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Determining the Effect of Covid-19 Disease on Family Physicians` Social and Daily Activities in Kayseri/Türkiye

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Abstract

Objective: We aimed at determining the effects of Covid-19 disease on family physicians` (FPs) daily work and life.

Methods: We searched for GPs who had Covid-19 by making inquiries in the Medical Chamber, Association of GPs in Kayseri, and local health authorities. Our study period covers the first year of the Covid-19 pandemic in Türkiye (March 11th, 2020 – March 11th, 2021). The descriptive characteristics, we looked into, were the use of preventive measures, location of family health centers, the transmission route of Covid-19, the symptoms they experienced, FP's general health status, and additionally details of isolation, diagnosis, and hospitalization procedures.

Results: A total of 85 FPs (18.2% of all FPs in the Kayseri region) had Covid-19 in the first 12 months of the Covid-19 pandemic in Kayseri/Türkiye. FPs who gave consent to participate in our study made up 60.8% of Kayseri`s FPs. Washing hands, keeping distance, using face masks, and frequent indoor ventilation were the most frequently used measures (>75%). More than 2/3 of FPs stuck to the preventive measures. The most frequent symptoms experienced by the FPs were muscle and joint pain, weakness, and fever (more than 1/5 of FPs, respectively 35.4%, 30.4%, 29.1%). The transmission sites were mostly Family Health Centers.

Conclusion: About 1/6 of FPs were infected with Covid-19. Almost all of them were working in the urban area. The mean hospitalization stay was 7.7 days and in more than 50% the symptoms of fever and cough were detected. The disease transmission was the most prevalent at the workplace and the most common concern of FPs was the protection of their families.

Keywords: Covid-19, general practitioner, family physician, social activities

This study was presented at the X Forum of family physicians in Bosnia and Herzegovina in November 2021.

Ocena efekta Kovida-19 na društvene i dnevne aktivnosti porodičnih lekara u Kajzeriju u Turskoj

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Sažetak

Cilj. Naš cilj je bio da utvrdimo efekte koje je bolest izazvana Kovidom-19 imala na svakodnevni život i rad porodičnih lekara.

Metode. Tragali smo za porodičnim lekarima (PL) koji su imali Kovid-19 tako što smo se raspitali u Lekarskoj komori, Udruženju izabranih lekara u Kajzeriju i kod lokalnih zdravstvenih vlasti. Vreme naše studije pokriva period prve godine Kovid-19 pandemije u Turskoj (11. mart 2020–11. mart 2021). Deskriptivne karakteristike, koje smo ispitivali, bile su: sprovođenje preventivnih mera, lokacije ambulanti porodične medicine, način prenošenja Kovida-19, simptomi koje su iskusili, opšte zdravstveno stanje PL i dodatni detalji o izolaciji, dijagnozi i hospitalnim procedurama.

Rezultati. Ukupno 85 PL (18,2% svih PL u regionu Kajzeri) je imalo Kovid-19 u prvih 12 meseci Kovid-19 pandemije u Kajzeriju, Turska. Porodični lekari koji su dali pristanak da učestvuju u našoj studiji čine 60,8% PL u Kajzeriju. Pranje ruku, držanje distance, upotreba zaštitnih maski, često provetravanje prostorija su bile najčešće korišćene mere (>75%). Više od 2/3 PL se pridržavalo zaštitnih mera. Najčešći simptomi koje su imali PL su bili bolovi u mišićima i zglobovima, slabost i groznica (više od 1/5 PL, i to ovim redosledom: 35,4%, 30,4%, 29,1%). Mesta zaražavanja su uglavnom bile ambulante porodične medicine.

Zaključak. Oko 1/6 PL se zarazila Kovidom-19. Skoro svi su radili u urbanim sredinama. Srednje vreme ostanka u bolnici je bilo 7,7 dana i u više od 50% su registrovani simptomi povišene temperature i kašlja. Zaražavanje je najčešće bilo na radnom mestu i najčešća briga PL je bila kako da zaštite svoje porodice.

Ključne reči: Kovid-19, lekar opšte prakse, porodični lekar, društvene aktivnosti

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Introduction

Covid-19 was pronounced an epidemic, an 'International Public Health Emergency', in January, 2020. On March 11th, 2020 it was pronounced a pandemic since it was detected in 113 countries[1]. On December 10th, 2021 the number of confirmed Covid-19 cases reached 267.184.623 and there were 5.277.327 Covid-19 related deaths reported[1].

The prevalence of the confirmed Covid-19 cases was 3.46-28.9% in the first six months of the pandemic in Chinese health care workers (2). The corresponding figures in UK, USA, and Spain were 14.5%, 12.9%, and 11.6% respectively (3-5). The number of confirmed Covid-19 cases in Turkish health care workers was 29.865 (10.9%) in September 2020 and 52 (0.17%) of them died[6].

The Ministry of Health (MoH) in Türkiye started tracking Covid-19 on January 10th, 2020, and founded the Covid-19 Tracking Committee on January 22nd, 2020. The first Covid-19 case was detected on March 11th, 2020. According to the guidelines, published by the Turkish MoH, common signs of Covid-19 infection included fever, cough, and dyspnea. The uncommon symptoms were headache, sore throat, runny nose, muscle and joint pain, extreme weakness, new-onset loss of smell and taste, and diarrhea. Although confirmed cases included those who were asymptomatic, there were also those with severe conditions like pneumonia, acute respiratory distress, kidney failure, and even death[7].

The management of detection, diagnosis, ambulatory and hospital care of the Covid-19 patients in the very early period of the pandemic was managed by the secondary or tertiary healthcare institutions. Additionally, smartphone applications were used, both to detect and manage Covid-19 in infected people. Initially, the role of family physicians was to detect new cases, and possible contacts, follow up on non-hospitalized patients at home by phone calls, referring severe cases to hospitals. Although Family Health Centers (FHC) and GPs were regarded as the site of the first contact, GP's role was limited in the management of the Covid-19 cases. GP's role in the delivery of general preventive health services and management of acute and chronic diseases in family health centers was limited due to the novel situation (8). FHCs were primarily focused on diagnostic procedures and ambulatory follow-up during the course of the Covid-19, in accordance with the frequently updated guidelines published by the MoH.

As of September 2020, the number of healthcare workers who lost their lives due to Covid-19 reached 85. Forty-one (48.2%) of them were physicians (9). By the end of the first Covid-19 pandemic year, the MoH announced that health workers were overcome by the burden of the disease, and the total number of healthcare workers with positive PCR tests, since the beginning of the pandemic, exceeded 120,000. This figure exceeded 10% of the total number of healthcare work-

Uvod

Kovid-19 je proglašen za epidemiju u januaru 2020. godine kao ''međunarodna opasnost po javno zdravlje''. Od 11. marta 2020. proglašen je za pandemiju, jer je detektovan u 113 zemalja[1]. Od 10. decembra 2021. broj potvrđenih slučajeva Kovid-19 dostigao je 267.184.623 i prijavljeno je 5.277.327 smrtnih slučajeva od Kovida-19[1].

Prevalencija potvrđenih slučajeva Kovida-19 je bila 3,46–28,9% u prvih šest meseci pandemije kod kineskih zdravstvenih radnika[2]. Slične brojke bile su i u Velikoj Britaniji, SAD i Španiji 14,5%, 12,9% i 11,6%, istim redosledom[3–5]. Broj potvrđenih Kovid-19 slučajeva kod turskih zdravstvenih radnika je bio 29.865 (10,9%) u septembru 2020. i 52 (0,17%), a od njih je umrlo[6].

Ministarstvo zdravlja Turske počelo je sa praćenjem Kovida-19 od 10. januara 2020. i osnovalo je 22. januara 2020. Komitet za praćenje Kovida-19. Prvi slučaj Kovida-19 je detektovan 11. marta 2020. Prema vodičima koje je izdalo tursko Ministarstvo zdravlja, karakteristični znaci Kovid-19 infekcije uključivali su povišenu temperaturu, kašalj i dispneju. Nekarakteristični simptomi su bili glavobolja, gušobolja, curenje nosa, bolovi u zglobovima i mišićima, izražena slabost, novonastali gubitak čula ukusa i mirisa i dijareja. Mada su potvrđeni slučajevi uključivali i asimptomatske pacijente, bilo je i onih sa ozbiljnim stanjima kao što su pneumonija, akutni respiratorni distres, otkazivanje bubrega, pa čak i smrt[7].

Detekcija, dijagnostika, ambulantno i hospitalno lečenje Kovid-19 pacijenata, u samom početku pandemije, su bili u rukama sekundranih i tercijarnih zdravstvenih ustanova. Uz to, koristile su se mobilne aplikacije kako za detektovanje tako i za lečenje Kovida-19 kod zaraženih ljudi. Prvobitno, uloga porodičnih lekara je bila da detektuju nove slučajeve i potencijalne kontakte, praćenje, putem telefona, nehospitalizovanih pacijenata koji su bili kod svojih kuća, upućivanje težih slučajeva u bolnice. Iako su ambulante porodične medicine i lekari koji rade u njima prepoznati kao mesto prvog kontakta, njihova uloga je bila ograničena u lečenju Kovid-19 slučajeva. Ali i uloga izabranih lekara u davanju preventivnih usluga i lečenju drugih akutnih i hroničnih bolesti, u ambulantama porodične medicine, je takođe bila ograničena zahvaljujući novonastaloj situaciji[8]. Ambulante porodične medicine su se primarno fokusirale na dijagnostiku i ambulantno praćenje za vreme trajanja Kovida-19, a u skladu sa često menjanim vodičima, koje je objavljivalo Ministarstvo zdravlja.

Od septembra 2020. broj zdravstvenih radnika koji su izgubili živote zbog Kovida-19 dostigao je 85. Od njih 41 (48,2%) su bili lekari[9]. Krajem prve godine Kovid-19 pandemije, Ministarstvo zdravlja se izjasnilo da su zdravstveni radnici preopterećeni poslom zbog pandemije, a ukupan broj zdravstvenih radnika sa pozitivnim PCR testom, od početka pandemije, je prešao 120.000. Ova brojka prevazišla je više

ers in the country. The number of healthcare workers who died from the Covid-19 infection was 216 in the first year [10].

The mortality rate from Covid-19 in family physicians was 14%, or more precisely 14,92% according to the public institutional announcement given respectively by the MoH and Turkish Medical Association (TMA). The estimated number of GPs who were infected with Covid-19 was 3593 [11].

According to the survey conducted by the Turkish Thoracic Society (TTS), the incidence of Covid-19 infections in healthcare workers was 13.9% in the first three months of the pandemic. This incidence was 17 times higher than in the general population, and according to the TTS`s report, the incidence of Covid-19 in healthcare workers was 46 times higher than in the general population, and 52,3 % of healthcare workers were positive for SARS-CoV-2. On the other hand, the radiographic confirmation rate of SARS-CoV-2 was 11,4%. The incidence of asymptomatic healthcare workers, who were registered as SARS-CoV-2 positive was 79,5% thus indicating that monitoring SARS-CoV-2 symptoms in healthcare workers was ineffective[12].

In this study, we aimed at determining the effect of Covid-19 on the daily work and social life of family physicians in Kayseri/Türkiye and to determine the incidence of Covid-19 related symptoms, preventive measures, diagnostic procedures, and hospitalization incidence. We believe that the descriptive results of this study may be useful in the future management of the Covid-19 pandemic.

Materials and method

The participants of this descriptive cross-sectional study are physicians from primary health care institutions in Kayseri: family health centers, subunits of the district health directorate, and GPs working at university and state hospitals. This sample consists of all GPs who were infected with Covid-19 and recovered completely. The institutional consent for this study was given by the Scientific Research Platform of the General Directorate of Health Services of the MoH (13.10.2020-T20_56_23). Additionally, ethical approval was received from Erciyes University Clinical Research Ethics Committee (18.11.2020- 591). All GPs in Kayseri who had Covid-19 and completely recovered in the period from pandemic onset (March 11th, 2020) and 12 months onward were included in this study.

The questionnaire included questions about GP's workplace, the preventive methods they used, the route of infection, how they were diagnosed, the symptoms they experienced, the course of the isolation period, and the effect of Covid-19 on their work, and social life. The personal experiences of the GP researchers were used to make the questionnaire.

Although information (confirmed cases, recovered cases, cases in emergency services, e.t.c) about Covid-19 was

od 10% od ukupnog broja zdravstvenih radnika u zemlji. Broj zdravstvenih radnika koji su umrli od Kovida-19 u prvoj godini pandemije je bio 216[10].

Stopa mortaliteta od Kovida-19 kod porodičnih lekara je bila 14% ili tačnije 14,92% prema podacima javnih institucija, Ministarstva zdravlja i Turskog medicinskog udruženja (TMU). Procenjeno je da je broj zaraženih porodičnih lekara Kovidom-19 bio 3.593[11].

Prema istraživanju koje je sprovelo Tursko torakalno udruženje (TTU), učestalost Kovid-19 infekcija kod zdravstvenih radnika je bila 13,9% u prva tri meseca pandemije. Ova učestalost je bila 17 puta veća nego u opštoj populaciji i prema TTU izveštaju, učestalost Kovida-19 kod zdravstvenih radnika je bila 46 puta veća nego u opštoj populaciji i 52,3% zdravstvenih radnika je bilo pozitivno na SARS-CoV-2. Sa druge strane, radiografska potvrda SARS-CoV-2 je bila 11,4%. Učestalost asimptomatskih zdravstvenih radnika, koji su registrovani kao SARS-CoV-2 pozitivni, je bila 79,5% što je pokazalo da je praćenje SARS-CoV-2 simptoma kod zdravstvenih radnika neefikasno[12].

U ovoj studiji naš cilj je bio da odredimo uticaj Kovida-19 na svakodnevni posao i društveni život lekara porodične medicine u Kajzeriju, Turska, kao i da odredimo učestalost simptoma povezanih sa Kovidom-19, preventivne mere, dijagnostičke procedure i učestalost hospitalizacije. Verujemo da deskriptivni rezultati ove studije mogu biti od koristi u budućem upravljanju Kovid-19 pandemijom.

Metode

Učesnici ove deskriptivne studije preseka su lekari iz institucija sa primarnog zdravstvenog nivoa u Kajzeriju: ambulante porodične medicine, podjedinice oblasnog zdravstvenog direktorata i izabrani lekari koji rade na univerzitetu i u državnim bolnicama. Ovaj uzorak se sastoji od svih izabranih lekara koji su bili inficirani Kovidom-19 i potpuno se oporavili. Institucionalno odobrenje za ovu studiju dala je Naučna istraživačka platforma Generalnog direktorata za zdravstvene usluge Ministarstva zdravlja (13.10.2020-T20_56_23). Uz to, etičko odobrenje je dao i Etički komitet za klinička istraživanja Ercijes Univerziteta (18.11.2020-591). Svi izabrani lekari u Kajzeriju, koji su imali Kovid-19 i kompletno se oporavili, u periodu od početka pandemije (11. mart 2020) i 12 meseci nakon toga, su uključeni u ovu studiju.

Upitnik je sadržao pitanja o radnom mestu izabranog lekara, preventivnim metodama koje su koristili, putanji prenošenja infekcije, kako su dijagnostikovani, simptomima koje su iskusili, periodu izolacije i uticaju Kovida-19 na njihov posao i društveni život. Lična iskustva izabranih lekara-istraživača poslužila su za pravljenje upitnika.

Iako su informacije (potvrđeni slučajevi, oporavljeni slučajevi, slučajevi u Hitnoj službi itd.) o Kovidu-19 objavljivane na dnevnom nivou, nije bilo informacija o lokalnim

published daily, there were no announcements about the local figures[13]. Due to this, we planned to call all 100 FHCs in Kayseri to track the GPs who had Covid-19. Additionally, we requested information from the Association of Family Physicians/Kayseri. We also obtained the information from the local health authority of Kayseri. After determining the total number of GPs who had Covid-19 and recovered completely, we visited each of these GPs at their workplace. During these visits, they were asked whether there were GPs working in the same unit or other healthcare institutions who had newly detected Covid-19. Additionally, all social media platforms were checked to find out whether there were Covid-19 cases among GPs. Final information about the number of GPs who had and recovered from Covid-19 was checked in the Presidency of the Kayseri Medical Chamber and Health Directorate.

The GPs included in the study were called beforehand and informed about the study and then visited. During the visit, the purpose, design, and implementation of the study were explained and their consent was received. Data were collected from the questionnaire. It consisted of forty questions concerning the demographic characteristics of family physicians (age, gender, work and tenure, work experience, etc.), existing chronic diseases, drugs they used for acute and chronic disorders, nutritional supplements they were using before they were infected with Covid-19, testing information, duration of isolation, from whom they got the infection, how Covid-19 was diagnosed, which test was the first tool for diagnosis, Covid-19 related signs, and symptoms, and if they infected any of their household members or workplace partners. Additionally, they were asked if they transmitted Covid-19 to anybody else, their treatment protocol, changes in their lifestyle, or their income. The details about hospitalization due to Covid-19 were also noted. The duration of filling out the questionnaire was about 15 minutes. GPs not available at the moment and who could not fill in the questionnaire, were visited the next day. We planned phone calls to GPs with whom we failed to make face-to-face conversations. Phone calls were made with 30 (37%) GPs.

The descriptive variables of preventive measures, signs, and symptoms of Covid-19, existing chronic diseases, and drugs used for any reason were compared between ambulatory and hospitalized GPs with the Chi-square test. The SPSS 18 statistical software was used for data analysis.

Results

Among 85 family physicians who had confirmed Covid-19 infection between March 11th, 2020, and March 11th, 2021 in Kayseri, 79 (93.4%) agreed to participate in the study. There were no significant differences in terms of gender, age, years of service, and the institution they worked at, both in outpatients and inpatients treatment. The mean age of the fe-

brojkama[13]. Zbog toga smo planirali da pozovemo svih 100 ambulanti porodične medicine u Kajzeriju kako bismo našli izabrane lekare koji su imali Kovid-19. Uz to, tražili smo informacije i od Udruženja porodičnih lekara u Kajzeriju. Takođe smo tražili informacije i od lokalnih zdravstvenih vlasti Kajzerija. Pošto smo utvrdili ukupan broj izabranih lekara koji su imali Kovid-19 i potpuno se oporavili, posetili smo svakog od njih na njihovom radnom mestu. Za vreme ovih poseta pitali smo ih da li rade kao izabrani lekari samo na tom mestu ili i drugde, i da li su imali novodijagnostikovani Kovid-19. Dodatno smo proveravali društvene medije da vidimo da li je tamo bilo informacija o izabranim lekarima koji su se zarazili Kovidom-19. Konačne informacije o broju izabranih lekara koji su imali Kovid-19 i oporavili se proverene su i u Predsedništvu medicinske komore Kajzerija i Zdravstvenom direktoratu.

Izabrani lekari koji su učestvovali u ovoj studiji su prethodno pozvani i informisani o studiji, a zatim smo ih posetili. Za vreme posete objašnjena im je svrha, dizajn i primena studije, i zatražen je njihov pristanak. Podaci su preuzeti iz upitnika. On se sastojao od 40 pitanja koja su se odnosila na demografske karakteristike porodičnih lekara (godište, pol, posao i zakup prostorija, radno iskustvo itd.), postojeće hronične bolesti, lekove koje koriste za akutne i hronične bolesti, nutritivne suplemente koje su koristili pre nego što su se zarazili Kovidom-19, informacije o testiranju, dužina izolacije, od koga su dobili infekciju, kako je Kovid-19 dijagnostikovan, koji test je bio prvi dijagnostički alat, Kovid-19 povezani simptomi i znaci, i da li su inficirali nekog od članova porodice ili partnera s posla. Uz to, pitali smo ih da li su zarazili još nekog drugog, koje su protokole za lečenje koristili, da li je bilo promena u životnom stilu ili prihodima. Takođe smo zabeležili i detalje o hospitalizaciji zbog Kovida-19, ako ih je bilo. Vreme popunjavanja upitnika je bilo oko 15 minuta. Izabrane lekare koji nisu trenutno bili dostupni i nisu mogli da popune upitnik posetili smo sledećeg dana. Planirali smo telefonske pozive sa lekarima sa kojima nismo mogli da ostvarimo komunikaciju licem u lice. Telefonski pozivi su obavljeni sa 30 (37%) izabranih lekara.

Deskriptivne varijable preventivnih mera, znakovi i simptomi Kovida-19, postojeće hronične bolesti i lekovi koje su koristili iz bilo kog razloga poređeni su između ambulantno i hospitalno lečenih izabranih lekara, koristeći X^2-test. SPSS 18 statistički softver je korišćen za analizu podataka.

Rezultati

Od 85 porodičnih lekara kod kojih je potvrđena Kovid-19 infekcija između 11. marta 2020. i 11. marta 2021. u Kajzeriju, 79 (93,4%) je pristalo da učestvuje u studiji. Nije bilo značajne razlike kada je upoređivan pol, godine, radno iskustvo i institucija u kojoj su radili naspram toga da li su lečeni ambulantno ili u bolnici. Prosek godina kod žena je bio

males was 44.4 ± 6.8 (min 27, max 56), and 47.2±7.4 (min 30, max 61) for males (Table 1). Seventeen (35.4%) males and 12 (38.7%) females were using medications for their chronic diseases. We could not find any difference between chronic drug use and gender or in-patient treatment.

44,4 ± 6,8 (min 27, max 56), a 47,2 ± 7,4 (min 30, max 61) kod muškaraca (Tabela 1). Sedamnaest (35,4%) muškaraca i 12 (38,7%) žena koristili su lekove zbog hroničnih bolesti. Nismo mogli da nađemo razliku između hronične upotrebe lekova i pola ili bolničkog lečenja.

Table 1. Demographic characteristics of GPs with Covid-19 and the institutions they work at
Tabela 1. Demografske karakteristike izabranih lekara sa Kovidom-19 i institucije gde rade

	Hospital/ Bolnica		**Outpatient clinic/ Ambulanta**		**Total/ Ukupno**	
	Men/ Muškarci n (%)	**Women/ Žene n (%)**	**Men/ Muškarci n (%)**	**Women/ Žene (%)**	**Men/ Muškarci n (%)**	**Women/ Žene (%)**
Covid infected/ Kovid inficirani	17(63.0)	10(37.0)	31(59.6)	21(40.4)	48(60.8)	31(39.2)
Age*/ Starost*	47.6(6.6)	45.6(5.9)	47.0(8.0)	43.8(7.4)	47.2(7.4)	44.4(6.8)
Age Group/ Starosna grupa						
20-29	-	-	-	1(4.8)	-	1(3.2)
30-39	1(5.9)	2(20.0)	6(19.4)	3(14.3)	7(14.6)	5(16.1)
40-49	9(52.9)	5(50.0)	9(29.0)	14(66.7)	18(37.5)	19(61.3)
50-59	6(35.3)	3(30.0)	16(51.6)	3(14.3)	22(45.8)	6(19.4)
60-69	1(5.9)	-	-	-	1(2.1)	-
Years of service/ Godine službe						
0-9	-	-	4(12.9)	2(9.5)	4(8.3)	2(6.5)
10-19	8(47.1)	3(30)	6(19.4)	5(23.8)	14(29.2)	8(25.8)
20-29	8(47.1)	7(70)	15(48.4)	12(57.1)	23(47.9)	19(61.3)
30-39	1(5.9)	-	6(19.4)	2(9.5)	7(14.6)	2(6.5)
Locations/ Lokacija						
Melikgazi	6(35.3)	6(60)	11(35.5)	9(42.9)	17 (35.4)	15 (48.4)
Kocasinan	6(35.3)	3(30)	12(38.7)	7(33.3)	18 (37.5)	10 (32.3)
Talas	-	1(10)	2(6.5)	2(9.5)	2 (4.2)	3 (9.7)
Other counties/ Drugi okruzi	5(29.4)	-	6(19.4)	3(14.3)	11(22.9)	3 (9.7)

***** The mean and standard deviation values for age are given//*Date su vrednosti srednje i standardne devijacije za starosnu dob

When we compared hospital and ambulatory treatment we found dyspnea in hospitalized females was approximately two times higher than in males, although dyspnea was not observed in ambulatory females (Table 2).The following symptoms of Covid-19: nausea-vomiting-diarrhea, loss of taste-smell, and dizziness were not observed as the first signs and symptoms in males. In hospitalized GPs, sore throat was

Kada smo poredili bolničko i ambulantno lečenje, našli smo da je dispneja kod hospitalizovanih žena bila približno dva puta češće zastupljena nego kod muškaraca, iako dispneju nismo našli kod ambulantno lečenih žena (Tabela 2). Sledeći simptomi Kovida-19: mučnina-povraćanje-dijareja, gubitak čula ukusa-mirisa i nesvestica nisu zabeleženi kao prvi znaci i simptomi bolesti kod muškaraca. Kod hospitalizovanih PL,

reported in males, nasal congestion-runny nose, and dizziness were reported in females. Symptoms of Covid-19: dyspnea, chills, and loss of taste and smell were not reported in ambulatory treated females (Table 2).

gušobolja je zabeležena kod muškaraca, a zapušen nos ili curenje iz nosa i vrtoglavica kod žena. Simptomi Kovida-19 kao što su dispneja, jeza i gubitak čula ukusa i mirisa nisu nađeni kod ambulantno lečenih žena (Tabela 2).

Table 2. Distribution according to the first signs and symptoms of the GPs with Covid19 infection
Tabela 2. Distribucija prema prvim znacima i simptomima kod PL sa Kovid-19 infekcijom

	Hospitalized/ Hospitalizovani				**Ambulatory/ Ambulantno**				**symptom frequency / Frekvenca simptoma n (%)**
	Men/ Muškarci n (%)		**Women/ Žene n (%)**		**Men/ Muškarci n (%)**		**Women/ Žene n (%)**		
Covid infected/ Kovid zaraženi	**17(63.0)**		**10(37.0)**		**31(59.6)**		**21(40.4)**		
First symptom/ Prvi simptom	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	
Muscle and joint pain / Bolovi u mišićima i zglobovima	4(23.5)	13(76.5)	3(30.0)	7(70.0)	13(41.9)	18(58.1)	8(38.1)	13(61.9)	28(35.4)
Weakness/ Slabost	6(35.3)	11(64.7)	1(10.0)	9(90.0)	8(25.8)	23(74.2)	9(42.9)	12(57.1)	24(30.4)
Fever/ Povišena T	9(52.9)	8(47.1)	1(10.0)	9(90.0)	8(25.8)	23(74.2)	5(23.8)	16(76.2)	23 (29.1)
Cough/ Kašalj	2(11.8)	15(88.2)	2(20.0)	8(80.0)	5(16.1)	26(83.9)	3(14.3)	18(85.7)	12(15.2)
Headache/ Glavobolja	2(11.8)	15(88.2)	2(20.0)	8(80.0)	1(3.2)	30(96.8)	3(14.3)	18(85.7)	8(10.1)
Sweating/ Preznojavanje	1(5.9)	16(94.1)	1(10.0)	9(90.0)	4(12.9)	27(87.1)	1(4.8)	20(95.2)	7(8.9)
Soar throat / Gušobolja	-	17(100)	1(10.0)	9(90.0)	2(6.5)	29(93.5)	3(14.3)	18(85.7)	6(7.6)
Shortness of breath */ Kratak dah*	2(11.8)	15(88.2)	2(20.0)	8(80.0)	1(3.2)	30(96.8)	-	21(100)	5(6.3)
Chills, shivering/ Jeza, drhtavica	1(5.9)	16(94.1)	1(10.0)	9(90.0)	2(6.5)	29(93.5)	--	21(100)	4(5.1)
Nasal congestion or runny nose/ Nazalna kongestija ili curenje iz nosa	1(5.9)	16(94.1)	-	10(100)	1(3.2)	30(96.8)	1(4.8)	20(95.2)	3(3.8)
Nausea,vomiting, diarrhea/ Mučnina, povraćanje, dijareja	-	17(100)	1(10.0)	9(90.0)	-	31(100)	1(4.8)	20(95.2)	2(2.5)
Loss of taste and smell/ Gubitak čula ukusa i mirisa	-	17(100)	1(10.0)	9(90.0)	-	31(100)	-	21(100)	1(1.3)
Dizziness/ Vrtoglavica	-	17(100)	-	10(100)	-	31(100)	1(4.8)	20(95.2)	1(1.3)

*($\chi 2=4,98$, $p=0,04$)

Considering there may be differences in Covid-19 symptoms in the course of the pandemic we made a comparison between the quartiles of the first year but we failed to find any differences in these symptoms: headache, dizziness, muscle, and joint pain, loss of taste and smell, sore throat (Table 2). There were no chronic diseases in 30 (62.5%) males and 17 (54.8%) females. We could not find any relationship between having a chronic disease and hospitalization in both genders. Additionally, there was no significant difference between the ambulatory and hospitalized GPs who had hypertension and diabetes.

Uzimajući u obzir da mogu postojati razlike u Kovid-19 simptomima tokom trajanja pandemije, napravili smo poređenje između kvartala prve godine, ali nismo uspeli da nađemo razlike u simptomima: glavobolja, vrtoglavica, bolovi u mišićima i zglobovima, gubitak čula ukusa i mirisa, gušobolja (Tabela 2). Nije bilo hroničnih bolesti kod 30 (62,5%) muškaraca i 17 (54,8%) žena. Nismo mogli da nađemo vezu između hroničnih bolesti i hospitalizacije kod oba pola Uz to, nije bilo značajne razlike između ambulantno i hospitalno lečenih PL koji su imali hipertenziju i dijabetes.

The percentage of females who cleaned surfaces was two times higher than those who didn`t, both in ambulatory and hospitalized GPs. In male GPs, both in ambulatory and hospitalized, this behavior (surface cleaning) was similar (Table 3). In hospitalized males, the preventive measure of changing clothes, just before home entry, was significantly lower (one change versus none). In females, changing clothes, just before home entry, was relatively higher than in males (40,0% vs 23,5%). In GPs who received ambulatory treatment, changing clothes just before home entry, was relatively lower in males than in females (35,5% vs 61,9%) (Table 3). Among 79 GPs who had Covid-19, 73 (92.4%) completely adhered to the standard Covid-19 preventive measures (mask-distance-hand washing) recommended by the MoH.

Procenat žena koje su čistile radne površine bio je dva puta veći nego onih koje nisu i kod ambulantno i hospitalno lečenih PL. Kod muških PL i onih lečenih i ambulantno i hospitalno, ova aktivnost (brisanje površina) je bila slična (Tabela 3). Kod hospitalizovanih muškaraca, preventivne mere, kao presvlačenje garderobe pre ulaska u kuću, je bilo značajno ređe (jedno presvlačenje naspram nijednog). Kod žena, presvlačenje pre ulaska u kuću je bilo relativno češće nego kod muškaraca (40,0% naspram 23,5%). Kod PL koji su ambulantno lečeni, presvlačenje pre ulaska u kuću je bilo relativno ređe kod muškaraca nego kod žena (35,5% naspram 61,9%) (Tabela 3). Među 79 PL koji su imali Kovid-19, 73 (92,4%) se kompletno pridržavalo standardnih Kovid-19 preventivnih mera (maske-distanca-pranje ruku) koje je preporučilo Ministarstvo zdravlja.

Table 3. Distribution of GPs with Covid-19 infection in relation to their compliance with preventive measures against Covid-19, gender, and hospitalization status.
Tabela 3. Distribucija PL sa Kovid-19 infekcijom prema njihovoj komplijansi za preventivne mere protiv Kovida-19, polu i hospitalizacionom statusu

	Hospitalized/ Hospitalizovani				**Ambulatory/ Ambulantno**				**frequency order/ Redosled frekvenci n (%)**
	Men/Muškarci n (%)		**Women/Žene n (%)**		**Men/Muškarci n (%)**		**Women/Žene n (%)**		
Covid infected/ Kovid zaraženi	**17(63.0)**		**10(37.0)**		**31(59.6)**		**21(40.4)**		
	+	-	+	-	+	-	+	-	
Hand washing/ Pranje ruku	17(100)	--	10(100)	--	31(100)	--	21(100)	--	79(100)
Keeping the distance/ Održavanje distance	17(100)	--	8(80.0)	2(20.0)	31(100)	--	21(100)	--	77(97.5)
Using face mask/ Upotreba zaštitnih maski	16(94.1)	1(5.9)	9(90.0)	1(10.0)	29(93.5)	2(6.5)	21(100)	--	75(94.9)
Indoor ventilation/ Provetravanje prostorija	14(82.4)	3(17.6)	10(100)	--	31(100)	--	20(95.2)	1(4.8)	75(94.9)
Avoiding social activities/ Izbegavanje društvenih aktivnosti	13(76.5)	4(23.5)	9(90.0)	1(10.0)	27(87.1)	4(12.9)	19(90.5)	2(9.5)	68(86.1)
Use of hand disinfectant/ Upotreba dezinficijenasa za ruke	14(82.4)	3(17.6)	10(100)	--	24(77.4)	7(22.6)	19(90.5)	2(9.5)	67(84.8)
Avoiding public transportation/ Izbegavanje javnog prevoza	14(82.4)	3(17.6)	9(90.0)	1(10.0)	26(83.9)	5(16.1)	18(85.7)	3(14.3)	67(84.8)
Frequent surface cleaning/ Često brisanje površina	8(47.1)	9(52.9)	7(70.0)	3(30.0)	13(41.9)	18(58.1)	15(71.4)	6(28.6)	43(54.4)
Changing clothes before home entering / Presvlačenje pre ulaska u kuću	4(23.5)	13(76.5)	4(40.0)	6(60.0)	11(35.5)	20(64.5)	13(61.9)	8(38.1)	32(40.5)
Use of bonnet/ Upotreba zaštitnih kapa	9(52.9)	8(47.1)	2(20.0)	8(80.0)	12(38.7)	19(61.3)	8(38.1)	13(61.9)	31(39.2)
Use of glasses/ Upotreba zaštitnih naočara	4(23.5)	13(76.5)	1(10.0)	9(90.0)	8(25.8)	23(74.2)	7(33.3)	14(66.7)	20(25.3)
Other/ Drugo	1(5.9)*	16(94.1)	--	--	1(3.2)**	30(96.8)	--	--	2(2.6)

(+) implementing the measures (-) not implementing the measures/(+) primena mera, (-) neprimenjivanje mera

We could not find any significant difference in general health status (good, moderate, bad) of hospitalized GPs according to their self report. The source of Covid-19 transmission in both genders was similar and 75% reported it took place in their offices.

The diagnosis of Covid-19 was made followed by the occurrence of symptoms in 55 (69.6%) GPs, and in 12 (15.2%) after the routine screening, and contact tracing procedures. The method of diagnosis, in descending order, was PCR test 63 (79.7%), Chest Tomography 10 (12.7%), PCR and Chest Tomography 2 (2.5%), clinical findings, and other laboratory tests, excluding PCR 2 (2.5%), Elisa IgG 1 (1.3%), rapid Covid-19 Ag test 1 (1.3%). During the recovery period, the second PCR test was performed on 42 (53.2%) GPs.

The last existing symptoms of Covid-19 that GPs experienced were: weakness-fatigue 16 (20.3%), cough 13 (16.5%), loss of taste or smell 10 (12.7%), muscle-joint pain 9 (11.4%), nausea 3 (3.8%), back pain 2 (2.5%), and diarrhea 2 (2.5%), in descending order. The disappearance of the final reported symptoms lasted for 0-14 days in 53 (67.1%) GPs, 15-30 days in 25 (31.6%), and more than 30 days in 1 (1.3%) GP.

The transmission of the Covid-19 from the GP to any of the household members was 41,8% and to any of co-workers 13,9%. 58,2% GPs reported they didn`t transmit the disease to anybody. The fear from Covid-19 was reported in 54,8% of females and 43,8% of males. There were several concerns we found: the fear of infecting a family member, dying from Covid, to have dyspnea. Thirty-two (40,5%) of the GPs reported that someone in their house was infected with Covid-19 from someone outside their home. GPs who were infected with Covid-19 preferred the method of isolation (self or household members` isolation) at their home to protect their household (n=50, 63,3%). A total of 8 (10,2%) GPs either transferred themselves or their household members to another place.

There were 51 (64,5 %) GPs who were satisfied with the health service they received. 72 (91,1%) GPs stated they had no concerns about the loss of income. The leading concerns of GPs were: their substitution with another GP and possible problems their patients could encounter during this period. The rationale for these concerns was the frequent calls from their patients during the GP`s isolation period. In addition to these concerns, 69 (87,3%) GPs reported they spent extra money during their isolation period.

Families and close friends of GPs advised them to use some nutrients, vaccines, and to make lifestyle changes. The frequency of these recommendations, in descending order, is listed as follows: specialized diet 57 (72,2%), nutritional support in 56 (70,9%), several drugs 33 (41,8%), lifestyle change in 17 (21,5%) GPs. The frequency of using preventive measures at home and workplace was 69 (87,3%) and 73 (92,4%), respectively.

GPs who had Covid-19 stated that they most frequently used vitamin C, D, zinc, onion, garlic, bone broth, almonds,

Nismo mogli da nađemo značajnu razliku u opštem zdravstvenom stanju (dobro, srednje, loše) hospitalizovanih PL prema njihovoj samoproceni). Izvor Kovid-19 prenošenja, kod oba pola, je bio sličan i 75% je reklo da se desilo u njihovim ordinacijama.

Dijagnoza Kovid-19 je postavljena nakon pojave simptoma kod 55 (69,6%) PL, a kod 12 (15,2%) nakon rutinskog skrininga i traganja za kontaktima. Metode dijagnostike idu sledećim redom: PCR test 63 (79,7%), tomografija grudnog koša (CT) 10 (12,7%), PCR i CT 2 (2,5%), klinički nalaz i drugi laboratorijski testovi, osim PCR 2 (2,5%), Elisa IgG 1 (1,3%), brzi Kovid-19 Ag test 1 (1,3%). Tokom perioda oporavka, drugi PCR test je urađen kod 42 (53,2%) PL.

Poslednji simptomi Kovida-19, koje su iskusili PL, bili su: slabost-zamor 16 (20,3%), kašalj 13 (16,5%), gubitak čula ukusa i mirisa 10 (12,7%), bolovi u mišićima i zglobovima 9 (11,4%), mučnina 3 (3,8%), bol u leđima 2 (2,5%) i dijareja 2 (2,5%). Nestanak poslednjih prijavljenih simptoma trajao je od 0 do 14 dana kod 53 (67,1%) PL, 15–30 dana kod 25 (31,6%) i više od 30 dana kod 1 (1,3%) PL.

Prenošenje Kovid-19 od PL na nekog od ukućana je bila 41,8%, a na saradnike na poslu 13,9%. Od ukupnog broja ispitanika, 58,2% je prijavilo da nisu preneli bolest nikom drugom. Strah od Kovida-19 prijavilo je 54,8% žena i 43,8% muškaraca. Bilo je nekoliko tipova zabrinutosti koje smo našli: strah da će inficirati nekog od članova porodice, umiranje od Kovida, imati dispneju. Trideset dva (40,5%) PL su prijavili je da je neko od njihovih ukućana bio zaražen Kovidom-19 od nekoga sa strane. PL koji su bili zaraženi Kovidom-19 preferirali su izolaciju kod kuće (njihova ili izolacija ukućana) kako bi zaštitili svoje domaćinstvo (n = 50, 63,3%). Ukupno 8 (10,2%) PL je prešlo drugde ili je preselilo svoje ukućane drugde.

Bilo je 51 (64,5%) PL koji su bili zadovoljni zdravstvenom uslugom koju su dobili. Sedamdeset dva (91,1%) PL je reklo da se nisu brinuli zbog gubitka prihoda. Glavne brige PL su bile: zamenjivanje drugim PL i mogući problemi koje bi njihovi pacijenti iskusili tokom tog perioda. Objašnjenje za ovu vrstu brige su bili česti pozivi njihovih pacijenata dok je PL bio u izolaciji. Uz to, 69 (87,3%) PL je prijavilo da su potrošili dodatni novac tokom perioda izolacije.

Porodica i bliski prijatelji PL su ih savetovali da koriste neke nutritivne sastojke, vakcine i da naprave promene u načinu života. Dajemo frekvencu ovih preporuka, opadajućim redosledom: specijalizovana dijeta 57 (72,2%), nutritivna podrška kod 56 (70,9%), neki lekovi 33 (41,8%), promena u načinu života kod 17 (21,5%) PL. Frekvenca korišćenja preventivnih mera kod kuće i na poslu je bila 69 (87,3%) i 73 (92,4%), tim redom.

PL koji su imali Kovid-19 rekli su da su najčešće koristili vitamin C, D, cink, crni luk, beli luk, domaću supu, bademe, orahe, lešnike, ulje crnog kima, timijan, pčelinje proizvode i izbalansiranu ishranu. Bilo je 29 (36,7%) PL koji

walnuts, hazelnuts, black cumin oil, thyme, bee products, and a balanced diet. There were 29 (36.7%) GPs who tailored their own Covid-19 treatment and 27 (34.2%) of them were hospitalized. The median hospitalization lasted 6 days (2-20 days).

Discussion

The primary aim of the study was to determine both the prevalence and related factors to Covid-19 in 466 GPs in 100 family health centers (FHC) in Kayseri. During our study period, 85 (18%) GPs had Covid-19 in the first year of the pandemic and most of them were males. According to the data announced by the Ministry of Health (MoH) on March 10th, 2021 (the last day of recruitment for our study) the total number of citizens who were infected with Covid-19 was 2.835.989 (4.1% of the general population)[13]. Covid-19 prevalence in GPs was four times higher than in the general population. The major contribution this study may have is recruiting almost all GPs in Kayseri and trying to determine the related factors for Covid-19 infection.

Although the highest reported rate of Covid-19 in healthcare workers was 24.1% globally, we found that the rate of GPs who were infected with Covid-19 was 18.0% of all GPs in Kayseri. The Covid-19 infection prevalence in China, USA, UK, and Spain was 3,46-28,9%, 12.9%, 14.5%, and 11.6% respectively [6, 14,15,16]. In Türkiye, in the second part of 2020, Covid-19 infection prevalence among all healthcare workers was 10.9% but the mortality for all healthcare workers was 0.17%[6]. Thus we may conclude that the Covid-19 prevalence in GPs was almost 25-50% higher than in other countries in Europe and USA. This significant difference may be attributed to a relatively high number of GP consultations (the number of daily consultations: 44.7)[17].

The frequency of Covid-19 infection was more prevalent in male GPs aged 40-49. We think that neither the period of employment in healthcare nor the period spent in GP`s FHC is related to hospitalization for Covid-19. We also tried to detect the independent variables influencing the effect of Covid-19 on the GP's daily work and life. More than 2/3 of GPs were employed for more than twenty years and about 60% of them were males. About 90% of GPs were working in the urban area (88% of the city population lives in urban areas). The ratio of the central districts (Melikgazi, Kocasinan, and Talas) population to the general Kayseri population was 80.76%[18]. The frequency of chronic diseases was about 1/3 in males and more than ½ in females and more than 1/3 of GPs were using medications for their chronic diseases in our study group (Table 1, 2). About 1/3 of GPs had to be hospitalized and the average length of hospitalization was 6 (2-20) days.

The most frequent symptoms listed in GPs` self-reports, in descending order, were muscle pain, weakness, fever, and cough. The frequency of all other symptoms was less than ten

su sami skrojili svoj plan lečenja Kovida-19 i 27 (34,2%) od njih su bili hospitalizovani. Prosečan broj dana provedenih u bolnici je bio 6 (2–20 dana).

Diskusija

Primarni cilj studije je bio da utvrdi i prevalenciju i povezane faktore za Kovid-19 kod 466 PL u 100 ambulanti porodične medicine u Kajzeriju. Tokom perioda studije, 85 (18%) PL je imalo Kovid-19 u prvoj godini pandemije i većina su bili muškarci. Prema podacima Ministarstva zdravlja od 11. marta 2021. (poslednji dan regrutovanja učesnika za našu studiju), ukupan broj ljudi zaraženih Kovidom-19 je bio 2.835.989 (4,1% ukupne populacije)[13]. Kovid-19 prevalencija kod PL je bila četiri puta veća nego u opštoj populaciji. Glavni doprinos koji ova studija može da da je animiranje skoro svih PL u Kajzeriju i pokušaj da se odrede povezani faktori za Kovid-19 infekciju.

Mada je najviši prijavljeni procenat Kovida-19 kod zdravstvenih radnika globalno bio 24,1%, mi smo našli da je stopa PL koji su bili zaraženi Kovidom-19 bila 18,0% svih PL u Kajzeriju. Prevalencija Kovid-19 infekcije u Kini, SAD, Velikoj Britaniji i Španiji je bila 3,46–28,9%, 12,9%, 14,5%, i 11,6%, ovim redom[6,14,15,16]. U Turskoj, u drugoj polovini 2020, prevalencija Kovid-19 infekcije među svim zdravstvenim radnicima je bila 10,9%, ali je mortalitet bio 0,17% za sve zdravstvene radnike[6]. Iz ovoga možemo zaključiti da je prevalencija Kovida-19 kod PL bila skoro 25–50% veća nego u drugim zemljama Evrope i SAD. Ova značajna razlika može se pripisati relativno visokom broju pregleda PL (dnevni broj pregleda 44,7)[17].

Zastupljenost Kovid-19 infekcije je bila veća kod muških PL, starosti od 40 do 49 godina. Mi smatramo da niti dužina radnog staža, niti period proveden u ambulanti porodične medicine imaju veze sa hospitalizacijom od Kovida-19 kod PL. Takođe smo probali da pronađemo nezavisne varijable koje su mogle da utiču na efekat koji je Kovid-19 imao na svakodnevni život i rad PL. Više od 2/3 PL su bili zaposleni duže od 20 godina i oko 60% njih su bili muškarci. Oko 90% PL su radili u urbanim sredinama (88% gradske populacije živi u urbanim sredinama). Populacija centralnih distrikta (Melikgazi, Kocasinan i Talas) u odnosu na opštu populaciju Kajzerija činila je 80,76%[18]. Zastupljenost hroničnih bolesti je bila oko 1/3 kod muškaraca i više od 1/2 kod žena, a više od 1/3 PL je koristilo lekove za svoje hronične bolesti u našoj studiji (Tabela 1, 2). Oko 1/3 PL su morali da budu hospitalizovani i prosečno vreme hospitalizacije je bilo 6 (2–20) dana.

Najčešći simptomi koje su naveli PL, opadajućim redom, su bili bolovi u mišićima, slabost, povišena temperatura i kašalj. Učestalost svih drugih simptoma je bila manja od deset posto (Tabela 2). Učestalost Kovid-19 povezanih simp-

percent (Table 2). The Covid-19- related symptom frequency in GPs in our study group was not different from other studies reported in the literature [19,20]. In contrast with this statement, the frequency of the most prevalent symptoms may significantly differ from one country to another[21,22] (Figure 1). In another study performed in Kayseri, the two most frequent symptoms in hospitalized Covid-19 patients were fever (65%) and cough (54%).[23.]

toma kod PL, u našoj studiji, nije se razlikovala od drugih studija iz literature[19,20]. Uprkos ovoj konstataciji, učestalost najčešćih simptoma može značajno da se razlikuje od zemlje do zemlje[21,22] (Slika 1). U drugoj studiji koja je sprovedena u Kajzeriju, dva najčešća simptoma kod hospitalizovanih Kovid-19 pacijenata su bili povišena temperatura (65%) i kašalj (54%)[23].

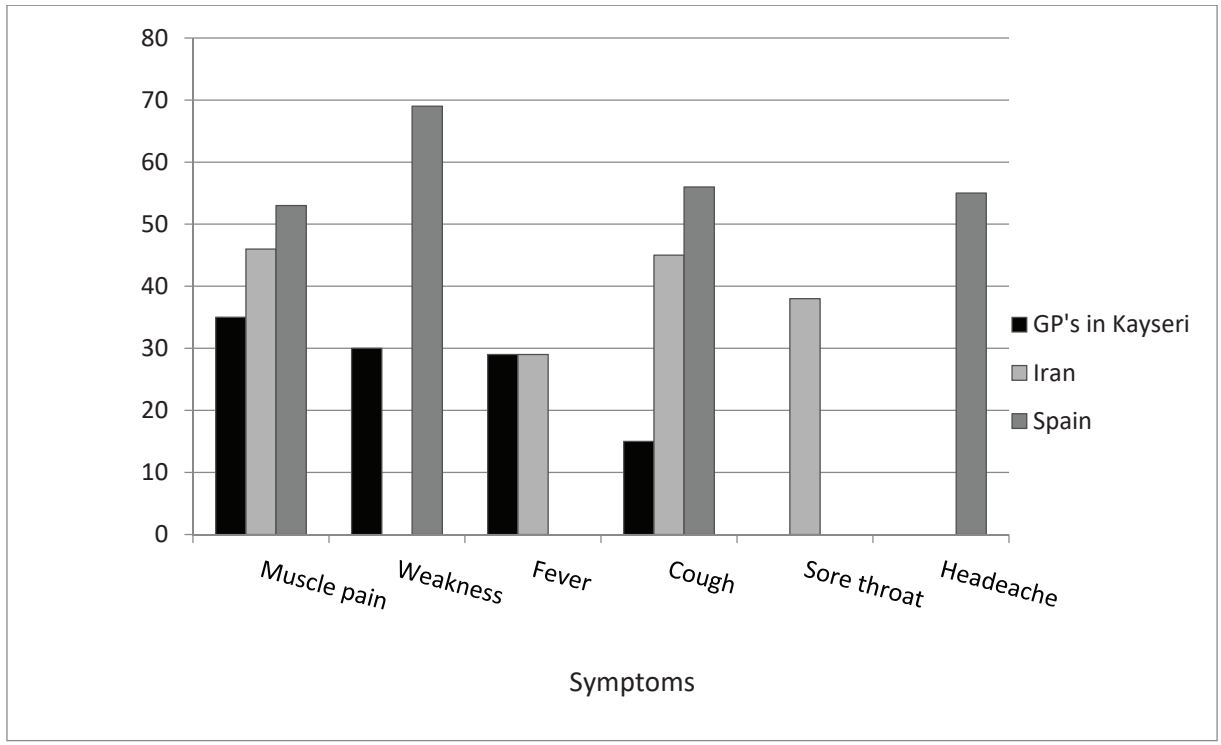

Figure 1. Comparison of the four most frequent symptoms of Covid in GPs in Kayseri, Iran, and Spain.
Slika 1. Poređenje četiri najčešća simptoma Kovida kod PL u Kajzeriju, Iranu i Španiji

The frequency of preventive measures for Covid-19, in our study sample, in descending order is shown in Table 3. Among these measures hand washing, distancing, using face masks, indoor ventilation, avoiding social activities, use of hand disinfectant, and avoiding public transportation constituted about 2/3 to ¼ of preventive measures GPs used against Covid-19 infection. Hand washing was the unique preventive measure that was performed by all GPs in our study sample. In a systematic review published in September, 2020 in India, it was shown that paying attention to social distancing was the most effective intervention in delaying the peak of the pandemic[24]. Although there are several studies about which

Učestalost preventivnih mera protiv Kovida-19, u našoj studiji, opadajućim redom je prikazana u tabeli 3. Među ovim merama, pranje ruku, održavanje distance, korišćenje zaštitnih maski, provetravanje prostorija, izbegavanje društvenih aktivnosti, upotreba dezinficijenasa za ruke i izbegavanje javnog transporta činilo je 2/3 do 1/4 preventivnih mera koje su primenjivali PL u borbi protiv Kovid-19 infekcije. Pranje ruku je bila jedinstvena preventivna mera koju su koristili svi PL u našoj studiji. U sistematičnom pregledu objavljenom u septembru 2020, u Indiji, pokazano je da je održavanje socijalne distance najefikasniji način u odlaganju vrha pandemije[24]. Mada ima nekoliko studija o tome koja je preventivna

preventive measure against Covid-19 is the most effective, we may conclude that GPs in our study sample were using most of the preventive measures very frequently. More than 95% of GPs in our study were using the four most significant preventive measures (hand washing, wearing face masks, distancing, and room ventilation). Non-abiding to preventive measures was relatively low in GPs and we think that the cause of Covid-19 infections in GPs was mostly due to frequent encounters with active Covid-19 patients. Recently, the positive effect of frequent indoor ventilation to prevent Covid-19 infection was found to be the most effective measure, and more than 95% of our study participants were performing indoor ventilation. In a systematic review, published in the Lancet in May, 2021, it was stated that there is consistent, strong evidence that Covid -19 is spread by airborne transmission [25,26]. The use of face masks has shown great potential to prevent respiratory virus transmission, including Covid-19 [27].

When we checked the source of the disease transmission, we found that the transmission at workplace was 83% in women and 70% in men. Similarly, in a study conducted in Istanbul between April 1st and May 15th, 2020, 67% of infected healthcare workers were infected at their workplace[28].

In our study group, 2/3 of Covid-19 diagnoses were made after Covid-19-related symptoms were experienced. PCR test was the leading diagnostic test (79.7%). About half of the recovered requested a control test. PCR test is used as the primary diagnostic test globally[29]. Similar to other national and international reports, the major concern of healthcare workers infected with Covid-19 was transmitting the disease to their household members. This concern was reported as the cause of anxiety, depression, and burnout[30]. In our study group about ¾ of GPs either used isolation at home or transferred themselves or their household members to another place. This may prevent their family from getting Covid-19. In a study of healthcare workers in İstanbul, it was reported that 83.7% of them were afraid of transmitting Covid-19 to their household members[31]. In addition to transmitting Covid-19 to their families, healthcare workers also reported they were anxious about transmitting Covid-19 to their colleagues in healthcare facilities[32]. In our study, about 2/3 of GPs performed self-isolation to prevent their family members from getting infected with Covid-19. Similar preventive measures were found for the USA healthcare workers, as well[30].

Conclusion

Analysis of our data revealed that the prevalence of Covid-19 infection in GPs was neither lower, nor higher than in other countries. This prevalence decreased significantly in the second half of 2020. The primary source of infection was daily GP consultations and GPs were most anxious about the safety of their families. Males, relatively older, and GPs who had chronic diseases are more prone to Covid-19 infection.

mera protiv Kovida-19 najefikasnija, možemo zaključiti da su PL u našoj studiji koristili većinu preventivnih mera vrlo često. Više od 95% PL u našoj studiji koristili su četiri najznačajnije preventivne mere (pranje ruku, nošenje zaštitnih maski, distanciranje i provetravanje prostorija). Nepridržavanje preventivnih mera je bilo relativno nisko među PL i mi smatramo da je uzrok Kovid-19 infekcija kod PL uglavnom bio posledica čestih susreta sa aktivnim Kovid-19 pacijentima. Nedavno je pozitivan efekat provetravanja prostorija u prevenciji Kovid-19 infekcije potvrđen kao najefikasnija mera i više od 95% učesnika naše studije se toga pridržavalo. U sistematičnom pregledu, objavljenom u Lansetu, u maju 2021, tvrdilo se da postoje dosledni i jaki dokazi da se Kovid-19 prenosi vazduhom[25,26]. Upotreba zaštitnih maski za lice je pokazala veliki potencijal u prevenciji transmisije respiratornih virusa, uključujući i Kovid-19[27].

Kada smo proveravali izvor prenošenja bolesti, našli smo da je prenošenje na poslu bilo 83% kod žena i 70% kod muškaraca. Slično, u studiji koja je sprovedena u Istanbulu, između 1. aprila i 15. maja 2020, 67% inficiranih zdravstvenih radnika se inficiralo na radnom mestu [28].

U našoj studiji, 2/3 Kovid-19 dijagnoza je postavljeno nakon pojave simptoma povezanih sa Kovidom-19. PCR test je bio vodeći dijagnostički test (79,7%). Oko polovine oporavljenih zatražilo je kontrolni test. PCR test se koristi kao primarni dijagnostički test globalno[29]. Slično drugim nacionalnim i internacionalnim izveštajima, glavna briga zdravstvenih radnika zaraženih Kovidom-19 je bila da ne prenesu bolest članovima svog domaćinstva. Ova briga je bila i uzrok anksioznosti, depresije i sindroma sagorevanja[30]. U našoj studiji, oko 3/4 PL je bilo u izolaciji ili kod kuće, ili su premestili sebe ili članove porodice drugde. Ovo je moglo da spreči zaražavanje Kovidom-19 njihovih članova porodice. U studiji zdravstvenih radnika u İstanbulu, došlo se do rezultata da je 83,7% njih bilo u strahu da će preneti Kovid-19 članovima njihovih porodica[31]. Osim straha od prenošenja Kovida-19 porodicama, plašilo ih je i prenošenje bolesti njihovim kolegama na poslu[32]. U našoj studiji, oko 2/3 PL se samoizolovalo kako bi sprečili zaražavanje članova porodice Kovidom-19. Slične preventivne mere primenjivali su i zdravstveni radnici u SAD[30].

Zaključak

Analiza naših podataka pokazala je da prevalencija Kovid-19 infekcije kod PL nije bila ni niža, ni viša nego u drugim zemljama. Ova prevalencija se značajno smanjila u drugoj polovini 2020. Primarni izvor infekcije su bili svakodnevni pregledi pacijenata i PL su se najviše plašili za sigurnost svojih porodica. Muškarci, relativno stariji i PL sa hroničnim bolestima su skloniji Kovid-19 infekciji.

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