



# Burnout syndrome in primary healthcare professionals

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## ABSTRACT

**Introduction:** The aim of this study was to assess the level of burnout syndrome among primary healthcare professionals in Canton Sarajevo and whether there is a link between the levels of burnout syndrome and sociodemographic parameters.

**Methods:** We included a total of 300 primary healthcare professionals. The burnout syndrome level was measured by Maslach Burnout Inventory, consisting of 22 particles (3 subscales) measuring the level of emotional exhaustion (EE), depersonalization (DP), and personal accomplishment (PA). We analyzed the correlation and difference between the level of burnout and sociodemographic parameters.

**Results:** The study revealed that in Canton Sarajevo 25.3% of healthcare professionals experience a high level of EE, 17.7% experience DP, and 19.0% experience a low level of PA. The subjects under 40 years experienced a higher level of EE than older subjects ( $p=0.000$ ). There were significant differences in PA subscale between men and women ( $p=0.033$ ), women having lower level of PA than males. Respondents who worked in shifts and respondents with indefinite period employment experience significantly a high level of EE. Subjects who drink alcohol had a higher level of DP.

**Conclusion:** Healthcare professionals are at increased risk of burnout. Factors which increase the burnout syndrome risk in health professionals in Sarajevo Canton were: age under 40 years old, female, working in shifts and drinking alcohol.

**Key words:** Burnout syndrome; depersonalization; emotional exhaustion; healthcare professionals; personal accomplishment

## INTRODUCTION

Term “burnout” was coined in the 1970s, and introduced in the literature by Freudenberg, on the basis of his observation and introspection in a particularly

demanding work environment. Burnout is a psychological syndrome that appears as a response to chronic interpersonal stressors at work (1,2). Among the first authors and researchers of this concept is Cristina Maslach, the author of the Maslach Burnout Inventory (MBI), which represents the gold standard for the evaluation of the burnout syndrome (3). According to Maslach, emotional excitement at work and the way of confrontation, have significant consequences on the professional identity of employees and their behavior at work (3).

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The most important components of the burnout syndrome are: feelings of emotional exhaustion (EE), depersonalization (DP), and perception of reduced personal accomplishment (PA). EE is the most noticeable symptom of this syndrome (3). It refers to feeling of fatigue, overload, and excessive work exhaustion (4). DP refers to changed attitude towards the work environment. In the case of healthcare professionals, this translates to a changed attitude toward patients (3). It deals with a negative and cynical attitude towards the patients and work, lack of compassion for them and their problems (3,4). Perception of reduced PA, reduced personal satisfaction by oneself and achieved results is another common symptom in this disorder (3).

Burnout syndrome represents the process over a longer period, with frequently occurring symptoms such as headache, chronic fatigue, gastrointestinal disorders, muscle tension, hypertension, and sleep disorders (5). In addition, attention problems, irritability, and reduced self-confidence may occur, resulting in the sense of professional incompetence (6). The burnout syndrome increases the possibility of depression, anxiety, sleep problems, drug abuse, conflict behavior, and difficulties in maintaining intimate relationships (7,8).

Stress in the healthcare work environment is caused by personal, organizational, and interpersonal factors (9,10). Variables that affect the occurrence of the burnout syndrome are sociodemographic variables, lack of social support and high expectations from work, frequent conflicts, overloading work tasks, and poor interpersonal relationships (10). According to Leiter and Maslach, most of the burnout syndrome is influenced by organizational characteristics (10). Burnout is often associated with overtime work, anxiety at the workplace, patient safety and over-responsibility (11). As the burnout reduces the opportunities for positive experiences at work, it is also associated with reduced commitment to work, reduced satisfaction (1), and as a consequence of mentioned, absence or even quitting the job (9).

Burnout is a syndrome that occurs more frequently in professions that are closely related to helping people, such as social workers, healthcare professionals, teachers, and police officers (9,12). Healthcare professionals are exposed to great demands during

work, and doctors' work involves an intensive understanding of emotions and compassion with patients, empathy with diseased and endangered (13). Moreover, they have feelings of helplessness and frustration when dealing with diseases that are progressive or have no beneficial outcomes (14). The healthcare profession requires continuous state of increased alertness and exhausts the psychophysical capacities of the individual (13).

According to research by Shanafelt et al., 37.9% of the doctors in the United States experience a high level of EE, 29.4% experience DP, and 12.4% experience low level of PA. The increased likelihood of experiencing the burnout syndrome is related to increased amount of work such as receiving more patients per week and working overtime, which increases the risk by 2–4% (12). Understanding the dynamics of risk factors associated with burnout helps developing the strategies for preventing and treating the symptoms of burnout (15).

The aim of this study was to assess the level of burnout syndrome among primary healthcare professionals in Canton Sarajevo and whether there is a link between the levels of burnout syndrome and sociodemographic parameters. To our knowledge, this is the first study of this kind in the healthcare professionals in Bosnia and Herzegovina.

## METHODS

### Study population

We conducted a cross sectional survey in total of 300 healthcare professionals, including 100 nurses/medical technicians, 100 general practitioners or family medicine specialists, and 100 dentists working in a primary health care sector in Canton Sarajevo. Additional inclusion criteria were age 18–65 years, while exclusion criteria were presence of chronic illness or pregnancy. The research included five primary healthcare centers in five municipalities in Canton Sarajevo.

### Questionnaire

The burnout syndrome level was tested by Maslach Burnout Inventory (16), consisting of 22 particles (3 subscales) that measure the level of EE, DP, and PA. The Likert type test scale was used, and the

subjects estimate to what extent each claim relates to them, ranging from 0 (never) to 6 (every day). A high level of EE is considered if a person within this scale scores  $>26$ , DP  $>9$ , and a low level of PA if a subject score is  $<33$  within this subscale.

In addition, sociodemographic parameters were documented with a questionnaire purposely designed for this research, including basic information on subjects and parameters for burnout syndrome. In the sociodemographic questionnaire we documented age, sex, marital status, profession, length of service, alcohol and tobacco use. In addition we documented variables regarding the working environment, such as: work in shifts, teamwork, and type of employment contract (whether for a fixed period or an indefinite period).

### Statistical analysis

For data analysis, we used IBM SPSS Statistics 20 software (SPSS Inc., Chicago, IL, USA). We tested the data for distribution normality and due to significant skew, analyzed them with nonparametric statistical test. We used Chi-square test and Spearman's rank correlation coefficient. Between-group comparisons for continuous data were done using the Chi-square test.

## RESULTS

The mean ( $\pm$ standard deviation) age of the participants was  $43.93 \pm 10.21$  (range from 24 to 64 years). The average length of employment was  $17.80 \pm 10.64$  years (range from 1 to 48 years).

Level of EE, DP, and PA for each of the groups of respondents are shown in Table 1. High levels of EE was observed in 25.3% of primary healthcare respondents, while 17.7% of them experience DP, and 19.0% of them feel a low level of PA. Individual group analysis showed that 29.0% of nurses/medical

technicians, 24.0% of doctors, and 23.0% of dentists experience a high level of EE (Table 2). In the DP subscale, 21.0% of nurses/medical technicians experience a high level of DP, while numbers are lower for doctors (14.0%) and dentists (18.0%). According to the results, 26.0% of nurses/medical technicians, 15.0% of doctors and 16.0% of dentists experience a low level of PA. The differences between the groups were not statistically significant in all the three subscales ( $p>0.05$ ) (Table 1).

There were 107 (35.7%) respondents age under 40 years and 193 (64.3%) age over 40 years. The difference between these two groups on the subscale of EE were statistically significant ( $p=0.000$ ), showing that younger respondents experience a higher level of EE than older ones. There was a statistically significant difference in PA subscale between males and females ( $p= 0.033$ ). The results show that females have a lower level of PA than males.

Regarding the working environment, 20 (6.7%) respondents prefer working alone, while 280 (93.3%) of the respondents work in a team. There were significant differences between these two groups of respondents in level of EE, DP, and PA. Nevertheless, a significant difference in level of EE ( $p = 0.006$ ) was found between those who worked only morning shift and those working long shifts. Respondents working long shifts experienced a higher level of EE. Furthermore subjects who had indefinite period employment contracts more frequently experience high levels of EE, compared to workers with fixed period contracts ( $p = 0.003$ ) (Table 2). We could not find the difference between the groups with fixed period employment contract and indefinite period employment contracts, withing the under the 40 years old group. Furthermore, there was no difference between the professions and employment contract.

**TABLE 1.** Burnout level by subscale in nurses/medical technicians, doctors, and dentists

Burnout level by subscale in health care workers in primary health care	High level of EE	High level of DP	Low level of PA
	n %	n %	n %
Nurses/medical technicians, n=100	29 (%)	21 (%)	26 (%)
Doctors, n=100	24 (%)	14 (%)	15 (%)
Dentists, n=100	23 (%)	18 (%)	16 (%)
Total, n=300	76 (25.3%)	53 (17.7%)	57 (19.0%)

EE: Emotional exhaustion, DP: Depersonalization, PA: Personal accomplishment

**TABLE 2.** Sociodemographic characteristics of the study population

Sociodemographic characteristics	n (%)	p-value		
		EE	DP	PA
Sex				
Male	69 (23.0)	0.436	0.517	0.033
Female	231 (77.0)			
Age				
Under 40	107 (35.7)	0.000	0.197	0.307
Over 40	193 (64.3)			
Employment contract				
Fixed period	24 (8.0)	0.003	0.213	0.166
Indefinite period	276 (92.0)			
Shift work				
Morning shift	79 (26.3)	0.006	0.988	0.095
Long shifts	221 (73.7)			
Drink alcohol		0.264	0.044	0.080
Yes	33 (11.0)			
No	267 (89.0)			

EE: Emotional exhaustion, DP: Depersonalization, PA: Personal accomplishment

Of the total number of healthcare professionals included in this study, 139 (46.4%) use tobacco while 161 (53.6%) do not. No statistically significant difference between these two groups of was found in the level of EE, DP or PA. Only 33 (11.0%) of the respondents use alcohol, and we found significant difference between alcohol users and non-users in a DP subscale ( $p = 0.04$ ), with alcohol users having higher levels of DP.

We also sought to analyze the existence of a correlation between the examined variables. The statistically significant correlation ( $p < 0.01$ ) exists between the experiences of high EE and age  $r = -0.276$ ; type of employment contract  $r = 0.172$  and shift work  $r = 0.157$ . There is also a statistically significant association ( $p < 0.05$ ) between alcohol consumption subjects and high experience of DP  $r = 0.116$ .

Sex is statistically significantly associated ( $p < 0.05$ ) with a low level of PA  $r = 0.123$ .

## DISCUSSION

Healthcare professionals are a high-risk group for developing symptoms of burnout syndrome (17). Work of healthcare professionals is emotionally demanding, enduring, and stressful (17). Previous

research has shown that burnout in doctors may lead to poor patient care, increased medical errors, and lead to poor treatment outcomes (18), which is ultimately a serious problem that should be prevented.

The results of this research suggest that 25.3% of healthcare professionals included in this study experienced a high level of EE, 17.7% DP, and 19.0% experience low level of PA. According to the results, nurses/medical technicians experience a higher level of burnout symptoms compared to the other two groups of subjects, doctors, and dentists. Nurses/medical technicians reported feeling higher level of EE in after work hours because they believe more exposed to organizational injustice and poor quality of sleep compared to the other two groups of respondents. They also feel less effective in solving patient's problems, as well as a lower sense of personal value and the value of work they do. The work environment and obligations are different for nurses/medical technicians and doctors. We hypothesize that nurses/medical technicians are more involved with patients during the day, and they take central part in caring for patients. Although they perceived a higher level of burnout symptoms, there was no statistically significant difference between them and doctors or dentists.

On the other hand, doctors are responsible for prescribing treatments, ethical dilemmas, and are responsible for reporting unfavorable information to patients or their family.

There was also no statistically significant difference between doctors and dentist at any subscale of burnout symptoms. The results in our study match earlier research (19) which shows no statistically significant difference in the perceived level of burnout between nurses/technicians and doctors at any subscale. Furthermore, our results are partly in line with research conducted in Europe and USA (12,19,20). These studies have shown that healthcare professionals experience from 27.5 to 37.9% high level of EE, 19.4 to 29.8% DP, and 12.8 to 15.3% low PA.

Studies have shown that women tend to have more symptoms of burnout (9,21). Women, more often than men, show and talk about their negative emotions with their friends and colleagues, while in many countries, men tend to suppress their emotional impulses (feelings) and live in line with their

cultural roles (the lack of emotion compared to women) (22). They are more inclined to accept cynical attitudes as a way of dealing with stress (22). However, women unlike men, in addition to their business obligations, have more household responsibilities and caring for children (22). In our research, there was a statistically significant difference between men and women in the subscale of PA, i.e., women had lower level of PA than men.

In this study, the results show that health care workers under the age of 40 experience a higher level of EE compared to older colleagues. According to Maslach and Jackson, younger subjects experience a higher level of EE and DP, while older respondents experience a higher level of PA (23). Burnout is most commonly reported at the beginning of a career, and it is likely that some people are being overburdened by their career due to the pressure and inability to overcome their difficulties (24). An explanation for high levels of EE and DP in younger workers might be lacking practical knowledge and skills to adequately overcome problems that arise in the workplace and which are experienced during work (9).

The working environment is recognized as a possible source of burnout symptoms, but also satisfaction (7). The key feature of a positive working environment is the ability to create a balance between private and professional life (7). According to Malliarou et al., work in shifts is a risk factor for burnout in a population of health care workers (25). The results of the research mentioned above were particularly related to shift work, including night shift of health care workers, and statistically significant association of EE with shift work (25).

In our research subjects who work in two shifts and who have indefinite period employment contract experienced a high level of EE compare to ones who work only morning shifts and have fixed period employment contract. The results obtained may explain that subjects who have fixed period employment contract are not working for an extended period in the current workplace compared to other colleagues, so they have not met most of the problems at the organization level.

Furthermore, during our research, we found that there is a statistically significant difference between

subjects who drink alcohol and subjects that do not. The subjects who drink alcohol experienced a statistically significantly high level of DP. People who drink alcohol have a positive expectancy of the effects that occur immediately after alcohol consumption and have low personal and social abilities for responding adaptively to stressors (26). Drinking alcohol is often a way of dealing with stressful and unpleasant situations or the way of regulating emotions (27).

### Limitations

There were several limitations to the present study. The first limitation was the potential for sampling bias, as the sample in the study was randomly selected only from the Public Institution Health Center of Canton Sarajevo. It is hard to generalize our findings to all healthcare professionals in Canton Sarajevo. The second point is that we only surveyed the burnout distribution in healthcare professionals and did not consider other psychological problems, such as depressive disorders and anxiety. The end sample size is small, and further longitudinal, more accurate studies are needed to confirm this merely preliminary report. Another limitation of our study is that we did not consider a family history of depression and stressful events. A future study may be required to examine the factors related to genetic or other environment variables. Healthcare professionals who did not respond to the survey could be completely different compared to those who were included in the study, and this could introduce substantial selection bias.

Our data were collected cross-sectionally, and it is not possible to establish any temporal link between the individual sociodemographic characteristics, work environment, lifestyle, and burnout syndrome. A cross-sectional design could be one of the limitations when interpreting associational results.

### CONCLUSION

Burnout symptoms are highly prevalent among primary healthcare professionals in Canton Sarajevo. Symptoms of burnout syndrome were more frequently associated with following factors: being nurse or medical technician, female, age under 40, having indefinite period employment contract, working long shifts, and drinking alcohol.



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