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SINDROM SAGOREVANJA LEKARA I MEDICINSKIH SESTARA/TEHNIČARA ZAPOSLENIH U OPŠTOJ BOLNICI ZDRAVSTVENOG CENTRA U BRČKOM

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SAŽETAK

Uvod/Cilj: Sindrom sagorevanja može se definisati kao prolongirani odgovor na hronične emocionalne i interpersonalne stresore koji se dovode u vezu sa radnim mestom. Obično se manifestuje emocionalnom iscprljenošću, osećajem male lične ostvarenosti i depersonalizacijom. Najčešće se javlja kod radnika koji intenzivno rade sa ljudima, posebno kod lekara, učitelja i nastavnika, gde čak 20-30% zaposlenih ispoljava neke od simptoma sindroma sagorevanja na poslu. Cilj rada je procena prevalencije sindroma sagorevanja među zdravstvenim radnicima (lekarima i medicinskim sestrama/tehničarima) u opštoj bolnici JZU Zdravstveni centar Brčko i da se identifikuju prediktori emocionalne iscprljenosti, depersonalizacije i osećaja male lične ostvarenosti.
Metode: Ova studija preseka je sprovedena, tokom juna i jula 2018. godine, u opštoj bolnici JZU Zdravstveni centar Brčko. U istraživanje su uključeni lekari (61) i medicinske sestre/tehničari (155), od 18 i više godina, koji su zaposleni sa punim radnim vremenom. Svi ispitanici dobrovoljno su pristali da anonimno učestvuju u istraživanju. Podaci su od ispitanika dobijeni upitnicima. Pored opšteg upitnika korišćen je Maslašev upitnik za procenu sindroma sagorevanja na poslu (eng. *Maslach Burnout Inventory - Human Services Survey*, MBI-HSS). U statističkoj analizi podataka primenjene su metode deskriptivne statistike: srednja vrednost, standardna devijacija. Za poređenje dve grupe ispitanika korišćen je t-test za nezavisne uzorke, univarijantna i multivarijantna logistička regresiona analiza. U modele multivarijantne logističke analize uključene su varijable koje su prema vrednostima univarijantne analize imale $p < 0,1$.
Rezultati: Prevalencija emocionalne iscrpljenosti, kao komponente sindrom sagorevanja, bila je prisutna kod 51% zdravstvenih radnika, depersonalizacija kod 33%, i niska lična ostvarenost kod 54% ispitanika. Ukoliko kao kriterijum ukupnog sindroma sagorevanja odaberemo prisustvo bar jedne od tri komponente sindroma, sindrom sagorevanja je bio prisutan kod 59% ispitanika. Prema Maslaš upitniku, lekari su značajno češće imali umerene i visoke vrednosti emocionalne iscrpljenosti i umerene vrednosti lične ostvarenosti, a medicinske sestre/tehničari značajno češće umerene vrednosti depersonalizacije.
Zaključak: Visoka učestalost sindroma sagorevanja kod zdravstvenih radnika, zahteva dalja istraživanja u ovoj oblasti sa ciljem uvođenja adekvatnih preventivnih mera radi unapređenja zdravlja zdravstvenih radnika, pogotovo lekara.

Ključne reči: sindrom sagorevaja, zdravstveni radnici, studija preseka

Uvod

U svim radovima sindrom sagorevanja (engl. *burn out syndrome*) definiše se kao prolongirani odgovor na hronične emocionalne i interpersonalne stresore koji su u vezi sa radnim mestom. Karakteriše ga: emocionalna iscprljenost, depersonalizacija i osećaj male lične ostvarenosti. Nastaje kao posledica neusaglašenih odnosa između zaspolenih i radne sredine (1).

Dosadašanja istraživanja pokazuju da preko 3% ljudi u opštoj populaciji ima razvijenu formu „sindroma sagorevanja“ (2). Ovaj sindrom je prvo uočen kod medicinskog osoblja zaposlenog na odeljenjima psihijatrije i intenzivne nege, a potom kod hirurga i anesteziologa (1,3,4). Studije su pokazale da je najizraženiji kod radnika koji intenzivno rade sa ljudima, posebno kod lekara, učitelja i nastavnika,

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BURNOUT SYNDROME OF DOCTORS AND NURSES/TECHNICIANS EMPLOYED IN THE GENERAL HOSPITAL OF THE HEALTH CENTER IN BRCKO

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SUMMARY

Introduction/Aim: Burnout syndrome can be defined as a prolonged response to chronic emotional and interpersonal stressors associated with the workplace. It is usually manifested as emotional exhaustion, a feeling of reduced personal accomplishment and depersonalization. It most often occurs in people who work intensively with people, especially doctors, teachers, where even 20-30% of employees show some of the symptoms of burnout syndrome at work. The aim of the study is to evaluate the prevalence of burnout syndrome among healthcare workers (doctors and nurses/technicians) in the general hospital of the Health Center Brcko and to identify the predictors of emotional exhaustion, depersonalization and a feeling of reduced personal accomplishment.
Methods: This cross-sectional study was conducted during June and July 2018, in the general hospital of the Health Center Brcko. The research included doctors (61) and nurses/technicians (155), aged 18 and older, who were employed full time. All respondents voluntarily agreed to participate anonymously in the research. The data were obtained from the respondents with the help of questionnaires. In addition to the general questionnaire, Maslach Burnout Inventory – Human Services Survey (MBI-HSS) was used to assess burnout syndrome at work. In the statistical analysis of data, the following methods of descriptive statistics were applied: mean value, standard deviation. T-test for independent samples, univariate and multivariate logistic regression analysis were used to compare the two groups of respondents. Variables that had $p<0.1$, according to univariate analysis, were included in the multivariate logistic analysis models.
Results: The prevalence of emotional exhaustion, as a component of burnout syndrome, was present in 51% of health workers, depersonalization in 33%, and reduced personal accomplishment in 54% of respondents. If we choose the presence of at least one of three components of the syndrome as a criterion of the total burnout syndrome, the burnout syndrome was present in 59% of respondents. According to the Maslach questionnaire, doctors significantly more often had moderate and high values of emotional exhaustion and moderate values of personal accomplishment, while nurses/technicians significantly more often had moderate values of depersonalization.
Conclusion: The high incidence of burnout syndrome in healthcare workers requires further research in this field with the aim of introducing adequate preventive measures to improve the health of healthcare workers, especially doctors.

Key words: burnout syndrome, healthcare workers, cross-sectional study

Introduction

In all papers, burnout syndrome is defined as a prolonged response to chronic emotional and interpersonal stressors connected with the workplace. It is characterized by: emotional exhaustion, depersonalization and a feeling of reduced personal accomplishment. It occurs as a consequence of disharmonic relations between the employees and the working environment (1).

Previous research shows that over 3% of people in the general population have a developed form of "burnout syndrome" (2). This syndrome was first observed in medical staff employed at psychiatric departments and in intensive care units, and then in surgeons and anesthesiologists (1,3,4). Studies have shown that it is most pronounced in workers who work intensively with people, especially

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advokata, sudija i radnika u drugim društvenim delatnostima, gde čak 20-30% ovih zaposlenih ispoljava neke od simptoma sindroma sagorevanja na poslu (2). U Japanu i Tajvanu sindrom sagorevanja na radu je zabeležen kod 48 do 69% ljudi, u državama Evropske zajednice kod 28% ljudi, a u Sjedinjenim Američkim Državama kod 20% ljudi (3). Sindrom sagorevanja umereno do izraženog stepena javlja se kod 60% zdravstvenih radnika oba pola srednje, više i visoke spreme, zaposlenih u hitnoj službi u Sremskoj Kamenici, a kod 27% zaposlenih zdravstvenih radnika u Institutu za neurologiju, psihijatriju i mentalno zdravlje u Novom Sadu (3).

Studije preseka pokazale su povezanost sagorevanja lekara sa nižim nivoom nege pacijenta (5), ali i sa duplo većim rizikom od medicinske greške (6). IMWELL studija je pokazala povezanost višeg stepena sagorevanja sa većom mogućnošću prijavljivanja krupne medicinske greške u narednom periodu od 3 meseca. Takođe, uočeno je da su samo veće medicinske greške bile povezane sa pogoršanjem depresivnih simptoma i smanjenjem kvaliteta života (7). Rezultati istraživanja koja su sprovedena u Evropi i Aziji podržavaju rezultate IMWELL studije (8). Veća emocionalna iscrpljenost lekara koji rade u jedinicama intenzivne nege povezana je sa većom standardizovanom stopom mortaliteta pacijenata (9) i nižim kvalitetom timskog rada (10), dok je povećan nivo depersonalizacije povezan sa dužim vremenom oporavka pacijenata nakon hospitalizacije (11). Pojedine studije preseka pokazale su značajnu korelaciju između stepena sagorevanja lekara i zadovoljstva pacijenata bolničkom negom (11), između zadovoljstva lekara i zadovoljstva pacijenata njihovom zdravstvenom zaštitom, i između zadovoljstva lekara i pacijentovog pridržavanja medicinskih saveta (8,12). Sve ove studije ukazuju na negativni uticaj sindroma sagorevanja na zadovoljstvo pacijenata i odnos lekar-pacijent, sa konačnim efektom koji se ogleda u smanjenom kvalitetu zdravstvene zaštite.

Cilj rada je procena prevalencije sindroma sagorevanja među zdravstvenim radnicima (lekarima i medicinskim sestrama/tehničarima) u opštoj bolnici JZU Zdravstveni centar Brčko i da se identifikuju prediktori emocionalne iscprljenosti, depersonalizacije i osećaja male lične ostvarenosti.

Metode

Ova studija preseka je sprovedena, tokom juna i jula 2018. godine, u opštoj bolnici JZU Zdravstveni centar Brčko. U istraživanje su uključeni zaposleni lekari (61 – 81,3% zaposlenih) i medicinske sestre/tehničari (155 – 70,1% zaposlenih), od 18 i više godina, sa punim radnim vremenom, koji su u trenutku anketiranja dobrovoljno pristali da anonimno učestvuju u istraživanju. Kriterijumi za isključivanje iz studije su bili: diskontinuitet u radu duži od jedne godine (duža bolovanja, studijskih boravci u inostranstvu); izloženost većoj fizičkoj i/ili psihičkoj traumi, nezavisno od profesionalnog okruženja, kao i odbijanje učestvovanja u istraživanju.

Za potrebe ovog istraživanja konstruisan je opšti upitnik o ispitanicima, kojim su prikupljeni podaci o demografskim karakteristikama ispitanika (pol, uzrast, bračni status, deca, broj članova domaćinstva, posedovanje sopstvenog stana/kuće), socijalno-ekonomskom statusu, karakteristikama radnog mesta, dužini radnog staža i dr.

Pored opšteg upitnika korišćen je Maslašov upitnik za procenu sindroma sagorevanja na poslu (eng. *Maslach Burnout Inventory- Human Services Survey*, MBI-HSS). Maslašov upitnik za procenu sindroma sagorevanja na poslu je instrument koji se najčešće koristi za merenje stepena sindroma sagorevanja. Upitnik ima tri verzije, namenjene različitim grupama: 1) za opštu populaciju (eng. *General Survey*, MBI-GS) sa 16 varijabli; 2) za zaposlene u ustanovama, koji su u neposrednom kontaktu sa ljudima (eng. *Human Services Survey*, MBI-HSS) sa 22 varijable; 3) za zaposlene u obrazovnim ustanovama (eng. *Educators Survey*, MBI-ES) sa 22 varijable. Za potrebe ovog istraživanja, korišćen je upitnik namenjen zaposlenima koji su u neposrednom kontaktu sa ljudima MBI-HSS. Od autora je dobijena dozvola za upotrebu 100 upitnika koji su prevedeni, adaptirani i validirani na srpski jezik. Upitnikom je anketirano 50 lekara i 50 medicinskih sestara/tehničara. Ovaj upitnik se sastoji od ukupno 22 stavke koje se potom koriste u izračunavanju tri sumarne skale: skale emocionalne iscrpljenosti (eng. *Emotional Exhaustion*, EE-9 varijabli), skale depersonalizacije (eng. *Depersonalization*, DP-5 varijabli) i skale lične ostvarenost (eng. *Personal Accomplisment*, PA-8 varijabli). Kategorije odgovora su date kroz šestostepenu Likertovu skalu. Ukupan stav svakog ispitanika dobija se sumiranjem odgovora pomoću specifičnog ključa, za svaku od tri skale pojedinačno. Granične vrednosti skorova za skale su različite i iznose: skala emocionalne iscrpljenosti: visoka EE je 27 poena i

doctors, teachers, lawyers, judges and workers in other social professions, where as many as 20-30% of these employees show some of the symptoms of burnout syndrome at work (2). In Japan and Taiwan, burnout syndrome at work has been noted in 48 to 69% of people, in the countries of the European Union, in 28% of people, and in the United States of America, in 20% of people (3). Moderate to severe burnout syndrome occurs in 60% of healthcare workers of both genders with secondary, post-secondary or university education, employed in the emergency service in Sremska Kamenica, and in 27% of healthcare workers employed at the Institute of Neurology, Psychiatry and Mental Health in Novi Sad (3).

Cross-sectional studies showed that doctors' burnout was associated with a lower level of patient care (5), but also with a double risk of medical error (6). The IMWELL study showed the association of a higher degree of burnout with a greater possibility of reporting a major medical error in the following three-month period. Also, it was observed that only major medical errors were associated with worsening of depressive symptoms and reduced quality of life (7). The results of the research conducted in Europe and Asia support the results of the IMWELL study (8). Greater emotional exhaustion of doctors working in intensive care units is associated with a higher standardized mortality rate of patients (9) and lower quality of teamwork (10), while the increased level of depersonalization is associated with longer recovery time of patients after hospitalization (11). Some cross-sectional studies have shown a significant correlation between the level of burnout of doctors and patients' satisfaction with healthcare (11), as well as between the satisfaction of doctors and patients with the healthcare, and between the satisfaction of doctors and patients' adherence to medical advice (8,12). All these studies point to the negative impact of burnout syndrome on the patients' satisfaction and the doctor-patient relationship, with the final effect reflected in the reduced quality of health care.

The aim of this study is to assess the prevalence of burnout syndrome in healthcare workers (doctors and nurses/technicians) in the general hospital of the Health Center Brcko and to identify the predictors of emotional exhaustion, depersonalization and a feeling of reduced personal accomplishment.

Methods

This cross-sectional study was conducted during June and July, 2018 in the general hospital of the Health Center Brcko. The study included doctors (61 – 81.3% of employees) and nurses/technicians (155 – 70.1% of employees), aged 18 and older, with the full-time employment, who voluntarily agreed to participate anonymously in the study. Exclusion criteria were the following: discontinuity in work longer than one year (longer sick leave, study stays abroad), exposure to greater physical and/or psychological trauma, regardless of the professional environment, as well as refusal to participate in the study.

For the purposes of this study, a general questionnaire was created, which collected data on the demographic characteristics of the respondents (gender, age, marital status, children, number of household members, owning their own apartment/house), social-economic status, workplace characteristics, length of service etc.

In addition to the general questionnaire, the Maslach Burnout Inventory – Human Services Survey (MBI-HSS) was used to assess the burnout syndrome at work. Maslach Burnout Inventory is the instrument which is most often used to measure the degree of burnout. The questionnaire has three versions, intended for different groups: 1) for the general population (General Survey, MBI-GS) with 16 variables; 2) for employees in institutions, who are in direct contact with people (Human Services Survey, MBI-HSS) with 22 variables; 3) for employees in educational institutions (Educators Survey, MBI-ES) with 22 variables. For the purposes of this study, a questionnaire intended for employees, who are in direct contact with people, was used (MBI-HSS). Permission was obtained from the author to use 100 questionnaires that were translated into the Serbian language, adapted and validated. 50 doctors and 50 nurses/technicians were surveyed with the questionnaire. This questionnaire consists of a total of 22 items, which are then used to calculate three summary scales: the scale of emotional exhaustion (EE-9 variables), the scale of depersonalization (DP-5 variables) and the scale of personal accomplishment (PA-8 variables). Categories of answers were given through the 6-point Likert scale. The overall attitude of each respondent is obtained by summarizing the answers using a specific key, for each of the three scales individually. The threshold values of scores

više, umerena EE je 17-26 poena i niska EE je od 0 do 16; skala depersonalizacije: visok nivo DP je 13 i više, umeren nivo DP je 7-12 i nizak nivo DP je od 0 do 6; skala lične ostvarenosti: visok nivo PA je 39 i više, umeren nivo PA je od 32 do 38 i nizak nivo PA je u opsegu od 0 do 31. Visoke učestalosti iscrpljenosti i depersonalizacije doprinose sindromu sagorevanja, dok ga visoka učestalost profesionalne ostvarenosti umanjuje (22).

Za statističku obradu podatatka korišćen je program SPSS 17 (*SPSS Inc., Chicago, IL, USA*). U statističkoj analizi podataka korišćene su metode deskriptivne statistike: srednja vrednost, standardna devijacija, parametarski ili neparametarski test (ukoliko nisu ispunjeni uslovi za primenu parametarskog testa). Za poređenje dve grupe ispitanika korišćen je t-test za nezavisne uzorke, univarijantna i multivarijantna logistička regresiona analiza. Za ispitivanje korelacija između skorova različitih skala korišćen je *Pearson*-ov koeficijent korelacije. Razlika je označena kao signifikantna ukoliko je $p < 0,05$. U modele multivarijantne logističke analize uključene su varijable koje su prema vrednostima univarijantne analize imale $p < 0,1$.

Rezultati

U ovu studiju preseka uključen je 61 lekar (33 muškarca i 28 žena) i 155 medicinskih sestara/tehničara (25 muškaraca i 125 žena) (tabela 1). Na tabeli 1 prikazana je distribucija lekara i medicinskih sestara/tehničara u odnosu na njihove demografske karakteristike. Prosečna starost lekara bila je 45,1 ±

Tabela 1. Distribucija lekara i medicinskih sestara/tehničara u odnosu na njihove demografske karakteristike

Karakteristike	Lekari N=61 Broj (%)	Medicinska sestra/tehničar N=155 Broj (%)	UO (95%IP)	p vrednost ULRA
Pol				
Muškarci	33 (54,1)	26 (16,7)		
Žene	28 (45,9)	130 (83,3)	0,163 (0,08-0,32)	< 0,001
Starost (x̄ ± SD)	45,1±12,2	45,9±12,2		0,880*
Starosne grupe(godine)				
20-30	9 (16,1)	24 (15,7)	1 (Ref)	
31-40	15 (26,8)	26 (17,0)	1,54 (0,57- 4,16)	
41-50	11 (19,6)	34 (22,2)	0,86 (0,31-2,40)	
51-60	13 (23,2)	60 (39,2)	0,58 (0,22-1,53)	
61+	8 (14,3)	9 (5,9)	2,37 (0,70 -8,05)	0,610
Bračni status				
U braku	48 (82,8)	116 (75,8)		
Bez partnera	10 (17,2)	37 (24,2)	0,65 (0,30-1,42)	0,282
Deca	44 (77,2)	129 (84,3)	0,63 (0,29-1,34)	0,231
Broj dece				
1	18 (40,9)	35 (27,1)	1 (Ref)	
2	23 (52,3)	91 (70,5)	0,49 (0,24-1,02)	
3	3 (6,8)	3 (2,3)	1,94 (0,36-10,62)	0,305
Broj članova domaćinstva				
1	6 (10,7)	8 (5,2)	1 (Ref)	
2	10 (17,9)	12 (7,8)	1,11 (0,29-4,29)	
3+	40 (71,4)	133 (86,9)	0,40 (0,13-1,22)	0,020
Socio-ekonomski status				
Dobar	7 (11,5)	1 (0,6)	1 (Ref)	
Srednji	53 (86,9)	146 (94,2)	0,05 (0,01-0,43)	
Loš	1 (1,6)	8 (5,2)	0,02 (0,00-0,34)	0,003
Sopstvena kuća/stan	56 (86,1)	150 (96,8)	0,93 (0,18-4,95)	0,935

*p vrednost za t test, x̄ - aritmetička sredina, SD - standardna devijacija, UO - unakrsni odnos, 95%IP - 95% interval poverenja, ULRA – univarijantna logistička regresiona analiza

for the scales are different and they amount to: scale of emotional exhaustion – high EE is 27 points and more, moderate EE is 17-26 points and low EE is from 0 to 16; depersonalization scale – high level of DP is 13 and more, moderate level of DP is 7-12 and low level of DP is from 0 to 6; scale of personal accomplishment – high PA is 39 and more, moderate PA is from 32 to 38 and low PA ranges from 0 to 31. The high incidence of exhaustion and depersonalization contribute to burnout syndrome, while the high incidence of professional accomplishment reduces it (22).

The SPSS 17 program (SPSS Inc., Chicago, IL, USA) was used for the statistical analysis of data. In the statistical analysis of data, the following methods of descriptive statistics were used: mean value, standard deviation, parametric or non-parametric test (if the conditions for the application of the parametric test were not fulfilled). T-test for independent samples, univariate and multivariate logistic regression analysis were used to compare the two groups of respondents. Pearson's correlation coefficient was used to examine the correlations between scores of different scales. The difference was marked as significant if $p<0.05$. Variables that had $p<0.1$, according to univariate analysis, were included in the multivariate logistic analysis models.

Results

This cross-sectional study included 61 doctors (33 men and 28 women) and 155 nurses/technicians (25 men and 125 women) (Table 1). Table 1 shows the distribution of doctors and nurses/technicians

Table 1. Distribution of doctors and nurses/technicians in relation to their demographic characteristics

Characteristics	Doctors N=61 Number (%)	Nurse/technician N=155 Number (%)	OR (95%CI)	p value ULRA
Gender				
Men	33 (54.1)	26 (16.7)		
Women	28 (45.9)	130 (83.3)	0.163 (0.08-0.32)	< 0.001
Age ($\bar{x}$ ± SD)	45.1±12.2	45.9±12.2		0.880*
Age group (years)				
20-30	9 (16.1)	24 (15.7)	1 (Ref)	
31-40	15 (26.8)	26 (17.0)	1.54 (0.57- 4.16)	
41-50	11 (19.6)	34 (22.2)	0.86 (0.31-2.40)	
51-60	13 (23.2)	60 (39.2)	0.58 (0.22-1.53)	
61+	8 (14.3)	9 (5.9)	2.37 (0.70 -8.05)	0.610
Marital status				
Married	48 (82.8)	116 (75.8)		
Single	10 (17.2)	37 (24.2)	0.65 (0.30-1.42)	0.282
Children	44 (77.2)	129 (84.3)	0.63 (0.29-1.34)	0.231
Number of children				
1	18 (40.9)	35 (27.1)	1 (Ref)	
2	23 (52.3)	91 (70.5)	0.49 (0.24-1.02)	
3	3 (6.8)	3 (2.3)	1.94 (0.36-10.62)	0.305
Number of household members				
1	6 (10.7)	8 (5.2)	1 (Ref)	
2	10 (17.9)	12 (7.8)	1.11 (0.29-4.29)	
3+	40 (71.4)	133 (86.9)	0.40 (0.13-1.22)	0.020
Socio-economic status				
Good	7 (11.5)	1 (0.6)	1 (Ref)	
Average	53 (86.9)	146 (94.2)	0.05 (0.01-0.43)	
Poor	1 (1.6)	8 (5.2)	0.02 (0.00-0.34)	0.003
Owns apartment/house	56 (86.1)	150 (96.8)	0.93 (0.18-4.95)	0.935

*p value for t test, $\bar{x}$ - mean, SD - standard deviation, OR-odds ratio, 95%CI - 95% confidence interval, ULRA – univariate logistic regression analysis

12,2 godine, a medicinskih sestara/tehničara 45,9 ± 12,2 godine. U braku je bilo 82,8% lekara i 75,8% medicinskih sestara/tehničara. Decu je imalo 77,2% lekara i 84,3% medicinskih sestara/tehničara. Najveći broj ispitanika živeo je u domaćinstvima sa 3 i više članova (71,4% lekara i 86,9% medicinskih sestara/tehničara). Ispitanici obe grupe u najvećem broju su se izjasniji da imaju prosečan socio-ekonomski status (86,1% lekara i 96,8% medicinskih sestara/tehničara. Sopstveni stan/kuću imalo je 86,1% lekara i 96,8% medicinskih sestara/tehničara). Medicinske sestre/tehničari su značajno češće bile ženskog pola, češće su živele u domaćinstvu sa 3 i više članova i imale srednji i loš socio-ekonomski status. Između ispitivanih grupa nije bilo značajne razlike u odnosu na uzrast, bračni status, roditeljstvo i broj dece, kao i posedovanje sopstvenog stana/kuće.

Najveći broj lekara (74,0%) i medicinskih sestara/tehničara (73,7%) imalo je radni staž od 11 i više godina i najveći procenat njih je bio zaposlen na trenutnom random mestu više od 10 godina (tabela 2). Između ispitivanih grupa nije bilo značajne razlike u odnosu na dužinu radnog staža i dužinu rada na trenutnom random mestu. Lekari i medicinskie sestre/tehničari najčešće su bili sa odeljenja hirurgije, ginekologije i akušerstva i interne medicine.

Na tabeli 3 prikazana je distribucija lekara i medicinskih sestara/tehničara u odnosu na vrednosti skorova MBI (*Maslach Burnout Inventory*) komponenti. Lekari su značajno češće imali umerene i visoke vrednosti emocionalne iscrpljenosti, umerene vrednosti za ličnu ostvarenost, dok su sestre značajno češće imale umerene vrednosti depersonalizacije.

Lekari i medicinske sestre/tehničari sa visokim skorom za emocionalnu iscrpljenost značajno češće su imali decu i više od 10 godina radnog staža (tabela 4). Između ispitivanih grupa nije bilo značajne razlike u odnosu na pol, stručnu spremu, bračni status, broj dece, broj članova domaćinstva, socio-ekonomski status, posedovanje sopstvene kuće/stana, i dužinu radnog staža na trenutnom random mestu. Kada se u model multivarijantne logističke regresione analize uključe sve varijable koje su prema univarijantnoj imale $p < 0,1$ (odnosno bračni status, deca i godine staža), onda se kao značajan nezavisan prediktor emocijalne iscrpljenosti izdvajaju deca (p=0,016; UO=5,32; 95%IP=1,37-20,66).

Tabela 2. Distribucija lekara i medicinskih sestara/tehničara u odnosu na karakteristike radnog mesta

Karakteristike	Lekari N=61 Broj (%)	Medicinska sestra/tehničar N=155 Broj (%)	UO (95%IP)	p vrednost ULRA
Dužina radnog staža (godine)				
≤5	9 (15,8)	21 (14,0)	1 (Ref)	
6-10	6 (10,5)	18 (12,0)	0,78 (0,23-2,61)	
11+	42 (73,7)	111 (74,0)	0,88 (0,37-2,08)	0,853
Dužina rada na trenutnom radnom mestu (godine)				
≤10	21 (36,8)	40 (26,7)		
>10	36 (63,2)	110 (73,3)	0,62 (0,33-1,19)	0,153
Odeljenje				
Hirurgija	11 (18,3)	28 (19,2)		
Ginekologija/akušerstvo	7 (11,7)	22 (15,1)		
Otorinolaringologija	2 (3,3)	4 (2,7)		
Interno	6 (10,0)	20 (13,7)		
Anestezija/ Reanimacija/ Intenzivna nega	5 (8,3)	17 (11,6)		
Fizikalna medicina	1 (1,7)	6 (4,1)		
Pedijatrija	4 (6,7)	7 (4,8)		
Plućne bolesti i TBC	2 (3,3)	6 (4,1)		
Služba za dijagnostiku	4 (6,7)	7 (4,8)		
Centralni prijemni šalter	0 (0,0)	4 (2,7)		
Drugo	18 (30,0)	25 (17,1)		

x̄ - aritmetička sredina, UO - unakrsni odnos, 95%IP - 95% interval poverenja, ULRA – univarijantna logistička regresiona analiza

in relation to their demographic characteristics. The average age of doctors was 45.1±12.2 years, while the average age of nurses was 45.9±12.2 years. 82.8% of doctors and 75.8% of nurses/technicians were married. 77.2% of doctors and 84.3% of nurses/technicians had children. The largest number of respondents lived in households with 3 or more members (71.4% of doctors and 86.9% of nurses/technicians). Most respondents of both groups stated that they have an average socio-economic status (86.1% of doctors and 96.8% of nurses/technicians). 86.1% of doctors and 96.8% of nurses/technicians had their own apartment/house. Nurses/technicians were significantly more often female, they lived more frequently in households with 3 or more members and they had average and poor socio-economic status. There was no significant difference between the examined groups regarding age, marital status, parentage and number of children, as well as ownership of their own apartment/house.

The largest number of doctors (74.0%) and nurses/technicians had 11 years of service and more, while the largest percentage of them were employed in the current work position for more than 10 years (Table 2). There was no significant difference between the examined groups regarding the years of service and the length of service in the current position. Doctors and nurses/technicians were most frequently from the departments of surgery, gynecology and obstetrics and internal medicine.

Table 3 shows the distribution of doctors and nurses/technicians in relation to the scores of MBI components. Doctors significantly more often had moderate and high levels of emotional exhaustion, moderate values of personal accomplishment, while nurses significantly more often had moderate values of depersonalization.

Doctors and nurses/technicians with the high score for emotional exhaustion significantly more often had children and more than 10 years of service (Table 4). There was no significant difference between the examined groups regarding gender, education, marital status, number of children, number of household members, socio-economic status, ownership of their own house/apartment, and years of service in the current work position. When all variables that had $p<0.1$ according to the univariate model are included in the multivariate logistic regression analysis model (that is, marital status, children and years of service), then children

Table 2. Distribution of doctors and nurses/technicians in relation to workplace characteristics

Characteristics	Doctors N=61 Number(%)	Nurse/technician N=155 Number (%)	OR (95%CI)	p value ULRA
Years of service (years)				
≤5	9 (15.8)	21 (14.0)	1 (Ref)	
6-10	6 (10.5)	18 (12.0)	0.78 (0.23-2.61)	
11+	42 (73.7)	111 (74.0)	0.88 (0.37-2.08)	0.853
Length of service in the current position (years)				
≤10	21 (36.8)	40 (26.7)		
>10	36 (63.2)	110 (73.3)	0.62 (0.33-1.19)	0.153
Department				
Surgery	11 (18.3)	28 (19.2)		
Gynecology/obstetrics	7 (11.7)	22 (15.1)		
Otorhinolaryngology	2 (3.3)	4 (2.7)		
Internal	6 (10.0)	20 (13.7)		
Anesthesiology/ Reanimation/Intensive care	5 (8.3)	17 (11.6)		
Physical medicine	1 (1.7)	6 (4.1)		
Pediatrics	4 (6.7)	7 (4.8)		
Pulmonary diseases i TBC	2 (3.3)	6 (4.1)		
Service for diagnostics	4 (6.7)	7 (4.8)		
Central admission registration desk	0 (0.0)	4 (2.7)		
Other	18 (30.0)	25 (17.1)		

x̄ - mean, SD - standard deviation, OR-odds ratio, 95%CI - 95% confidence interval, ULRA – univariate logistic regression analysis

Tabela 3. Distribucija lekara i mediinskih sestara/tehničara u odnosu na vrednosti komponenata Maslaš skora (eng. *Maslach Burnout Inventory - MBI*)

MBI komponente	Lekari N=61 Broj (%)	Medicinska sestra/tehničar N=155 Broj (%)	UO (95%IP)	p vrednost ULRA
Emocionalna iscrpljenost				
Niska	5 (10,0)	18 (36,0)	1 (ref)	
Umerena	20 (40,0)	6 (12,0)	12,00 (3,12-46,14)	
Visoka	25 (50,0)	26 (52,0)	3,46 (1,11-10,75)	0,143
Depersonalizacija				
Niska	18 (36,0)	17 (34,0)	1 (Ref)	
Umerena	8 (16,0)	24 (48,0)	0,32 (0,11-0,89)	
Visoka	24 (48,0)	9 (18,0)	2,52 (0,91-6,94)	0,092
Lična ostvarenost				
Niska	21 (42,0)	33 (66,0)	1 (Ref)	
Umerena	25 (50,0)	13 (26,0)	3,02 (1,27-7,18)	
Visoka	4 (8,0)	4 (8,0)	1,57 (0,35-6,97)	0,064

*p vrednost za ULRA, ULRA – univarijantna logistička regresiona analiza

Lekari i medicinske sestre/tehničari sa visokim skorom za depersonalizaciju značajno češće su bili muškarci, medicinske sestre/tehničari, osobe koje su imale partnera i decu, kao i više od 10 godina radnog staža (tabela 5). Između ispitivanih grupa nije bilo značajne razlike u odnosu na broj dece, broj članova domaćinstva, socio-ekonomski status, posedovanje sopstvene kuće/stana, i dužinu rada na trenutnom random mestu. Kada se u model multivarijantne logističke regresione analize uključe varijable koje su prema univarijantnoj imale p < 0,1 (odnosno pol, stručna sprema, bračni status, deca, dužina radnog staža, dužina rada na trenutnom random mestu), onda je značajan nezavisan prediktor pol (p < 0,001; UO= 0,16; 95%IP=0,06-0,45).

Lekari i medicinske sestre/tehničari sa niskim skorom za ličnu ostvarenost su značajno češće bili medicinske sestre/tehničari, sa partnerom, imali su decu, više od 10 godina radnog staža i više od deset godina rada na trenutnom random mestu (tabela 6). Između ispitivanih grupa nije bilo značajne razlike u odnosu na broj dece, broj članova domaćinstva, socio-ekonomski status i posedovanje sopstvene kuće/stana. Kada se u model multivarijantne logističke regresione analize uključe varijable koje su prema univarijantnoj imale p < 0,1 (odnosno stručna sprema, bračni status, deca, dužina radnog staža, dužina rada na trenutnom random mestu), onda značajan nezavisan prediktor su deca (p = 0,004; UO=9,72; 95%IP=2,03-46,59).

Diskusija

U našoj studiji medicinske sestre/tehničari su značajno češće bile ženskog pola, iz domaćinstava sa 3 i više članova i imale srednji i loš socioekonomski status. Između lekara i medicinskih sestara nije bilo značajne razlike u odnosu na uzrast, bračni status, roditeljstvo i broj dece, posedovanje sopstvenog stana/kuće, dužinu radnog staža i dužinu rada na trenutnom radnom mestu. Ispitivanjem stavova po pitanju posla, uočeno je da su medicinske sestre/tehničari uvođenje novih tehnologija doživljavale značajno stresnijim (3,0 ± 1,0) nego lekari (2,6 ± 1,1).

Stresni uslovi na radnom mestu mogu biti uzrok iscrpljenosti, profesionalnog sagorevanja i smanjenja radnog učinka. Takođe, mogu biti uzrok brojnih drugih negativnih posledica, kao što su preterano konzumiranje alkohola, kafe, pušenje, neredovna ishrana i dr. (13). Zdravstveni radnici izloženi su velikom stresu zbog ogromne odgovrnosti prema ljudskom životu i zdravlju, ali mogu biti profesionalno izloženi infekciji, zračenju, štetnom dejstvu citotoksičnih lekova itd. Kod zdravstvenih radnika može doći do povećanog obolevanja od različitih psihičkih poremećaja i psihosomatskih bolesti usled specifičnih uslova rada (npr. produženog radnog vremena, rada u smenama, noćnog rada, kontakta sa obolelima i njihovim porodicama, itd.) (14). Jedna od čestih negativnih posledica profesionalnog stresa kod osoba koje su u neposrednom kontaktu sa ljudima jeste upravo sindrom sagorevanja

Tabela 3. Distribucija lekara i mediinskih sestara/tehničara u odnosu na vrednosti komponenata Maslaš skora (eng. *Maslach Burnout Inventory - MBI*)

MBI components	Doctors N=61 Number(%)	Nurse/technician N=155 Number (%)	OR (95%CI)	p value ULRA
Emotional exhaustion				
Low	5 (10.0)	18 (36.0)	1 (ref)	
Moderate	20 (40.0)	6 (12.0)	12.00 (3.12-46.14)	
High	25 (50.0)	26 (52.0)	3.46 (1.11-10.75)	0.143
Depersonalization				
Low	18 (36.0)	17 (34.0)	1 (Ref)	
Moderate	8 (16.0)	24 (48.0)	0.32 (0.11-0.89)	
High	24 (48.0)	9 (18.0)	2.52 (0.91-6.94)	0.092
Depersonalization				
Low	21 (42.0)	33 (66.0)	1 (Ref)	
Moderate	25 (50.0)	13 (26.0)	3.02 (1.27-7.18)	
High	4 (8.0)	4 (8.0)	1.57 (0.35-6.97)	0.064

*p value for ULRA, ULRA – univariate logistic regression analysis

stand out as a significant independent predictor of emotional exhaustion (p=0.016; OR=5.32; 95% CI=1.27-20.66).

Doctors and nurses/technicians with a high score for Depersonalization were significantly more often men, nurses/technicians, people who had a partner and children, as well as more than 10 years of service (Table 5). There was no significant difference between the examined groups regarding the number of children, number of household members, socio-economic status, ownership of their own house/apartment, and length of service in the current work position. When the variables that had p<0.1, according to the univariate analysis, are included in the model of the multivariate logistic regression analysis (i.e. gender, education, marital status, children, years of service, length of service in the current position), then gender is a significant independent predictor (p < 0.001, OR=0.16; 95% CI=0.06-0.45).

Doctors and nurses/technicians with a low score for Personal Accomplishment were significantly more often nurses/technicians with a partner, had children, more than 10 years of service and more than ten years of work in the current position (Table 6). There was no significant difference between the examined groups regarding the number of children, the number of household members, socio-economic status and ownership of their own house/apartment. When the variables that had p<0.1, according to the univariate model, are included in the multivariate logistic regression analysis model (that is, professional qualifications, marital status, children, years of service, length of service in the current position), then a significant independent predictor is children (p=0.004; OR=9.72; 95% CI=2.03-46.59).

Discussion

In our study, nurses/technicians were significantly more often female, from households with 3 or more members and had average or poor socio-economic status. There was no significant difference between doctors and nurses regarding age, marital status, parentage and number of children, owning of their own apartment/house, years of service and length of service in the current position. Examining attitudes about work, it was noted that the introduction of new technologies was more stressful for nurses/technicians (3.0 ± 1.0) than for doctors (2.6 ± 1.1).

Stressful conditions in the workplace may be the cause of exhaustion, professional burnout and reduced work performance. Also, they can be the cause of numerous other negative consequences, such as excessive consumption of alcohol, coffee, smoking, irregular diet, etc. (13). Healthcare workers are exposed o great stress due to their huge responsibility for human life and health, but they can be professionally exposed to infection, radiation, harmful effects of cytotoxic drugs, etc. The increased incidence of different mental disorders and psychosomatic diseases may appear in healthcare workers due to specific

Tabela 4. Distribucija lekara i medicinskih sestara/tehničara prema vrednostima skora za MBI komponentu emocionalna iscrpljenost

Karakteristike	Niska/umerena N=49 Broj (%)	Visoka N=51 Broj (%)	UO (95%IP)	p vrednost ULRA
Pol				
Muškarci	18 (36,7)	21 (41,2)		
Žene	31 (63,3)	30 (58,8)	0,78 (0,34-1,77)	0,556
Stručna sprema				
Sestre	25 (51,0)	25 (49,0)		
Lekari	24 (49,9)	26 (51,0)	0,92 (0,42-2,02)	0,841
Bračni status				
Sa partnerom	34 (73,9)	34 (73,9)		
Bez partnera	12 (26,1)	12 (26,1)	0,39 (0,13-1,14)	0,084
Deca	34 (75,6)	46 (92,0)	3,72 (1,09-12,69)	0,028
Broj dece				
1	14 (41,2)	14 (30,4)	1 (Ref)	
2	19 (55,9)	29 (63,0)	1,53 (0,59-3,91)	
3	1 (2,9)	3 (6,5)	3,00 (0,28-32,46)	0,258
Broj članova domaćinstva				
1	3 (6,7)	3 (6,0)	1 (Ref)	
2	11 (24,4)	6 (12,0)	0,54 (0,08-3,59)	
3+	31 (68,9)	41 (82,0)	1,32 (0,25-7,00)	0,255
Socio-ekonomski status				
Dobar	3 (6,4)	4 (7,8)	1 (Ref)	
Srednji	41 (87,2)	45 (88,2)	0,82 (0,17-3,90)	
Loš	3 (6,4)	2 (3,9)	0,50 (0,05-5,15)	0,580
Sopstvena kuća/stan	43 (93,5)	48 (96,0)	1,67 (0,27-10,5)	0,582
Dužina radnog staža (godine)				
≤5	8 (18,6)	2 (4,1)	1 (Ref)	
6-10	6 (14,0)	4 (8,2)	0,17 (0,03-0,85)	
11+	29 (67,4)	43 (87,8)	1,45 (1,12-1,73)	0,018
Dužina rada na trenutnom random mestu (godine)				
≤10	16 (37,2)	11 (22,4)		
>10	27 (62,8)	38 (77,6)	2,05 (0,82-5,10)	0,124

MBI - *Maslach Burnout Inventory* – Upitnik o sagorevanju, p vrednost prema univarijantnoj logističkoj regresionoj analizi, UO-unakrsni odnos, 95%IP - 95% interval poverenja, ULRA – univarijantna logistička regresiona analiza

na poslu. Sindrom sagorevanja može se definisati kao prolongirani odgovor na hronične emocionalne i interpersonalne stresore koji se dovode u vezu sa radnim mestom. Obično se manifestuje emocionalnom iscprljenošću, osećajem male lične ostvarenosti i depersonalizacijom (1).

Pored lekara, na kojima je odgovornost i od kojih društvo očekuje da budu nepogrešivi profesionalci, i sestrinstvo je stresna profesija. Sestrinstvo je profesija koja zahteva dobre odnose sa osobama kojima se pruža zdravstvena nega, porodicama obolelih, kolegama i nadređenima. Mnoge studije spovedene u populaciji medicinskih sestara ukazale su da postoji veza između određenih poremećaja zdravlja (npr. emocionalna i fizička iscrpljenost, bol u donjem delu leđa, koronarna bolest) i stresora na random mestu (15-17). Doživljaj stresa na poslu često je vezan za preopterećenost (preveliki zahtevi, kratki rokovi), konflikt i nejasnu radnu ulogu (18,19). Sve ovo vodi nesigurnosti, nezadovoljstvu poslom, smanjenju radnog učinka i željom da se napusti radno mesto (20).

U našoj studiji prevalencija emocionalne iscrpljenosti kao komponente sindroma sagorevanja bila je prisutna kod 51% zdravstvenih radnika, depersonalizacija kod 33%, i niska lična ostvarenost kod 54% ispitanika. Ukoliko kao kriterijum ukupnog sindroma sagorevanja odaberemo prisustvo bar

Table 4. Distribution of doctors and nurse/technicians according to the values of the score for MBI component emotional exhaustion

Characteristics	Low/moderate N=49 Number (%)	High N=51 Number (%)	OR (95%CI)	p value ULRA
Gender				
Men	18 (36.7)	21 (41.2)		
Women	31 (63.3)	30 (58.8)	0.78 (0.34-1.77)	0.556
Education				
Nurses	25 (51.0)	25 (49.0)		
Doctors	24 (49.9)	26 (51.0)	0.92 (0.42-2.02)	0.841
Marital status				
With a partner	34 (73.9)	34 (73.9)		
Single	12 (26.1)	12 (26.1)	0.39 (0.13-1.14)	0.084
Children	34 (75.6)	46 (92.0)	3.72 (1.09-12.69)	0.028
Number of children				
1	14 (41.2)	14 (30.4)	1 (Ref)	
2	19 (55.9)	29 (63.0)	1.53 (0.59-3.91)	
3	1 (2.9)	3 (6.5)	3.00 (0.28-32.46)	0.258
Number of household members				
1	3 (6.7)	3 (6.0)	1 (Ref)	
2	11 (24.4)	6 (12.0)	0.54 (0.08-3.59)	
3+	31 (68.9)	41 (82.0)	1.32 (0.25-7.00)	0.255
Socio-economic status				
Good	3 (6.4)	4 (7.8)	1 (Ref)	
Average	41 (87.2)	45 (88.2)	0.82 (0.17-3.90)	
Poor	3 (6.4)	2 (3.9)	0.50 (0.05-5.15)	0.580
Owns house/apartment	43 (93.5)	48 (96.0)	1.67 (0.27-10.5)	0.582
Years of service (years)				
≤5	8 (18.6)	2 (4.1)	1 (Ref)	
6-10	6 (14.0)	4 (8.2)	0.17 (0.03-0.85)	
11+	29 (67.4)	43 (87.8)	1.45 (1.12-1.73)	0.018
Length of service in the current position (years)				
≤10	16 (37.2)	11 (22.4)		
>10	27 (62.8)	38 (77.6)	2.05 (0.82-5.10)	0.124

MBI - Maslach Burnout Inventory – questionnaire on burnout, p value according to univariate logistic regression analysis, OR-odds ratio, 95%CI - 95% confidence interval, ULRA – univariate logistic regression analysis

working conditions (e.g. extended working hours, working in shifts, night shifts, contact with patients and their families, etc.) (14). One of the frequent negative consequences of professional stress in persons who are in direct contact with people is burnout syndrome at work. Burnout syndrome can be defined as a prolonged response to chronic emotional and interpersonal stressors associated with the workplace. It is usually manifested as emotional exhaustion, a feeling of reduced personal accomplishment and depersonalization (1).

In addition to doctors, who have responsibility and from whom society expects to be infallible professionals, nursing profession is also a stressful profession. Nursing is a profession that requires good relations with the persons who receive healthcare, the families of the sick, colleagues and superiors. Many studies conducted in the population of nurses indicated that there is a connection between certain health disorders (e.g. emotional and physical exhaustion, lower back pain, coronary disease) and stressors at the workplace (15-17).

Experiencing stress in the workplace is often related to overload (excessive demands, short deadlines), conflict and unclear work role (18,19). All this leads to insecurity, job dissatisfaction, reduced work performance and wish to leave the workplace (20).

Tabela 5. Distribucija lekara i medicinskih sestara/tehničara prema vrednostima skora za MBI komponentu depersonalizacija

Karakteristike	Niska/umerena N=67 Broj (%)	Visoka N=33 Broj (%)	UO (95%IP)	p vrednost ULRA
Pol				
Muškarci	19 (28,4)	20 (60,6)		
Žene	48 (71,6)	13 (39,4)	0,26 (0,11-0,62)	0,002
Stručna sprema				
Sestre	26 (38,8)	24 (72,7)		
Lekari	41 (61,2)	9 (27,3)	4,21 (1,69-10,45)	0,002
Bračni status				
Sa partnerom	47 (72,3)	31 (100)		
Bez partnera	18 (27,7)	0 (0,0)	0,09 (0,01-0,69)	0,025
Deca	49 (76,6)	31 (100)	9,18 (1,15-73,11)	0,036
Broj dece				
1	30 (40,8)	8 (25,8)	1 (Ref)	
2	27 (55,1)	21 (67,7)	1,94 (0,72-5,28)	
3	2 (4,1)	2 (6,5)	2,50 (0,29-20,92)	0,178
Broj članova domaćinstva				
1	6 (9,4)	0 (0,0)	1 (Ref)	
2	12 (18,8)	5 (16,1)	2,50 (0,236-26,48)	
3+	46 (71,9)	26 (83,9)	3,26 (0,37-28,62)	0,106
Socio-ekonomski status				
Dobar	4 (6,1)	4 (6,1)	1 (Ref)	
Srednji	57 (86,4)	57 (86,4)	0,65 (0,13-3,13)	
Loš	5 (7,6)	5 (7,6)	0,27 (0,02-3,65)	0,158
Sopstvena kuća/stan	59 (92,2)	32 (100,0)	2,63 (0,29-23,49)	0,387
Dužina radnog staža (godine)				
≤5	9 (14,8)	1 (3,2)	1 (Ref)	
6-10	9 (14,8)	1 (3,2)	0,16 (0,02-1,37)	
11+	43 (70,5)	29 (93,5)	0,16 (0,02-1,37)	0,034
Dužina rada na trenutnom random mestu (godine)				
≤10	22 (36,1)	5 (16,1)		
>10	39 (63,9)	26 (83,9)	2,93 (0,99-8,73)	0,053

MBI - *Maslach Burnout Inventory* – Upitnik o sagorevanju, p vrednost prema univarijantnoj logističkoj regresionoj analizi, UO-unakrsni odnos, 95%IP - 95% interval poverenja, ULRA – univarijantna logistička regresiona analiza

jedne komponente sindroma, sagorevanje je prisutno kod 59% ispitanika. Prema rezultatima multivarijantne logističke regresione analize, značajan nezavisan prediktor emocionalne iscrpljenosti i lične ostvarenosti su deca, a za depersonalizaciju pol.

Tri osnovne dimenzije ispoljavanja sindroma sagorevanja su emocionalna iscrpljenost profesionalca, depersonalizacija i lična neostvarenost (21). Osim ova tri osnovna simptoma, sindrom sagorevanja na poslu može biti povezan sa pojavom niza drugih tegoba, koje se najčešće karakterišu kao psihosomatske (na primer povišen krvni pritisak, glavobolja, bolesti srca, pojačano lučenje hormona stresa i drugi hormonski poremećaji, stomačne tegobe), i različitih tegoba psihičke prirode, kao što su hronična anksioznost, bes, depresija, apatija, česte promene raspoloženja i drugi problem (22). Takođe, pominju se i poremećaji sna, podložnost raznim drugim bolestima, prehladi ili alergiji. Ponekad se može javiti osećaj unutrašnje praznine i tuge.

Sindrom sagorevanja na radu kod lekara je poslednjih godina dobio povećanu pažnju jer su stope prevalencije simptoma sagorevanja koje su oko 50% dokumentovane u nacionalnim studijama u Sjedinjenim Američkim Državama (23,24). Nacionalni podaci za druge zemlje su manje dostupni, ali prema postojećim podacima sličan problem je pri-

Tabela 5. Distribucija lekara i medicinskih sestara/tehničara prema vrednostima skora za MBI komponentu depersonalizacija

Characteristics	Niska/umerena N=67 Broj (%)	Visoka N=33 Broj (%)	UO (95%IP)	p vrednost ULRA
Gender				
Men	19 (28.4)	20 (60.6)		
Women	48 (71.6)	13 (39.4)	0.26 (0.11-0.62)	0.002
Education				
Nurses	26 (38.8)	24 (72.7)		
Doctors	41 (61.2)	9 (27.3)	4.21 (1.69-10.45)	0.002
Marital status				
With a partner	47 (72.3)	31 (100)		
Single	18 (27.7)	0 (0.0)	0.09 (0.01-0.69)	0.025
Children	49 (76.6)	31 (100)	9.18 (1.15-73.11)	0.036
Number of children				
1	30 (40.8)	8 (25.8)	1 (Ref)	
2	27 (55.1)	21 (67.7)	1.94 (0.72-5.28)	
3	2 (4.1)	2 (6.5)	2.50 (0.29-20.92)	0.178
Number of household members				
1	6 (9.4)	0 (0.0)	1 (Ref)	
2	12 (18.8)	5 (16.1)	2.50 (0.236-26.48)	
3+	46 (71.9)	26 (83.9)	3.26 (0.37-28.62)	0.106
Socio-economic status				
Good	4 (6.1)	4 (6.1)	1 (Ref)	
Average	57 (86.4)	57 (86.4)	0.65 (0.13-3.13)	
Poor	5 (7.6)	5 (7.6)	0.27 (0.02-3.65)	0.158
Owns house/apartment	59 (92.2)	32 (100.0)	2.63 (0.29-23.49)	0.387
Years of service (years)				
≤5	9 (14.8)	1 (3.2)	1 (Ref)	
6-10	9 (14.8)	1 (3.2)	0.16 (0.02-1.37)	
11+	43 (70.5)	29 (93.5)	0.16 (0.02-1.37)	0.034
Length of service in the current position (years)				
≤10	22 (36.1)	5 (16.1)		
>10	39 (63.9)	26 (83.9)	2.93 (0.99-8.73)	0.053

MBI - Maslach Burnout Inventory – questionnaire on burnout, p value according to univariate logistic regression analysis, OR-odds ratio, 95%CI - 95% confidence interval, ULRA – univariate logistic regression analysis

In our study, the prevalence of emotional exhaustion as a component of burnout syndrome was present in 51% of healthcare workers, depersonalization in 33%, and low personal accomplishment in 54% of respondents. If we choose the presence of at least one component of the syndrome as a criterion of the total burnout syndrome, burnout is present in 59% of respondents. According to the results of the multivariate logistic regression analysis, a significant independent predictor of emotional exhaustion and personal accomplishment are children, and for depersonalization gender.

Three basic dimensions of burnout syndrome manifestations are emotional exhaustion of the professional, depersonalization and personal accomplishment (21). In addition to these three basic symptoms, burnout syndrome at work can be associated with the appearance of a number of other problems, which are most often characterized as psychosomatic (for example, high blood pressure, headache, heart disease, increased secretion of stress hormones and other hormonal disorders, stomach problems), and various ailments of a psychological nature, such as chronic anxiety, anger, depression, apathy, frequent mood swings and other problems (22). Also, sleep disorders, susceptibility to other diseases, colds or

Tabela 6. Distribucija lekara i medicinskih sestara/tehničara prema vrednostima skora za MBI komponentu lična ostvarenost

Karakteristike	Niska/umerena N=46 Broj (%)	Visoka N=54 Broj (%)	UO (95%IP)	p vrednost ULRA
Pol				
Muškarci	17 (37,0)	22 (40,7)		
Žene	29 (63,0)	32 (59,3)	0,85 (0,38-1,91)	0,699
Stručna sprema				
Sestre	17 (37,0)	33 (61,1)		
Lekari	29 (63,0)	21 (38,9)	0,37 (0,17-0,84)	0,017
Bračni status				
Sa partnerom	31 (72,1)	47 (88,7)		
Bez partnera	12 (27,9)	6 (11,3)	0,33 (0,11-0,97)	0,044
Deca	30 (71,4)	50 (94,3)	6,67 (1,74-25,5)	0,006
Broj dece				
1	11 (36,7)	17 (34,0)	1 (Ref)	
2	18 (60,0)	30 (60,0)	1,08 (0,41-2,81)	
3	1 (3,3)	3 (6,0)	1,94 (0,18-21,12)	0,679
Broj članova domaćinstva				
1	4 (9,5)	2 (3,8)	1 (Ref)	
2	9 (21,4)	8 (15,1)	1,78 (0,25-12,45)	
3+	29 (69,0)	43 (81,1)	2,97 (0,51-17,26)	0,145
Socio-ekonomski status				
Dobar	3 (6,7)	4 (7,5)	1 (Ref)	
Srednji	40 (88,9)	46 (86,8)	0,86 (0,18-4,09)	
Loš	2 (4,4)	3 (5,7)	1,12 (0,11-11,59)	0,968
Sopstvena kuća/stan	40 (93,0)	51 (96,2)	1,912 (0,30-12,00)	0,489
Dužina radnog staža (godine)				
≤5	8 (18,6)	2 (4,1)	1 (Ref)	
6-10	6 (14,0)	4 (8,2)	0,17 (0,03-0,85)	
11+	29 (67,4)	43 (87,8)	0,45 (1,12-1, 73)	0,018
Dužina rada na trenutnom random mestu (godine)				
≤10	18 (41,9)	9 (18,4)		
>10	25 (58,1)	40 (81,6)	3,20 (1,25-8,22)	0,016

MBI - *Maslach Burnout Inventory* – Upitnik o sagorevanju, p vrednost prema univarijantnoj logističkoj regresionoj analizi, UO-unakrsni odnos, 95%IP - 95% interval poverenja, ULRA – univarijantna logistička regresiona analiza

sutan širom sveta (26). Pored toga što u nekim starijim studijama u Norveškoj (26) i Danskoj (27) prevalencija sindroma sagorevanja među lekarima nije bila veća nego kod profesionalaca drugih struka, novija studija iz Sjedinjenih Američkih Država pokazala je da je prevalencija sagorevanja veća kod lekara nego u drugim profesijama, čak i kad se koriguje za broj radnih sati i druge faktore (28). U studiji sprovedenoj kod anesteziologa u Beogradu detektovan je značajan stepen sindroma sagorevanja: visoka emocionalna iscrpljenost 52,7%, visoka depersonalizacija 12,2% i niska lična ostvarenost 28,2%. Kod lekara opšte prakse emocionalna iscrpljenost bila je prisutna kod 24% lekara, depersonalizacija kod 7,3% ispitanika, a niska lična ostvarenost kod 51,7% ispitanika (29). Ortopedski hirurzi imali su 24,5% emocionalne iscrpljenosti, 9,9% depersonalizacije, i 35,7% niske lične ostvarenosti (30). Kod psihijatara je emocionalna iscrpljenost bila prisutna sa 29,1%, depersonalizacija sa 12,2% i niska lična ostvarenost sa 22,4% (31).

Studije preseka na populacijama lekara su pokazale da postoji povezanost između sindroma sagorevanja i pola lekara, uzrasta, obrazovanja, bračnog statusa, uzrasta dece i zanimanja partnera (32). Iako pol nije konzistentno nezavisan prediktor sindroma sagorevanja nakon adžastiranja za uzrast i druge faktore, prema nekim studijama žene lekari

Table 6. Distribution of doctors and nurses/technicians according to the values of the score for MBI component personal accomplishment

Characteristics	Niska/umerena N=46 Broj (%)	Visoka N=54 Broj (%)	UO (95%IP)	p vrednost ULRA
Gender				
Men	17 (37.0)	22 (40.7)		
Women	29 (63.0)	32 (59.3)	0.85 (0.38-1.91)	0.699
Education				
Nurses	17 (37.0)	33 (61.1)		
Doctors	29 (63.0)	21 (38.9)	0.37 (0.17-0.84)	0.017
Marital status				
With a partner	31 (72.1)	47 (88.7)		
Single	12 (27.9)	6 (11.3)	0.33 (0.11-0.97)	0.044
Children	30 (71.4)	50 (94.3)	6.67 (1.74-25.5)	0.006
Number of children				
1	11 (36.7)	17 (34.0)	1 (Ref)	
2	18 (60.0)	30 (60.0)	1.08 (0.41-2.81)	
3	1 (3.3)	3 (6.0)	1.94 (0.18-21.12)	0.679
Number of household members				
1	4 (9.5)	2 (3.8)	1 (Ref)	
2	9 (21.4)	8 (15.1)	1.78 (0.25-12.45)	
3+	29 (69.0)	43 (81.1)	2.97 (0.51-17.26)	0.145
Socio-economic status				
Good	3 (6.7)	4 (7.5)	1 (Ref)	
Average	40 (88.9)	46 (86.8)	0.86 (0.18-4.09)	
Poor	2 (4.4)	3 (5.7)	1.12 (0.11-11.59)	0.968
Owns house/apartment	40 (93.0)	51 (96.2)	1.912 (0.30-12.00)	0.489
Years of service (years)				
≤5	8 (18.6)	2 (4.1)	1 (Ref)	
6-10	6 (14.0)	4 (8.2)	0.17 (0.03-0.85)	
11+	29 (67.4)	43 (87.8)	0.45 (1.12-1. 73)	0.018
Length of service in the current position (years)				
≤10	18 (41.9)	9 (18.4)		
>10	25 (58.1)	40 (81.6)	3.20 (1.25-8.22)	0.016

MBI - Maslach Burnout Inventory – questionnaire on burnout, p value according to univariate logistic regression analysis, OR-odds ratio, 95%CI - 95% confidence interval, ULRA – univariate logistic regression analysis

allergies are mentioned. Sometimes, the feeling of inner emptiness and sadness may appear.

Burnout syndrome among doctors has gained increased attention in recent years because prevalence rates of burnout symptoms of around 50% have been documented in national studies in the United States (23,24). National data for other countries are less available but according to existing data, a similar problem is present worldwide (25). In addition to the fact that in some older studies in Norway (26) and Denmark (27) the prevalence of burnout syndrome among doctors was not higher among professionals of other professions, a recent study from the United States of America has shown that the prevalence of burnout is higher in doctors than in other professions, even when adjusted for the number of working hours and other factors (28). In a study conducted among anesthesiologists in Belgrade, a significant degree of burnout syndrome was detected: high emotional exhaustion 52.7%, high depersonalization 12.2% and low personal accomplishment 28.2%. In general practitioners, emotional exhaustion was present in 24% of doctors, depersonalization in 7.3% of respondents, and low personal accomplishment in 51.7% of respondents (29). Orthopedic surgeons had 24.5% of emotional exhaustion, 9.9% of depersonalization, and 35.7%

imaju 20-60% veće šanse za sindrom sagorevanja (33). Norveška studija koja je objavila rezultate sindroma sagorevanja pronašla je veći nivo iscrpljenosti kod žena, kod kojih je sagorevanje bilo povezano sa konfliktima na radnom mestu i višim nivoima povlačenja među muškarcima, kod kojih je sagorevanje najjače povezano sa radnim opterećenjem (34). Povećan rizik od pojave simptoma sagorevanja prisutan je kod mlađih lekara, kod lekara mlađih od 55 godina rizik je dvostruko veći od onih starijih od 55 godina. Utvrđeno je da lekari koji imaju dete mlađe od 21 godine imaju povećan rizik od sagorevanja 54% i supružnik / partner koji radi kao zdravstveni radnik koji nije lekar pokazalo se da povećava rizik od sagorevanja za 23%. Individualne karakteristike, kao što su ličnost i interpersonalne veštine i lična iskustva mogu uticati na to kako se lekari nose sa stresom (35).

Ograničenje ove studije je u vezi sa pristrasnošću izbora ispitanika, koja je rezultat uzorkovanja ispitivane populacije iz jedne zdravstvene ustanove, uključujući nisku stopu regrutovanja, i relativno malu veličinu uzorka, što može ograničiti generalizaciju rezultata na širu populaciju zdravstvenih radnika.

Zaključak

Prevalencija emocionalne iscrpljenosti, kao komponente sindroma sagorevanja, bila je prisutna kod 51% zdravstvenih radnika, depersonalizacija kod 33%, i niska lična ostvarenost kod 54% ispitanika. Ukoliko kao kriterijum ukupnog sindroma sagorevanja odaberemo prisustvo bar jedne od tri komponente sindroma, sindrom sagorevanja je prisutan kod 59% ispitanika. Prema rezultatima multivarijantne logističke regresione analize, značajan nezavisan prediktor emocionalne iscrpljenosti i lične ostvarenosti prema MBI su deca, a za depersonalizaciju prema MBI je pol. Neophodna su dalja istraživanja prevalencije sindroma sagorevanja među zdravstvenim radnicima drugih ustanova, kao i identifikovanje faktora koji doprinose sindromu sagorevanja u cilju njegovog prevenranja.

Konflikt interesa

Autori su izjavili da nema konflikta interesa.

Zahvalnica

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of reduced personal accomplishment (30). In psychiatrists, emotional exhaustion was present in 29.1%, depersonalization in 12.2% and low personal accomplishment in 22.4% (31).

Cross-sectional studies of the populations of doctors have shown that there is a connection between burnout syndrome and doctors' gender, education, marital status, children's age and partner's occupation (32). Although gender is not a consistent independent predictor of burnout, after adjusting for age and other factors, some studies indicate that female doctors are 20-60% more likely to experience burnout (33). A Norwegian study that published the results of burnout syndrome found a higher level of burnout in women, in whom burnout was associated with conflicts at work, and higher levels of withdrawal in men, in whom burnout was most strongly associated with workload (34). An increased risk of burnout is present in younger doctors, in doctors younger than 55 the risk is twice as high in comparison to those older than 55. It was found that doctors who had a child under the age of 21 had a 54% increased risk of burnout, and that a spouse/partner who worked as a healthcare worker, but who was not a doctor, increased the risk of burnout by 23%. Individual characteristics, such as personality and interpersonal skills and personal experiences can influence how doctors cope with stress (35).

The limitation of this study is related to respondent selection bias, which is the result of sampling the study population from a single healthcare institution, including a low recruitment rate, and a relatively small sample size, which may limit the generalization of results applied to a wider population of healthcare professionals.

Conclusion

The prevalence of emotional exhaustion, as a component of burnout syndrome, was present in 51% of healthcare workers, depersonalization in 33%, and low personal accomplishment in 54% of respondents. If we choose the presence of at least one of the three components of the syndrome as a criterion of the total burnout syndrome, burnout syndrome is present in 59% of respondents. According to the results of the multivariate logistic regression analysis, a significant independent predictor of emotional exhaustion and personal accomplishment, according to MBI, is children, and for depersonalization, according to MBI, is gender. Further research on the prevalence of burnout syndrome in healthcare workers from other institutions is necessary, as well as the identification of factors that contribute to burnout syndrome aimed at is prevention.

Competing interests

Authors declare no competing interests.

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