

## UTICAJ SOCIODEMOGRAFSKIH FAKTORA NA RAZVOJ ANKSIOZNOSTI U TOKU PANDEMIJE KOVID-19

Marijana Jandrić-Kočić<sup>1</sup>, Snežana Knežević<sup>2</sup>

<sup>1</sup> Dom zdravlja Krupa na Uni, Republika Srpska

<sup>2</sup> Dom zdravlja Kraljevo, Srbija

### SAŽETAK

**Uvod/Cilj:** Pandemija Kovid-19 predstavlja ozbiljnu pretnju globalnom mentalnom zdravlju. Strah od smrti, socijalno distanciranje, ekonomski problemi, promene u obrazovanom sistemu i prestanak uobičajenog svakodnevnog funkcionisanja indukuju psihijatrijske poremećaje, u prvom redu anksioznost. Cilj istraživanja je bio da se utvrdi uticaj sociodemografskih faktora na razvoj anksioznosti u toku pandemije Kovid-19.

**Metode:** Studijom preseka, tokom dva meseca, bilo je obuhvaćeno 200 osoba bez simptoma Kovida-19, 60,0% žena i 40,0% muškaraca, prosečne starosti  $51,0 \pm 9,2$  godina. Sto osoba se javilo u ambulantu porodične medicine Doma zdravlja Krupa na Uni zbog pregleda ili administrativnih razloga, a drugih sto je bilo u njihovoj pratnji. Pored opšteg upitnika za prikupljanje podataka, korišćen je Upitnik za samoprocenu intenziteta simptoma generalizovanog anksioznog poremećaja (engl. *Generalized Anxiety Disorder-7*, GAD-7). U statističkoj analizi podataka korišćeni su  $\chi^2$ -test i Fisher-ov test.

**Rezultati:** Simptome anksioznosti imalo je 52,5% ispitanika uključenih u ovu studiju preseka, i to 35,0% blage, 15,5% umerene i 2,0% ozbiljne. Anksioznost je nešto češće bila kod muškarca (56,2%) nego žena (50,0%), kao i kod starijih (60-79 godina) (92,6%) nego mlađih ispitanika (12,5% za uzrast 20-39 i 44,7% za uzrast 40-59 godina). Osobe sa nižim stepenom obrazovanja (44,5% ispitanika sa osnovnom i 46,6% sa srednjom školom) su češće bile sa simptomima anksioznosti, nego osobe sa višim stepenom obrazovanja (33,3%), zaposleni (69,5%) u odnosu na nezaposlene (43,0%), i osobe koje žive u urbanoj (80,8%) nego ruralnoj sredini (42,6%). Simptomi anksioznosti zabeleženi su kod 51,3% ispitanika koji su bili u braku ili vanbračnoj zajednici i kod 56,8% ispitanika koji nisu bili u braku ili vanbračnoj zajednici. Osobe sa simptomima anksioznosti su značajno češće bile uzrasta 60-79 godina nego osobe bez anksioznosti. Između ovih grupa nije bilo značajne razlike u odnosu na pol, stepen obrazovanja, zaposlenost, mesto stanovanja i bračni status ispitanika.

**Zaključak:** Svaka druga osoba u ovom istraživanju imala je neki vid anksioznosti. Neophodna su dalja istraživanja u ovoj oblasti i predlaganje adekvatnih preventivnih programa.

**Ključne riječi:** Kovid-19, pandemija, anksioznost, faktori rizika

### Uvod

Svetska zdravstvena organizacija (SZO) je proglasila pandemiju koronavirusne bolesti 2019 (Kovid-19) 11. marta 2020. godine. Širom sveta je ograničeno kretanje stanovništva, uvedeno je obavezno nošenje zaštitnih maski, fizičko distanciranje od najmanje dva metra, obustavljena je nastava u školama i na fakultetima i limitiran je rad privrednih subjekata (1-3).

Fizičko distanciranje, ekonomski problemi, promene u obrazovnom sistemu, prestanak uobičajenog svakodnevnog funkcionisanja, pristup brojnim *web* stranicama sa ogromnim,

ali ne uvek pouzdanim informacijama, strah od nedostatka zdravstvenih resursa i smrti negativno su uticali na psihološku dobrobit i mentalno zdravlje stanovništva. Zabeležen je porast porodičnog nasilja, zloupotrebe psihoaktivnih supstanci, depresije i anksioznosti (4-8).

Osim psiholoških osobina (načina suočavanja i nošenja sa stresom, uverenja o prirodi stresora, slike o sebi, optimizma ili pesimizma) i nivoa socijalne podrške u razvoju psihijatrijskih poremećaja, važnu ulogu imaju sociodemografski faktori ličnosti (4-8).

## ORIGINAL ARTICLE

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**THE INFLUENCE OF SOCIODEMOGRAPHIC FACTORS ON THE DEVELOPMENT OF ANXIETY DURING THE COVID-19 PANDEMIC**

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**Marijana Jandric-Kocic<sup>1</sup>, Snezana Knezevic<sup>2</sup>**<sup>1</sup> Health Care Center "Krupa on the River Una", The Republic of Srpska<sup>2</sup> Health Care Center Kraljevo, Serbia

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**SUMMARY**

**Introduction/Aim:** The COVID-19 pandemic poses a serious threat to global mental health. Fear of death, social distancing, economic problems, changes in the education system, and cessation of normal daily functioning induce psychiatric disorders, primarily anxiety. The research aimed to determine the influence of sociodemographic factors on the development of anxiety during the COVID-19 pandemic.

**Methods:** The cross-sectional study, over two months, included 200 persons without symptoms of COVID-19, 60.0% of women and 40.0% of men, with an average age of  $51.0 \pm 9.2$  years. One hundred people reported to the family medicine clinic of the Health Care Center Krupa on the River Una for examinations or administrative reasons, and another hundred were accompanied by them. In addition to the general questionnaire, the Generalized Anxiety Disorder-7 (GAD-7) Self-Assessment Symptom Intensity Questionnaire was used. The  $\chi^2$ -test and Fisher's test were used for the statistical analysis.

**Discussion:** 105 (52.5%) participants included in the study had symptoms of anxiety (35.0% mild symptoms of anxiety, 15.5% moderate symptoms of anxiety, 2.0% severe symptoms of anxiety). Anxiety was slightly more common in men (56.2%) than in women (50.0%), as well as in the oldest (60-79 years) (92.6%) than in younger participants (12.5% for age 20-39 and 44.7% for ages 40-59). The frequency of anxiety was lower in persons with higher (33.3%) than lower education (44.5% of participants with primary and 46.6% of participants with high school). A slightly higher frequency of anxiety was among the employed (69.5%) than among the unemployed (43.0%), as well as among persons living in urban (80.8%) in comparison to those living in rural (42.6%) areas. Anxiety problems were experienced by 51.3% of participants living in marriage or extramarital union and 56.8% of participants who were not married or in an extramarital union. People with anxiety were significantly more likely to be aged 60-79 than people without anxiety. There were no significant differences between these groups in terms of gender, level of education, employment, place of residence and marital status of the participants.

**Conclusion:** Every other person in this study had some form of anxiety. Further research in this area and proposing adequate prevention programs are needed.

**Key words:** COVID-19, pandemic, anxiety, risk factors

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**Introduction**

The World Health Organization (WHO) declared the pandemic of coronavirus disease 2019 (Covid-19) on 11 March, 2020. There have been movement restrictions around the world. The use of face masks is required now, as well as physical distancing of at least two meters. Schools and universities have been closed down and the work of business entities has been limited (1-3).

Physical distancing, economic problems, changes in the education system, the cessation of usual everyday activities, the access to numerous

web pages with a lot of information, which is not always reliable, the fear of death and the lack of medical resources have had a negative influence on the psychological well-being and mental health of the population. The increase in family violence, the abuse of psychoactive substances, depression and anxiety have been recorded (4-8).

In addition to psychological traits (confronting and dealing with stress, opinion about the nature of stressors, an image of oneself, optimism, pessimism) and the level of social support in developing psychiatric disorders,

Identifikovanje vulnerabilnih grupa i obezbeđivanje psihosocijalne podrške kroz službe za socijalno i mentalno zdravlje predstavljaju važan deo zdravstvene zaštite u toku pandemije Kovid-19. Psihosocijalna procena i praćenje treba da obuhvate pitanja o stresorima povezanim sa Kovid-19 (izloženost izvorima zaraze, zaraženim članovima porodice, gubitak voljenih i socijalno distanciranje), sekundarne posledice (ekonomski gubitak), psihosocijalne efekte (depresija, anksioznost, povećana upotreba psihoaktivnih supstanci i porodično nasilje) i pokazatelje ranjivosti (postojeća psihološka stanja) (6-8).

Ova studija preseka imala je za cilj da utvrdi uticaj sociodemografskih faktora na razvoj anksioznosti u toku pandemije Kovid-19.

### Metode

Studijom preseka bilo je obuhvaćeno 200 osoba bez simptoma Kovid-19 i to 100 osoba koje su se javile u ambulantu porodične medicine Doma zdravlja Krupa na Uni zbog pregleda ili administrativnih razloga, kao i po jedna osoba koja je bila u njihovoj pratnji. Istraživanje je trajalo od 15.03.2020. do 15.05.2020. godine. Kriterijumi za uključivanje ispitanika u istraživanje su bili: uzrast između 20 i 79 godina; a za isključivanje: maligne bolesti, psihijatrijska oboljenja i uznapredovale hronične bolesti (dijabetes, hronična bubrežna insuficijencija, insuficijencija jetre, dekompenzacija srca).

Opštim upitnikom prikupljeni su socio-

demografski podaci (pol, uzrast, stepen obrazovanja, zaposlenost, mesto stanovanja i bračni status). Upitnik za samoprocenu intenziteta simptoma generalizovanog anksioznog poremećaja (engl. *Generalized Anxiety Disorder-7*, GAD-7) se koristi u proceni prisustva i intenziteta generalizovanog anksioznog poremećaja. Sastoji se od sedam pitanja koja mere težinu simptoma generalizovanog anksioznog poremećaja u toku poslednje dve nedelje (ocena od 0 do 3). Ukupan skor 0-4 odgovara osobama bez simptoma anksioznosti, 5-9 osobama sa blagim, 10-14 umerenim i  $\geq 15$  ozbiljno izdruženim simptomima anksioznosti (9-11).

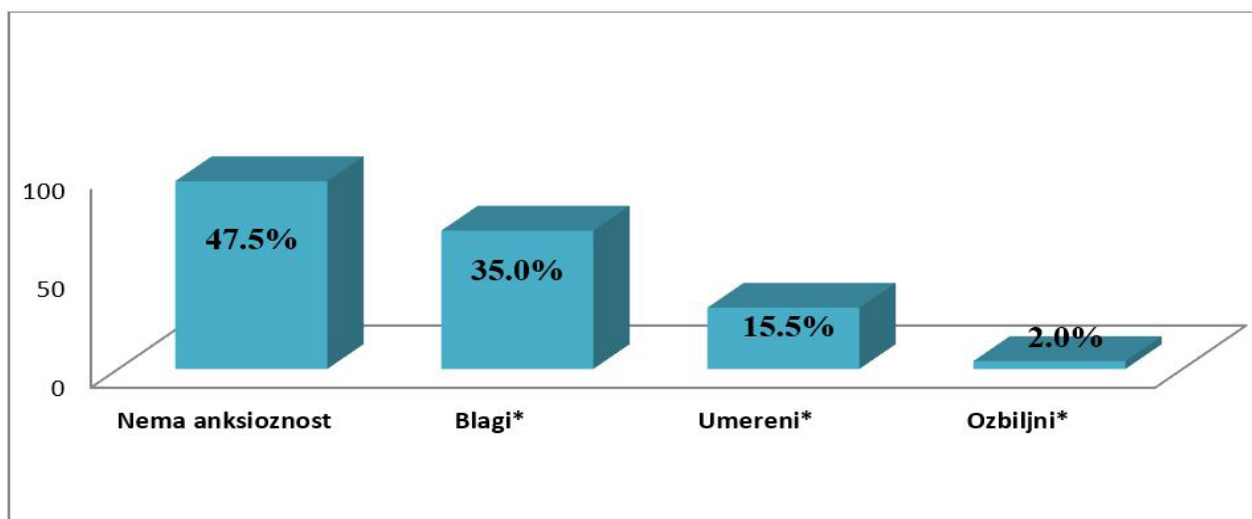
U detekciji generalizovanog anksioznog poremećaja upitnik ima visoku senzitivnost (89%) i specifičnost (82%) i prihvatljivu unutrašnju konzistentnost (*Cronbach alfa* = 0,75). Pilot validacija srpske verzije GAD-7 upitnika sprovedena je, 2019. godine, od strane Nikole Rokvića (12).

U statističkoj analizi podataka korišćeni su  $\chi^2$ -test i *Fisher*-ov test.

### Rezultati

Istraživanje je obuhvatilo 200 ispitanika. Prosečna starost ispitanika bila je  $51,0 \pm 9,2$  godina. Simptome anksioznosti imalo je 52,5% (105) ispitanika i to 35,0% blage, 15,5% umerene i 2,0% ozbiljne (grafikon 1).

Anksioznost je utvrđena kod 56,2% muškaraca i 50,0% žena, kao i kod 12,5% ispitanika 20-39 godina, 44,7% ispitanika 40-59 godina



\*simptomi anksioznosti

**Grafikon 1.** Distribucija ispitanika prema intenzitetu simptoma anksioznosti na osnovu Upitnika generalizovanog anksioznog poremećaja (GAD-7)

sociodemographic personality factors have an important role (4-8). Identifying vulnerable groups and providing psychosocial support through services for social and mental health present an important part of health protection during the Covid-19 pandemic. Psychosocial estimates and monitoring should include the questions about stressors connected with Covid-19 (exposure to the source of infection, infected family members, loss of the loved ones, and social distancing), secondary consequences (economic loss), psychosocial effects (depression, anxiety, the increased use of psychoactive substances and family violence) and indicators of vulnerability (existing psychological conditions) (6-8).

The aim of this cross-sectional study was to determine the influence of sociodemographic factors in the development of anxiety during the Covid-19 pandemic.

## Methods

200 people without symptoms of Covid-19 were included in this study, that is, 100 people who reported to the family medicine clinic of the Health Care Center "Krupa on the River Una" for the examination or due to administrative reasons, and who were accompanied by 100 people. The research lasted from 15 March 2020 to 15 May 2020. The inclusion criterion was age between 20 and 79, while the exclusion criteria were the following: malign diseases, psychiatric diseases and severe chronic diseases (diabetes,

chronic renal insufficiency, liver insufficiency, cardiac decompensation).

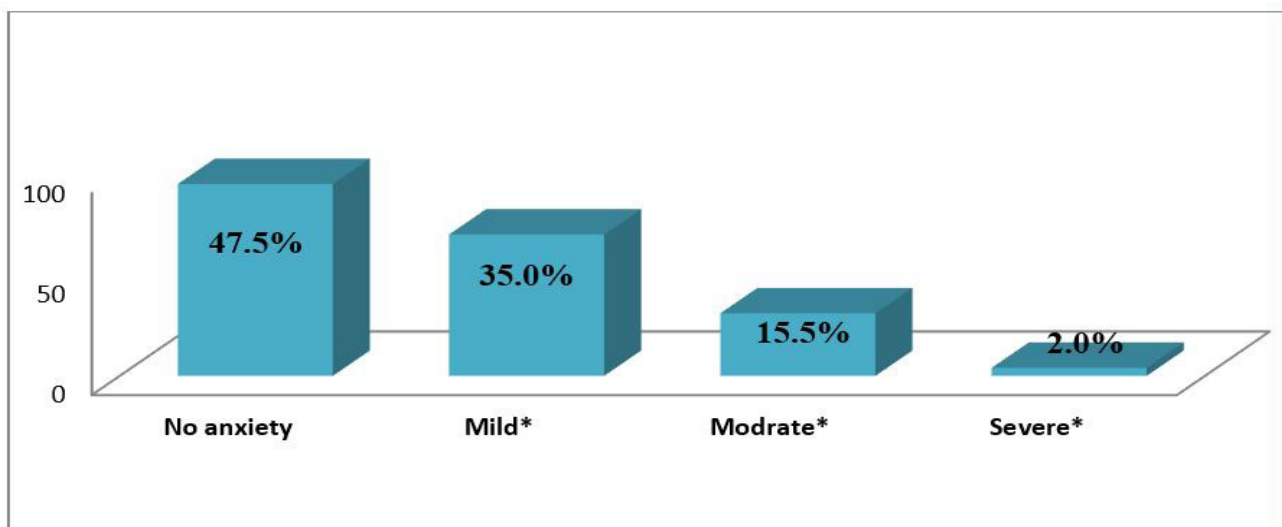
Sociodemographic data were collected with the help of a general questionnaire (gender, age, level of education, employment, place of living and marital status). The Generalized Anxiety Disorder 7 (GAD-7) self-assessment symptom intensity questionnaire was used to assess the presence and intensity of the generalized anxiety disorder. It consists of seven questions, which measure the severity of symptoms of the generalized anxiety disorder during the last two weeks (mark 0-3). The total score 0-4 relates to people without symptoms of anxiety, 5-9 to people with mild symptoms, 10-14 to moderate and >15 to severe symptoms of anxiety (9-11).

The questionnaire has high sensitivity (89%) and specificity (82%) and acceptable inner consistency (Cronbach alpha = 0.75) in detecting the generalized anxiety disorder. The pilot validation of the Serbian version of the GAD-7 Questionnaire was conducted in 2019 by Nikola Rokvic (12).

The  $\chi^2$  test and Fischer's test were used for the statistical analysis of data.

## Results

The research included 200 participants. The mean age of the participants was 51.0 + 9.2 years. 52.5% (105) participants had the symptoms of anxiety, 35.0% of them had mild symptoms, 15.5% had moderate and 2.0% had severe symptoms (Graph 1).



\*symptoms of anxiety

**Graph 1.** Distribution of participants according to the intensity of anxiety symptoms based on the Generalized Anxiety Disorder (GAD-7) questionnaire

**Tabela 1.** Prevalencija simptoma anksioznosti prema demografskim karakteristikama ispitanika

Karakteristike/ <i>Characteristics</i>		Prevalencija simptoma anksioznosti (%)/ <i>Prevalence of anxiety symptoms (%)</i>
<b>Pol/Gender</b>	Muškarci/ <i>Men</i> (N=80)	56.2
	Žene/ <i>Women</i> (N=120)	50.0
<b>Uzrast (godine)/ Age (years)</b>	20-39 (N=32)	12.5
	40-59 (N=114)	44.7
	60-79 (N=54)	92.6
<b>Stepen obrazovanja/ Level of education</b>	Osnovna škola/ <i>Primary school</i> (N=6)	44.5
	Srednja škola/ <i>High school</i> (N=182)	46.6
	Fakultet/ <i>College</i> (N=12)	33.3
<b>Zaposlen/ Employed</b>	Da/ <i>Yes</i> (N=72)	69.5
	Ne/ <i>No</i> (N=128)	43.0
<b>Mesto stanovanja/ Place of Residence</b>	Selo/ <i>Village</i> (N=52)	42.6
	Grad/ <i>City</i> (N=148)	80.8
<b>Bračni status/ Marital status</b>	U braku ili vanbračnoj zajednici/ <i>Married or extramarital union</i> (N=156)	51.3
	Nisu u braku ili vanbračnoj zajednici/ <i>Not married or extramarital union</i> (N=44)	56.8

i 92,6% ispitanika 60-79 godina (tabela 1). Anksiozne tegobe je imalo 44,5% ispitanika sa osnovnom školom, 46,6% ispitanika sa srednjom školom i 33,3% ispitanika sa fakultetom. Takođe, anksioznost je utvrđena kod 69,5% zaposlenih i 43,0% nezaposlenih, kao i kod 80,8% osoba koje žive u urbanoj i 42,6% osoba koje žive u ruralnoj sredini. Svaka druga osoba u braku ili vanbračnoj zajednici (51,3%), kao i osobe koje nisu bile u braku ili vanbračnoj zajednici (56,8%), imala je anksioznost.

Osobe sa anksioznošću su značajno češće bile uzrasta 60-79 godina, nego osobe bez anksioznosti (tabela 2). Između ispitanika sa i bez anksioznosti nije postojala značajna razlika u odnosu na pol, stepen obrazovanja, zaposlenost, mesto stanovanja i bračni status.

Osobe sa blagim simptomima anksioznosti (tabela 3), kao i osobe sa umerenim i ozbiljnim simptomima (tabela 4), su značajno češće bile uzrasta 60-79 godina, nego osobe bez anksioznosti. U odnosu na druge sociodemografske karakteristike nisu postojale značajne razlike između ispitivanih grupa.

## Diskusija

Pandemija Kovid-19 predstavlja ozbiljnu pretnju globalnom mentalnom zdravlju. Neizvesna prognoza, preteći nedostatak resursa, izricanje do sada nepoznatih javno-zdravstvenih mera indukovale su psihijatrijske poremećaje, u prvom redu anksioznost (8,13,14). Brojna istraživanja ukazuju na značajan porast anksioznosti izazvan SARS-CoV-2 virusom (16-22).

Naše istraživanje je utvrdilo postojanje anksioznosti kod 52,5% ispitanika (35,0% blaga, 15,5% umerena i 2,0% ozbiljna anksioznost). Istraživanje (4.827 ispitanika) sprovedeno u Kini (rana faza epidemije Kovid-19) utvrdilo je da je prevalencija umerene i teške anksioznosti 22,6 – 28,8% (15,16). U velikoj studiji kineskih autora (7.236 učesnika) u martu 2020. godine prevalencija anksioznosti iznosila je 35,1 % (10). Istraživanje sprovedeno u Americi verifikovalo je prisustvo anksioznosti kod 36,5% učesnika (18). Studija sprovedena u Indiji utvrdila je postojanje anksioznosti kod više od 30,0% učesnika u istraživanju (17). U istraživanju iranskih autora prevalencija anksioznosti iznosila je 50,9% (10,5% blaga,



**Table 1.** Prevalence of anxiety symptoms according to demographic characteristics of participants

<b>Karakteristike/ Characteristics</b>	<b>Prevalencija simptoma anksioznosti (%)/ Prevalence of anxiety symptoms (%)</b>	
<b>Pol/Gender</b>	Muškarci/ <i>Men</i> (N=80)	56.2
	Žene/ <i>Women</i> (N=120)	50.0
<b>Uzrast (godine)/ Age (years)</b>	20-39 (N=32)	12.5
	40-59 (N=114)	44.7
	60-79 (N=54)	92.6
<b>Stepen obrazovanja/ Level of education</b>	Osnovna škola/ <i>Primary school</i> (N=6)	44.5
	Srednja škola/ <i>High school</i> (N=182)	46.6
	Fakultet/ <i>College</i> (N=12)	33.3
<b>Zaposlen/ Employed</b>	Da/ <i>Yes</i> (N=72)	69.5
	Ne/ <i>No</i> (N=128)	43.0
<b>Mesto stanovanja/ Place of residence</b>	Selo/ <i>Village</i> (N=52)	42.6
	Grad/ <i>City</i> (N=148)	80.8
<b>Bračni status/ Marital status</b>	U braku ili vanbračnoj zajednici/ <i>Married or extramarital union</i> (N=156)	51.3
	Nisu u braku ili vanbračnoj zajednici/ <i>Not married or</i> <i>extramarital union</i> (N=44)	56.8

Anxiety was confirmed in 56.2% of men and 50.0% of women, as well as in 12.5% of participants aged 20-39, in 44.7% of participants aged 40-59, and in 92.6% of participants aged 60-79 (Table 1). Anxiety was experienced by 44.5% of participants with primary school, 46.6% of participants with high school and 33.3% of them with faculty education. Also, anxiety was confirmed in 69.5% of employed people and 43.0% of unemployed, as well as in 80.8% of people living in urban areas and 42.6% of those living in rural areas. Every other person (51.3%), who was married or lived in an extramarital union, experienced anxiety, as well as people who were not married or did not live in extramarital union (56.8%).

People with anxiety were significantly more often aged 60-79 in comparison to people without anxiety (Table 2). There was no significant statistical difference between people with and without anxiety regarding gender, level of education, employment, place of living and marital status.

People with mild forms of anxiety (Table 3), as well as people with moderate and severe symptoms (Table 4) were significantly more

often in the age group 60-79 than people without anxiety symptoms. There was no significant statistical difference between the examined groups regarding other sociodemographic factors.

## Discussion

The Covid-19 pandemic poses a serious threat to global mental health. Uncertain prognoses, threatening lack of resources, passing the unprecedented public health measures induced psychiatric disorders, first of all, anxiety (8,13,14). Numerous research studies have pointed to the significant increase of anxiety caused by the virus SARS-CoV-2 (16-22).

The existence of anxiety was confirmed in our research in 52.5% of participants (35.0% mild, 15.5% moderate, and 2.0% severe anxiety). One research study (4827 participants, which was conducted in China (in the early phase of Covid-19 epidemic), confirmed the prevalence of moderate and severe anxiety 22.6% - 28.8% (15,16). In a big study of Chinese authors (7236 participants), the prevalence of anxiety amounted to 35.1% in March, 2020

**Tabela 2.** Distribucija ispitanika sa i bez anksioznosti prema njihovim demografskim karakteristikama

Karakteristike/ <i>Characteristics</i>		Bez anksioznosti/ <i>No anxiety</i> (N=95) Broj (%) / No (%)	Sa anksioznošću/ <i>With anxiety</i> (N=105) Broj (%) / No (%)	p vrednost* / <i>p value*</i>
<b>Pol/Gender</b>	Muškarci/ <i>Men</i>	35 (36.8)	45 (42.9)	p > 0.05
	Žene/ <i>Women</i>	60 (63.2)	60 (57.1)	
<b>Uzrast (godine)/ Age (years)</b>	20-39	28 (29.5)	4 (3.8)	p < 0.05
	40-59	63 (66.3)	51 (48.6)	
	60-79	4 (4.2)	50 (47.6)	
<b>Stepen obrazovanja/ Level of education</b>	Osnovna škola/ <i>Primary school</i>	0 (0.0)	6 (5.7)	p > 0.05
	Srednja škola/ <i>High school</i>	87 (91.6)	95 (90.5)	
	Fakultet/ <i>College</i>	8 (8.4)	4 (3.8)	
<b>Zaposlen/ Employed</b>	Da/ <i>Yes</i>	22 (23.2)	50 (47.6)	p > 0.05
	Ne/ <i>No</i>	73 (76.8)	55 (52.4)	
<b>Mesto stanovanja/ Place of Residence</b>	Selo/ <i>Village</i>	85 (89.5)	63 (60.0)	p > 0.05
	Grad/ <i>City</i>	10 (10.5)	42 (40.0)	
<b>Bračni status/ Marital status</b>	U braku ili vanbračnoj zajednici/ <i>Married or extramarital union</i>	76 (80.0)	80 (76.2)	p > 0.05
	Nisu u braku ili vanbračnoj zajednici/ <i>Not married or extramarital union</i>	19 (20.0)	25 (23.8)	

Prema  $\chi^2$  ili Fisher-ovom testu / \*According to  $\chi^2$  or Fisher test

21,3% umerena, 9,3% ozbiljna i 9,8% veoma ozbiljna anksioznost) (19). Istraživanje medicinskih i nemedicinskih zdravstvenih radnika u Singapuru utvrdilo je prevalenciju anksioznosti između 14,5 i 20,7% (20). Istraživanje sprovedeno među 1.830 medicinskih radnika zaposlenih u Kovid bolnicama verifikovalo je postojanje anksioznosti kod 44,6% učesnika (21). U istraživanju sprovedenom među pacijentima hospitalizovanim zbog Kovida-19 prevalencija anksioznosti iznosila je 34,7% (22).

U našoj studiji, prevalencija anksioznosti je bila najveća kod ispitanika uzrasta 60-79 godina. Ispitanici sa anksioznošću značajno su češće bili uzrasta 60-79 godina, nego ispitanici bez anksioznosti. Takođe, ispitanici sa blagom, kao i sa srednje teškom ili teškom, anksioznošću su značajno češće bili uzrasta 60-79 godina, nego ispitanici bez anksioznosti. Istraživanja autora iz Velike Britanije došla su do sličnih rezultata. Prema istim, starija životna dob je povezana sa prisustvom multimorbiditeta i značajnom

socijalom izolacijom (23). Istraživanja sprovedena u Sjedinjenim Američkim Državama i Kini utvrdila su značajno češće prisustvo anksioznosti kod osoba mlađe životne dobi (< 35 godina). Mlade osobe su provele više vremena i to  $\geq 3$  sata razmišljajući o Kovidu-19, što je značajno povezano sa razvojem anksioznosti (10,17).

Između ispitanika sa anksioznošću, kao i kada su u pitanju ispitanici sa blagom i srednje teškom ili teškom anksioznošću, i ispitanika bez anksioznosti nije bilo značajne razlike u odnosu na pol, stepen obrazovanja, zaposlenost, mesto stanovanja i bračni status. Međutim, prevalencija anksioznosti je bila nešto veća za muškarce nego žene. Pol nije predstavljao značajan prediktor razvoja anksioznosti u Nacionalnoj internetskoj anketi o mentalnom zdravlju sprovedenoj u Kini (10). Druge studije kineskih autora utvrdile su značajno višu anksioznost kod osoba ženskog pola. Osim značajno većeg rizika od razvoja anksioznosti (kao posledice rodni razlika u

**Table 2.** Distribution of participants with and without anxiety according to their demographic characteristics

<b>Karakteristike/ Characteristics</b>		<b>Bez anksioznosti/ No anxiety (N=95) Broj (%) / No (%)</b>	<b>Sa anksioznošću/ With anxiety (N=105) Broj (%) / No (%)</b>	<b>p vrednost* / p value*</b>
<b>Pol/Gender</b>	Muškarci/Men	35 (36.8)	45 (42.9)	p > 0.05
	Žene/Women	60 (63.2)	60 (57.1)	
<b>Uzrast (godine)/ Age (years)</b>	20-39	28 (29.5)	4 (3.8)	p < 0.05
	40-59	63 (66.3)	51 (48.6)	
	60-79	4 (4.2)	50 (47.6)	
<b>Stepen obrazovanja/ Level of education</b>	Osnovna škola/ Primary school	0 (0.0)	6 (5.7)	p > 0.05
	Srednja škola/ High school	87 (91.6)	95 (90.5)	
	Fakultet/College	8 (8.4)	4 (3.8)	
<b>Zaposlen/ Employed</b>	Da/ Yes	22 (23.2)	50 (47.6)	p > 0.05
	Ne/ No	73 (76.8)	55 (52.4)	
<b>Mesto stanovanja/ Place of Residence</b>	Selo/Village	85 (89.5)	63 (60.0)	p > 0.05
	Grad/City	10 (10.5)	42 (40.0)	
<b>Bračni status/ Marital status</b>	U braku ili vanbračnoj zajednici/ Married or extramarital union	76 (80.0)	80 (76.2)	p > 0.05
	Nisu u braku ili vanbračnoj zajednici/Not married or extramarital union	19 (20.0)	25 (23.8)	

\*Prema  $\chi^2$  ili Fisher-ovom testu / \*According to  $\chi^2$  or Fisher test

(10). A research conducted in America verified the presence of anxiety in more than 36.5% of participants (18). A study conducted in India determined the existence of anxiety in more than 30.0% of research participants (17). In a research study of Iranian authors, the prevalence of anxiety amounted to 50.9% (10.5% mild, 21.3% moderate, 9.3% severe and 9.8% very severe) (19). A research among medical and non-medical health care workers in Singapore determined the prevalence of anxiety between 14.5 – 20.7% (20). A research among health care workers employed at the Covid hospitals (1830 participants) verified the presence of anxiety in 44.6% of cases (21). In a research conducted among the patients hospitalized due to Covid-19, the prevalence of anxiety amounted to 34.7% (22).

In our study, the prevalence of anxiety was highest among the participants aged 60-79. Participants with anxiety were significantly more often in the age group 60-79 in

comparison to participants without anxiety. Also, participants with the mild, as well as with the moderately severe and severe anxiety were significantly more often in the age group 60-79 than participants without anxiety. Studies of the authors from Great Britain came to similar results. According to them, older age is associated with the presence of multi-morbidities and significant social isolation (23). Research studies conducted in the USA and China confirmed a significantly more frequent presence of anxiety in younger people (<35 years). Young people spent more time, that is > 3 hours, thinking about Covid-19, which is associated with the development of anxiety (10,17).

There was no significant difference between participants with anxiety, with mild and moderately severe or severe anxiety and participants without anxiety regarding gender, level of education, employment, place of living and marital status. However, the prevalence of



**Tabela 3.** Distribucija ispitanika sa blagim simptomima anksioznosti i bez anksioznosti prema njihovim demografskim karakteristikama

Karakteristike/ <i>Characteristics</i>		Bez anksioznosti/ <i>No anxiety</i> (N=95) Broj (%) / No (%)	Sa anksioznošću/ <i>With anxiety</i> (N=105) Broj (%) / No (%)	p vrednost* / <i>p value*</i>
<b>Pol/Gender</b>	Muškarci/ <i>Men</i>	35 (36.8)	30 (42.9)	p > 0.05
	Žene/ <i>Women</i>	60 (63.2)	40 (57.1)	
<b>Uzrast (godine)/ Age (years)</b>	20-39	28 (29.5)	3 (4.3)	p < 0.05
	40-59	63 (66.3)	47 (67.1)	
	60-79	4 (4.2)	20 (28.6)	
<b>Stepen obrazovanja/ Level of education</b>	Osnovna škola/ <i>Primary school</i>	0 (0.0)	2 (2.9)	p > 0.05
	Srednja škola/ <i>High school</i>	87 (91.6)	66 (73.3)	
	Fakultet/ <i>College</i>	8 (8.4)	2 (2.9)	
<b>Zaposlen/ Employed</b>	Da/ <i>Yes</i>	22 (23.2)	28 (40.0)	p > 0.05
	Ne/ <i>No</i>	73 (76.8)	42 (60.0)	
<b>Mesto stanovanja/ Place of Residence</b>	Selo/ <i>Village</i>	85 (89.5)	48 (68.6)	p > 0.05
	Grad/ <i>City</i>	10 (10.5)	22 (31.4)	
<b>Bračni status/ Marital status</b>	U braku ili vanbračnoj zajednici/ <i>Married or extramarital union</i>	76 (80.0)	60 (85.7)	p > 0.05
	Nisu u braku ili vanbračnoj zajednici/ <i>Not married or extramarital union</i>	19 (20.0)	10 (14.2)	

\*Prema  $\chi^2$  ili Fisher-ovom testu / \*According to  $\chi^2$  or Fisher test

ulogama u savremenom društvu) kod žena je utvrđen značajno veći nivo stresa tokom Kovid-19 pandemije (14,16).

U našoj studiji, suprotno drugim istraživanjima, prevalencija anksioznosti je bila skoro duplo veća u gradu nego na selu. Istraživanje sprovedeno među kineskim studentima utvrdilo je značajno manju anksioznost kod osoba sa mestom prebivališta u gradu. Prema istom, urbana sredina je povezana sa značajno većim kulturnim, obrazovnim i ekonomskim resursima. Gradovi imaju bolje sanitarne uslove (smanjene šanse za preživljavanje virusa), veće obrazovne resurse (kvalitetnija edukacija stanovništva o merama prevencije) i razvijeniju ekonomiju (izvor materijalne sigurnosti) (15).

U našoj studiji, kao i u nekoliko studija kineskih autora uočeno je značajno viša anksioznost kod ispitanika sa nižim stepenom obrazovanja. Prema istim značajan broj osoba nižeg obrazovanja ima niska primanja ili su nezaposleni. Istraživanje američkih autora

utvrdilo je značajno vulnerabilnije mentalno zdravlje kod osoba sa godišnjim primanjima manjim od 40.000 američkih dolara (15,24). S druge strane, anketiranje sprovedeno putem interneta u Americi je utvrdilo značajno veću anksioznost kod fakultetski obrazovanih osoba. Povećan broj anksioznih osoba među osobama sa visokom stručnom spremom, može se objasniti činjenicom da fakultetsko obrazovanje ne garantuje odgovarajuću platu ili sigurnost posla tokom pandemije Kovid-19 (17).

Naše istraživanje ukazuje da je prevalencija anksioznosti nešto veća kod ispitanika koji su zaposleni nego nezaposleni. U zemljama koje nemaju pokrivenost zdravstvenog osiguranja na nacionalnom nivou i prihvatljive ciljeve zdravstvenih usluga nezaposlena lica mogu imati finansijskih problema u ostvarivanju neophodnih zdravstvenih usluga. Egzistencijalni problemi, neadekvatni uslovi stanovanja i slabiji pristup informacionim tehnologijama mogu doprineti nastanku anksioznosti osoba

**Table 3.** Distribution of participants with mild symptoms of anxiety and without anxiety according to their demographic characteristics

Karakteristike/ Characteristics		Bez anksioznosti/ No anxiety (N=95) Broj (%) / No (%)	Sa anksioznošću/ With anxiety (N=105) Broj (%) / No (%)	p vrednost* / p value*
<b>Pol/Gender</b>	Muškarci/Men	35 (36.8)	30 (42.9)	p > 0.05
	Žene/Women	60 (63.2)	40 (57.1)	
<b>Uzrast (godine)/ Age (years)</b>	20-39	28 (29.5)	3 (4.3)	p < 0.05
	40-59	63 (66.3)	47 (67.1)	
	60-79	4 (4.2)	20 (28.6)	
<b>Stepen obrazovanja/ Level of education</b>	Osnovna škola/ Primary school	0 (0.0)	2 (2.9)	p > 0.05
	Srednja škola/ High school	87 (91.6)	66 (73.3)	
	Fakultet/College	8 (8.4)	2 (2.9)	
<b>Zaposlen/ Employed</b>	Da/ Yes	22 (23.2)	28 (40.0)	p > 0.05
	Ne/ No	73 (76.8)	42 (60.0)	
<b>Mesto stanovanja/ Place of Residence</b>	Selo/Village	85 (89.5)	48 (68.6)	p > 0.05
	Grad/City	10 (10.5)	22 (31.4)	
<b>Bračni status/ Marital status</b>	U braku ili vanbračnoj zajednici/ Married or extramarital union	76 (80.0)	60 (85.7)	p > 0.05
	Nisu u braku ili vanbračnoj zajednici/Not married or extramarital union	19 (20.0)	10 (14.2)	

\*Prema  $\chi^2$  ili Fisher-ovom testu / \*According to  $\chi^2$  or Fisher test

anxiety was somewhat higher in men than in women. Gender was not a significant predictor of anxiety development in the National Internet Survey of mental health conducted in China (10). Other studies of Chinese authors found significantly higher anxiety in female participants. In addition to a significantly higher risk of developing anxiety (as a consequence of gender differences regarding the roles in the contemporary society), there was a significantly higher level of stress in women during the Covid-19 pandemic (14,16).

In our study, contrary to other research studies, the prevalence of anxiety was almost two times higher in urban than in rural areas. A research, which was conducted among Chinese students, found significantly lower anxiety in people living in cities. According to this research, urban areas are associated with significantly greater cultural, educational and economic resources. Cities have better sanitary conditions (chances are smaller that the virus can survive),

greater educational resources (better quality education about preventive measures) and a more developed economy (source of financial security) (15).

In our study, as well as in several studies of Chinese authors, it was noticed that anxiety was significantly more severe in participants with lower level of education. According to them, a significant number of people with lower level of education have lower wages or they are unemployed. A study of American authors found significantly more vulnerable mental health in people with annual salary lower than 40.000 American dollars (15,24). On the other hand, a survey conducted on the Internet in America found a significantly higher anxiety in people who finished college. A greater number of people with academic degrees, as well as the fact that higher education does not guarantee the appropriate salary or job security, are stated as possible explanations (17).

**Tabela 4.** Distribucija ispitanika sa umerenim ili ozbiljnim simptomima anksioznosti i bez anksioznosti prema njihovim demografskim karakteristikama

Karakteristike/ Characteristics		Bez anksioznosti/ No anxiety (N=95) Broj (%) / No (%)	Sa anksioznošću/ With anxiety (N=105) Broj (%) / No (%)	p vrednost* / p value*
<b>Pol/Gender</b>	Muškarci/Men	35 (36.8)	15 (42.9)	p > 0.05
	Žene/Women	60 (63.2)	20 (57.1)	
<b>Uzrast (godine)/ Age (years)</b>	20-39	28 (29.5)	1 (2.9)	p < 0.05
	40-59	63 (66.3)	4 (11.4)	
	60-79	4 (4.2)	30 (85.7)	
<b>Stepen obrazovanja/ Level of education</b>	Osnovna škola/ Primary school	0 (0.0)	4 (11.4)	p > 0.05
	Srednja škola/ High school	87 (91.6)	29 (82.9)	
	Fakultet/College	8 (8.4)	2 (5.7)	
<b>Zaposlen/ Employed</b>	Da/ Yes	22 (23.2)	22 (62.9)	p > 0.05
	Ne/ No	73 (76.8)	13 (37.1)	
<b>Mesto stanovanja/ Place of Residence</b>	Selo/Village	85 (89.5)	15 (42.9)	p > 0.05
	Grad/City	10 (10.5)	20 (57.1)	
<b>Bračni status/ Marital status</b>	U braku ili vanbračnoj zajednici/ Married or extramarital union	76 (80.0)	20 (57.1)	p > 0.05
	Nisu u braku ili vanbračnoj zajednici/Not married or extramarital union	19 (20.0)	15 (42.9)	

\*Prema  $\chi^2$  ili Fisher-ovom testu / \*According to  $\chi^2$  or Fisher test

bez stalnog zaposlenja tokom pandemije nove koronavirusne bolesti (16). Međutim, anksioznost zaposlenih je najverovatnije usled straha od gubitka posla.

Naši rezultati ukazuju da život u braku ili bračnoj zajednici ne doprinosi nižoj prevalenciji simptoma anksioznosti u odnosu na one koji ne žive u braku ili bračnoj zajednici. Suprotno našim rezultatima, istraživanja sprovedena u Kini utvrdila su značajno manju anksioznost osoba koje žive u braku ili vanbračnoj zajednici, jer zajednički život i roditeljstvo ostavljaju manje vremena za razmišljanje o ovoj bolesti (10).

Naše istraživanje je sprovedeno u ranoj fazi pandemije Kovid-19 i kao takvo dalo je svoj doprinos u pravovremenoj identifikaciji vulnerabilnih kategorija prema kojima bi trebalo usmeriti psihosocijalne intervencije u cilju prevencije anksioznosti. Limitirano vreme trajanja istraživanja i mali broj ispitanika može predstavljati ograničenje istraživanja.

## Zaključak

Istraživanje je pokazalo da je anksioznost prisutna kod nešto više od polovine ispitanika tokom pandemije Kovid-19. Najveći broj ispitanika imao je blagu anksioznost, dok je ozbiljna anksioznost bila retka. Osobe sa anksioznošću su značajno češće bile starijeg uzrasta (60-79 godina) nego osobe bez anksioznosti. Između ispitanika sa i bez anksioznosti nije bilo značajne razlike u odnosu na sve druge sociodemografske faktore. Neophodna su dalja istraživanja u ovoj oblasti i primena adekvatnih preventivnih programa.

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**Table 4.** Distribution of participants with moderate or severe symptoms of anxiety and without anxiety according to their demographic characteristics

Karakteristike/ Characteristics		Bez anksioznosti/ No anxiety (N=95) Broj (%) / No (%)	Sa anksioznošću/ With anxiety (N=105) Broj (%) / No (%)	p vrednost* / p value*
<b>Pol/Gender</b>	Muškarci/Men	35 (36.8)	15 (42.9)	p > 0.05
	Žene/Women	60 (63.2)	20 (57.1)	
<b>Uzrast (godine)/ Age (years)</b>	20-39	28 (29.5)	1 (2.9)	p < 0.05
	40-59	63 (66.3)	4 (11.4)	
	60-79	4 (4.2)	30 (85.7)	
<b>Stepen obrazovanja/ Level of education</b>	Osnovna škola/ Primary school	0 (0.0)	4 (11.4)	p > 0.05
	Srednja škola/ High school	87 (91.6)	29 (82.9)	
	Fakultet/College	8 (8.4)	2 (5.7)	
<b>Zaposlen/ Employed</b>	Da/ Yes	22 (23.2)	22 (62.9)	p > 0.05
	Ne/ No	73 (76.8)	13 (37.1)	
<b>Mesto stanovanja/ Place of Residence</b>	Selo/Village	85 (89.5)	15 (42.9)	p > 0.05
	Grad/City	10 (10.5)	20 (57.1)	
<b>Bračni status/ Marital status</b>	U braku ili vanbračnoj zajednici/ Married or extramarital union	76 (80.0)	20 (57.1)	p > 0.05
	Nisu u braku ili vanbračnoj zajednici/Not married or extramarital union	19 (20.0)	15 (42.9)	

Prema  $\chi^2$  ili Fisher-ovom testu / \*According to  $\chi^2$  or Fisher test

Our study pointed out that the prevalence of anxiety was somewhat higher in participants who were employed than in unemployed ones. In countries, which do not have health insurance at the national level and acceptable goals of health services, unemployed people can have financial problems when getting necessary health services. Existential problems, inadequate conditions of living and poor access to information technologies can lead to the appearance of anxiety in people without permanent jobs during the pandemic of the novel coronavirus disease (16). However, anxiety among employed people most likely appears due to the fear of losing a job.

Our results show that marital life and life in extramarital unions do not contribute to the lower prevalence of anxiety symptoms in comparison to those who are not married. Contrary to our results, research studies conducted in China found significantly lower anxiety in people who were married or lived

in extramarital unions, because living together and parenting leave less time for thinking about this disease (10).

Our research was conducted in the early phase of the Covid-19 pandemic, and therefore, it gave its contribution to the timely identification of vulnerable categories, according to which, psychosocial interventions should be directed in order to prevent anxiety. Limited time of the research and a smaller number of participants could represent the limits of this research.

## Conclusion

The research showed that anxiety was present in more than half of the participants during the Covid-19 pandemic. The largest number of participants had mild anxiety, whereas severe anxiety was rare. People with anxiety were significantly more often in the older age group (60-79 years) than people without anxiety. There was no significant difference between participants with and

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without anxiety regarding gender and other sociodemographic factors. Further research in this field is necessary, as well as the application of appropriate prevention programs.

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**Autor za korespondenciju:** Marijana Jandrić-Kočić, Dom zdravlja Krupa na Uni, Milana Jelića 1, 79 227 Krupa na Uni, Republika Srpska; e-mail: marijanajandrickocic@gmail.com

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**Corresponding author:** Marijana Jandric-Kocic, Health Care Center „Krupa on the River Una“, Milana Jelica 1, 79227 Krupa na Uni, The Republic of Srpska; e-mail: marijanajandrickocic@gmail.com

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