poluvremenom eliminacije kao što je diazepam. Nakon prekida uzimanja benzodiazepina s kratkim poluvremenom eliminacije simptomi ustezanja pojavljuju se nakon jedan do dva dana, dok se nakon uzimanja benzodiazepina s dugim poluvremenom eliminacije simptomi javljaju kasnije i mnogo su blaži. Nakon dugotrajne primjene treba postupno isključivati lijek. Ako je osoba ovisna o kratkodjelujućem benzodiazepinu, treba uvesti dugodjelujući pa postupno snižavati dnevnu dozu do ukidanja. Preporuka je davati intermitentno svaka dva ili tri dana do potpunog ukidanja (5). Kombiniranje anksiolitičkih lijekova treba izbjegavati, kao i konzumaciju alkohola te istodobnu primjenu antihistaminika ili antikolinergičkih lijekova. Trebaju ih izbjegavati osobe koje imaju kroničnu plućnu bolest

This effect could be useful during certain types of examination, e.g., endoscopy (4).

In a study conducted in Quebec, 18.5% of female respondents reported usage of herbal remedies as helpful while coping with insomnia. In that study, the most used herbal remedy was camomile. In research conducted in the United States of America (USA), it was reported that 2.9% (around 1.05 million respondents) used herbal remedies for insomnia. Among the most used were ashwagandha (lat. *Withania somnifera*), hop (lat. *Humulus lupulus*), lemon balm (lat. *Melissa officinalis*), German camomille (lat. *Matricaria recutita*), and valerian (lat. *Valeriana*) (25). Their usage in medical students was estimated at about 20.9%, while 40% of medical student were not introduced to such herbal remedies.

All students were familiar with the side effects of benzodiazepines. The most important side effects are development of addiction and tolerance. Other side effects include drowsiness, impaired attention, slow psychomotor reaction, and depersonalization (3). Due to the development of tolerance, the longest advised usage is four consecutive weeks (1). Addiction develops more rapidly when taking benzodiazepines with a long elimination half-life such as diazepam. After stopping the usage of benzodiazepines with a short elimination half-life, withdrawal symptoms appear after one to two days, while after taking benzodiazepines with a long elimination half-life, the symptoms appear later and are much milder. After long-term use, the drug should be gradually discontinued. If a person is addicted to short-acting benzodiazepines, a long-acting benzodiazepine should be introduced, and the daily dose gradually reduced until discontinuation. It is recommended to give the drug intermittently every two or three days until complete discontinuation (5). A combination of anxiolytic drugs should be avoided, as well as alcohol consumption and concomitant use of antihistamines or anticholinergic drugs. They should be avoided by people with chronic lung disease and sleep apnoea

te simptome apneje u snu jer mogu pogoršati simptome (4).

Ova studija ima nekoliko prednosti. Na temelju korištenja benzodiazepina kod studenata medicine može se procijeniti psihičko stanje studenata, njihovo nošenje s problemima u životu te njihovo znanje i stavove o benzodiazepinima. Ovom studijom želimo podići svijest te potaknuti inicijativu medicinskih fakulteta o brizi za mentalno zdravlje studenata. Međutim, priznajemo i sljedeća ograničenja. Anksioznost nije mjerena u ovom istraživanju. Mnogi čimbenici koji mogu utjecati na mentalno zdravlje studenata, kao što su obiteljska anamneza, emocionalne traume nisu procijenjeni jer se studija odnosi na trenutno stanje studenata. Također, nema kontrolne skupine (studenti drugih fakulteta, vršnjaci iz opće populacije) za usporedbu stavova i učestalosti korištenja anksiolitika.

ZAKLJUČAK

Unatoč velikoj uporabi benzodiazepina, kod studenata medicine uočena je racionalna i kontrolirana upotreba. Većina ih koristi jednom u više mjeseci te su svi upoznati s mogućnošću ovisnosti i tolerancije. Važna je svijest i racionalno propisivanje kako ne bi došlo do neželjenih nuspojava, pogotovo kod starijih osoba i osoba s komorbiditetima. Studenti, kao budući liječnici opće prakse koji ujedno i najčešće propisuju ove lijekove, moraju dobro poznavati indikacije i duljinu trajanja liječenja benzodiazepinima.

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symptoms as they may worsen the symptoms (4).

To summarize, this study has several advantages. Based on the usage of benzodiazepines in medical students, it was possible to assess students' mental state, way they are coping with life problems, their knowledge, and their thoughts about benzodiazepines. On the other hand, the study had certain limitations. Anxiety was not measured in this study. A variety of factors can impact the mental state of students, such as family history and emotional traumas, which were not estimated because this research only took into consideration the current state of students. Also, there was no control group (students from other academic institutions, peers from the general population) to compare attitudes and the frequency of the usage of anxiolytics.

CONCLUSIONS

Despite the large number of medical students using benzodiazepines, rational and controlled use was observed. Most students used benzodiazepine once every few months and were all familiar with the possibility of developing addiction and tolerance. The awareness and promotion of mental health care are important. Students, as future general practitioners who also most often prescribe these drugs, have to be aware of the indications and duration of treatment with benzodiazepines. At the same time, thay also have to be mentally healthy to cope with the burden of their profession.

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Conflicts of interest

The authors declare that no conflicts of interest exist.

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Ethics aproval

Research was conducted according to ethical principles and was approved by the Ethics Committee of the Medical Faculty in Osijek (reference number 602-04/21-08/07).

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