

## **Burnout among Healthcare Professionals in Bosnia and Herzegovina**

**MERSIHA JUSIĆ**

International University of Sarajevo, Faculty of Arts and Social Sciences,  
Department of Psychology, Hrasnička cesta 15, Ilidža Sarajevo.

### **Abstract**

Burnout, a state of stress-induced emotional, physical, and mental exhaustion, continues to be a topic of interest across a broad array of sciences. It is because burnout not only causes psychosomatic problems, but also has an effect on job performance, which is vital in high-stake professions. Therefore, exploring the level of healthcare professionals' burnout, and understanding which work-place factors are correlated with it, is of outmost importance. For this purpose, the present correlational study explored this issue in a convenience sample of 209 MDs and nurses from primary healthcare institutions in Bosnia and Herzegovina, including, for the first time, a comprehensive number of psychosocial factors at work. Interestingly, the majority of healthcare professionals scored low on burnout measures of MBI. Nevertheless, one fifth of participants had potential early warning signs of burnout. Compared to their colleagues in other European countries, Bosnian-Herzegovinian doctors experience lower yet comparable levels of emotional exhaustion, lower depersonalization, and higher sense of personal achievement. Furthermore, nurses show an even more beneficial trend on all three burnout dimensions. In addition, the study established some significant positive predictors of burnout dimensions pertaining to the work environment. More precisely, quantitative workload and decision-making demands were found to be positive predictors of emotional exhaustion, while the strongest predictors of depersonalization were work-place support (from colleagues and superiors) and self-esteem. Significant predictors of personal accomplishment were perception of mastery and work centrality. This suggests that burnout among healthcare professionals arises both from the immediate workplace factors and individual ones, therefore implicating institutions in its prevention and reduction.



### **Article History**

Received: 08 June 2021

Accepted: 01 October 2021


### **Keywords**

Burnout;  
Bosnia;  
Doctors;  
Herzegovina;  
Nurses;  
Work stress.

**CONTACT** Mersiha Jusić ✉ [mjusic@ius.edu.ba](mailto:mjusic@ius.edu.ba) 📍 International University of Sarajevo, Faculty of Arts and Social Sciences, Department of Psychology, Hrasnička cesta 15, Ilidža Sarajevo.



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Doi: 10.12944/CRJSSH.4.2.04

## Introduction

Stress, an inevitable phenomenon of everyday life, is especially present in the work environment. Exposure to stressors and inadequate coping mechanisms can make an individual more vulnerable to developing burnout. Burnout is defined as a state of mental and physical exhaustion, combined with feelings of frustration and personal failure (Maslach, Schaufeli and Leiter, 2001). Burnout is commonly conceptualized as consisting of three dimensions: emotional exhaustion, lack of energy and depleted emotional resources; depersonalization, interpersonal dimension expressed by negative, cold, and cynical attitudes towards service recipients, along with alienation and detachment; and lack of accomplishment, negative self-evaluation, perception of inefficiency (Maslach, Schaufeli, and Leiter, 2001). While burnout can happen in any profession, it is more prevalent in human service professions, that involve a greater extent of personal involvement and communication (Maslach and Leiter, 2016), which undoubtedly involves MDs and nurses.

Research shows that burnout is on the rise among healthcare professionals, with one in three physicians experiencing burnout at any given time (De Hert, 2020), and presenting a serious threat to their own health as well as organizational resources. Depending on the work conditions and specialty, burnout among MDs is frequent. For example, one wide-ranging study involving 3393 family doctors from twelve European countries showed that 44% had high level of emotional exhaustion, 35% were of high depersonalization, 32% had lack of accomplishment, while 12% showed burnout on all three dimensions (Soler *et al*, 2008). This was confirmed by a recent study in Croatia which has detected emotional exhaustion in 43.6%, depersonalization in 33.5%, and reduced personal accomplishment in 49.1% of the sample (Obadić and Mlakar, 2019).

While researchers have used different measures and came up with different estimations of burnout prevalence among physicians and nurses, it is widely recognized that psychosocial factors at work might be important contributors to burnout (Lindblom *et al*, 2006). Psychosocial factors at work include work demands that refer to the workload both in terms of quantity and complexity of work, work

control that refers to real or perceived freedom to regulate certain aspects of work, and to be involved in decision making, social support from colleagues and superiors, organizational climate and culture, includes values of the organization, etc. (Dallner *et al*, 2000). A more general and widely accepted perspective on these factors' impact is seen in Job-Demands-Resources model (Demerouti *et al*, 2001), which states that job demands are associated with certain psychological costs, therefore fueling stress and burnout, while on the other hand, job resources, referring to various work aspects that aid to achieving work goals and/or stimulate personal growth, lead to high work engagement, consequently hindering burnout (Demerouti *et al*, 2001). For instance, Lindeberg *et al*. (2011) found that job strain further increased the risk for burnout. As an illustration, one study in the region has shown a positive correlation between number of patients and burnout dimension of emotional exhaustion, i.e. doctors with greater number of patients were more prone to emotional exhaustion (Toševski *et al*, 2006). However, other fine-tuned factors referring to job demands and resources were not studied in burnout literature on healthcare professionals in Bosnia and Herzegovina.

Exploration of burnout predictors is important from the standpoint of the organization, especially if some of the identified variables can be influenced by the management. Burnout affects overall health of healthcare professionals, but also patient outcomes and health institutions through its influence on patient care, professionalism, and economic losses (Patel *et al*, 2018). Burnout decreases patient satisfaction (Halbesleben and Rathert, 2008), which in combination with possible medical errors (Shanafelt *et al*, 2010) may lead to disregarding the treatment, seeking second opinions, and eventually initiating litigations for maltreatment (Balch *et al*, 2011).

Scarcity of studies that employed MBI measurement of burnout in Bosnia and Herzegovina calls for more exploration of the topic showing a significant level of burnout, although rough comparison with other countries seems favorable (Pranjić, 2006; Toševski *et al*, 2006; Džubur *et al*, 2018). However, two studies conducted in single large health centers in Bosnia and Herzegovina showed somewhat worse picture (Selmanović *et al*, 2011; Stanković *et al*, 2019). More precisely, that 37.4%

and 20.9% of subjects respectively had a high level of emotional exhaustion, 45.6% and 43.2% a high level of depersonalization, and 50.3% and 36.9% a low level of personal accomplishment. Using a different burnout measure, one study found that 86% of participants in one clinic center in Bosnia and Herzegovina show no signs of burnout, while the rest had moderately intense symptoms (Vukojević *et al*, 2014).

Considering these conflicting findings, it seems that burnout intensity among healthcare professionals has remained unclear. Furthermore, distinctiveness of Bosnian-Herzegovinian post-war transitional society burdened with ongoing social and economic issues, reflecting on work context as well, adds value to scientific inquiry of this topic. Finally, considering the overall disregard of psychosocial factors at workplace as burnout determinants that is evident in the existing literature on burnout among healthcare professionals in Bosnia and Herzegovina, this research brings a valuable contribution by including a wider array of psychosocial variables, that pertain to interpersonal, organizational, and individual level. Therefore, the research question of the present study is how intensive burnout symptoms are in healthcare professionals and how they relate to psychosocial and other workplace factors.

## Methodology

### Participants and Procedure

This correlation study was conducted on a convenience sample of 230 participants, MDs and nurses/technicians employed in public healthcare system in Bosnia and Herzegovina. Survey was administered by researcher's assistant in seven primary healthcare institutions, upon consent from management and during working hours. Participants were informed about the aims of the study and their participation was voluntary. Implementation of the questionnaire took approximately 20 minutes. Due to incomplete data, the sample was reduced to 209 (105 medical doctors and 104 nurses/technicians). Among MDs there were 62.9% females, and among nurses 79%. Average age of MDs was 42.3 (SD=11.1), compared to 39.8 (SD=9.0) in nurses. Average duration of involvement with the organization for doctors was 10.3 years (SD=9.7), and for nurses 14.7 years (SD=8.6). 27.3% of the whole sample was involved in family practice, while the rest were engaged in specialist departments.

Majority of the sample (87%) were employed under a permanent working contract.

### Instruments

The sociodemographic questionnaire, Maslach Burnout Inventory (MBI), Rosenberg Self-Esteem Scale (RSES), Psychosocial Questionnaire (QPS) were used in the study.

Sociodemographic questionnaire included items about age, gender, educational level, occupation, workplace, duration of employment in the organization, duration of current workplace employment, type of working contract, working hours, and working regime.

MBI developed by Maslach (Maslach and Jackson, 1981) contains 22 items that constitute three subscales: Emotional Exhaustion (EE) (9 items), Depersonalization (DP) (5 items), and Personal Accomplishment (PA) (8 items), each with 7-point Likert-type, frequency response scale (0=never, 1=a few times a year or less, 2=once a month or less, 3=a few times a month, 4=once a week, 5=a few times a week, 6=every day). Higher scores on the EE and DP subscales indicate more intensity of burnout, as well as lower scores on the PA subscale. Cronbach's Alpha coefficient for Emotional Exhaustion scale of MBI was .091, for Depersonalization .64, and for Personal Accomplishment .77, indicating acceptable internal consistency.

Rosenberg Self-Esteem Scale is a 10-item scale that measures global self-worth by measuring both positive and negative feelings about the self (Rosenberg, 1965). The scale is believed to be uni-dimensional. All items are answered using a 4-point Likert-type scale ranging from strongly agree to strongly disagree. Cronbach's Alpha coefficient was .79.

Questionnaire of Psychosocial Factors- QPSNordic (Dallner *et al*, 2000), translated and adapted version, contains subscales regarding job demands, role expectations, control at work, predictability at work, social interactions, leadership, organizational culture and climate, interaction between work and private life, work centrality, commitment to organization, perception of group work, and work motives. QPS contains 123 questions. At job task level the

scale contains nine factors/scales: quantitative job demands, decision-making demands, learning demands, role clarity, role conflict, positive challenge at work, control of decision, control of work pacing, short-term predictability, long-term predictability, preference for challenge, perception of mastery. At social and organizational level the questionnaire contains following subscales: social interactions (workplace support: support from superior, support from co-workers; support from friends and relatives), leadership (empowering leadership, fair leadership), organizational culture and climate (social climate, innovative climate, inequality, human resource primacy), interaction between work and private life, work centrality, commitment to organization, perception of group work, work motives (intrinsic and extrinsic motivation). Items are answered on Likert-type scales ranging from strongly agree to

strongly disagree, yielding reliability of Cronbach's Alpha ranging from .60 to .88. Items referring to witnessing or experiencing mobbing at the workplace were removed to ensure the anonymity feeling in participants and to make sure the overall data can be trusted.

### Statistical Analysis

Violation of normality distribution was detected using Kolmogorov-Smirnoff test. Therefore, nonparametric statistic procedures were used to examine the data, namely  $\chi^2$  and Spearman's correlation coefficient ( $\rho$ ), along with ANOVA, which is considered insensitive to normality violations (Blanca *et al*, 2017). Along with descriptive statistics, standard multiple regression analysis was conducted, using enter method. Data was analyzed using SPSS 20.00 programme for Windows.

**Table 1: Levels of emotional exhaustion, depersonalization, and personal accomplishment in the sample**

|                                        | Physicians<br>N(%) | Nurses<br>N(%) | Physicians<br>M±SD | Nurses<br>M±SD |
|----------------------------------------|--------------------|----------------|--------------------|----------------|
| Emotional Exhaustion                   |                    |                | 18,36±12,04        | 13,82±12       |
| High (≥27)                             | 24 (22,9%)         | 19 (18,3%)     |                    |                |
| Medium (14-26)                         | 40 (38,1%)         | 21 (20,2%)     |                    |                |
| Low (≤13)                              | 41 (39,0%)         | 64 (61,5%)     |                    |                |
| Depersonalization                      |                    |                | 3,50±4,69          | 2,69±3,40      |
| High (≥10)                             | 11 (10,5%)         | 6 (5,8%)       |                    |                |
| Medium (6-9)                           | 16 (15,2%)         | 16 (15,4%)     |                    |                |
| Low (≤5)                               | 78 (74,3%)         | 82 (78,8%)     |                    |                |
| Personal Accomplishment                |                    |                | 39,18±7,45         | 39,80±7,92     |
| High (≥40)                             | 58 (55,2%)         | 63 (60,6%)     |                    |                |
| Medium (34-39)                         | 29 (27,6%)         | 25 (24,0%)     |                    |                |
| Low (≤33)                              | 18 (17,1%)         | 16 (15,4%)     |                    |                |
| Unfavorable result on all three scales | 3 (2,9%)           | 0 (0%)         |                    |                |
| Unfavorable result on two scales       | 15 (14,3%)         | 5 (4,8%)       |                    |                |
| Unfavorable results on any one scale   | 24 (22,9%)         | 19 (18,3%)     |                    |                |
| Favorable result on all three scales   | 31 (29,5%)         | 35 (33,6%)     |                    |                |

### Results

Regarding intensity of burnout symptoms, the results show low levels according to norms defined by Maslach and Jackson (Alacaciouglu *et al*, 2009). These norms are presented in Table 1 above, showing that only 3% of physicians exhibit full pattern of burnout, meaning high emotional exhaustion, high depersonalization, and low personal accomplishment. Emotional

exhaustion, often considered as the core dimension of burnout (Maslach *et al*, 2001), is of medium level in our physician sample, and lower (on the border of medium and low) in nurses' sample. Roughly a third of the sample exhibits favorable results on all three scales, meaning low emotional exhaustion, low depersonalization, and high personal accomplishment.

Unfavorable result on any single one of the three scales was found in 20.6% of the sample, which is considered an early warning sign of burnout.

Emotional exhaustion and depersonalization were statistically significantly positively correlated ( $r=0.34$ ,  $p<0.01$ ), and both were negatively correlated with

personal accomplishment ( $r=-0.28$  both,  $p<0.01$ ). Physicians exhibited statistically significantly higher level of emotional exhaustion compared to nurses. There was no statistically significant difference in levels of depersonalization and personal accomplishment between the two groups of healthcare professionals (Table 2).

**Table 2: One-way ANOVA comparing dimensions of burnout in physicians and nurses**

|                                |                | Sum of Squares | df  | F    | p       |
|--------------------------------|----------------|----------------|-----|------|---------|
| <b>Emotional Exhaustion</b>    | Between groups | 1079,11        | 1   | 7,46 | 0,007** |
|                                | Within groups  | 29935,78       | 207 |      |         |
|                                | Total          | 31014,89       | 208 |      |         |
| <b>Depersonalization</b>       | Between groups | 34,49          | 1   | 2,05 | 0,154   |
|                                | Within groups  | 3484,40        | 207 |      |         |
|                                | Total          | 3518,89        | 208 |      |         |
| <b>Personal Accomplishment</b> | Between groups | 27,23          | 1   | 0,46 | 0,498   |
|                                | Within groups  | 12232,15       | 207 |      |         |
|                                | Total          | 12259,38       | 208 |      |         |

\*\* $p<0,01$

Some gender differences were detected, as descriptive measures roughly show (Table 3).

A one-way between subjects' ANOVA was conducted to compare the effect of gender on intensity of burnout dimensions. There was a significant effect of gender on intensity of depersonalization among physicians [ $F(1,103)=6.635$ ,  $p=0.011$ ]. There was also a significant effect of gender

on personal accomplishment [ $F(1,103)= 4,753$ ,  $p=0.032$ ]. Overall, female physicians demonstrated statistically significantly lower depersonalization and higher personal accomplishment compared to their male colleagues, while no statistically significant difference was detected in emotional exhaustion intensity in both physicians [ $F(1,103)=1.338$ ] and nurses [ $F(1,102)=1.339$ ], both  $p>0.05$ .

**Table 3: Descriptive statistics for MBI subscales in physicians and nurses**

|                                      | Male M±SD   | Female M±SD |
|--------------------------------------|-------------|-------------|
| Emotional Exhaustion (physicians)    | 20,13±12,06 | 17,32±12,00 |
| Depersonalization (physicians)       | 5,00±5,54   | 2,62±3,89   |
| Personal Accomplishment (physicians) | 37,05±8,04  | 40,27±6,85  |
| Emotional Exhaustion (nurses)        | 11,40±11,23 | 14,58±12,21 |
| Depersonalization (nurses)           | 2,52±3,10   | 2,74±3,51   |
| Personal Accomplishment (nurses)     | 41,84±4,59  | 39,15±8,64  |

One of important determinants of burnout according to literature is age (Maslach *et al*, 2001; Peisah *et al*, 2009). In order to explore the association with burnout, correlation was calculated with each of burnout's dimensions (Table 4). Age of physicians

(measured in years) is statistically significantly negatively correlated with depersonalization, while the opposite is detected in nurses. However, regarding two other burnout dimensions, no statistically significant correlation was found.

**Table 4: Spearman's correlation of age and burnout dimensions**

| Age (nurses)     |                   | Emotional Exhaustion | Depersonalization | Personal Accomplishment |
|------------------|-------------------|----------------------|-------------------|-------------------------|
|                  | Spearman's $\rho$ | 0,129                | 0,200*            | -0,035                  |
|                  | p                 | 0,096                | 0,021             | 0,363                   |
|                  | N                 | 104                  | 104               | 104                     |
| Age (physicians) |                   |                      |                   |                         |
|                  | Spearman's $\rho$ | 0,011                | -0,175*           | 0,022                   |
|                  | p                 | 0,454                | 0,037             | 0,413                   |
|                  | N                 | 105                  | 105               | 105                     |

\* $p < 0,05$

Regarding the only personality variable in this study, physicians and nurses displayed comparable levels of self-esteem (43,37 and 42,56 respectively). In physicians, self-esteem was statistically significantly correlated with all three burnout dimensions, negatively with emotional exhaustion and depersonalization ( $\rho = -0.30$  and  $\rho = -0.28$  respectively, both  $p < 0.01$ ), and positively with

personal accomplishment ( $\rho = 0.30$ ,  $p < 0.01$ ). On the other hand, in nurses, the only statistically significant correlation was with depersonalization ( $\rho = -0.20$ ,  $p < 0.05$ ).

Correlations of burnout dimensions with qualitative and quantitative work demands are presented in Table 5.

**Table 5: Spearman's correlation coefficient between psychosocial workplace factors and burnout dimensions**

|                              | Emotional Exhaustion | Depersonalization | Personal Accomplishment |
|------------------------------|----------------------|-------------------|-------------------------|
| Quantitative demands         | 0,437**              | 0,177**           | -0,067                  |
| Decision demands             | 0,395**              | 0,246**           | -0,110                  |
| Role clarity                 | -0,016               | -0,266**          | 0,123*                  |
| Role conflict                | 0,289**              | 0,316**           | -0,181**                |
| Positive challenge           | 0,106                | -0,114            | 0,153*                  |
| Control of decision          | -0,026               | -0,086            | 0,310**                 |
| Control of work pacing       | 0,062                | 0,051             | 0,159*                  |
| Short-term predictability    | 0,043                | -0,142*           | 0,085                   |
| Long-term predictability     | -0,079               | -0,137*           | 0,044                   |
| Preference for challenge     | -0,067               | 0,103             | 0,060                   |
| Perception of mastery        | -0,085               | -0,202**          | 0,313**                 |
| Workplace support            | -0,220**             | -0,339**          | 0,287**                 |
| Support family and relatives | 0,069                | -0,151*           | 0,144**                 |
| Empowering leadership        | -0,097               | -0,110            | 0,219**                 |
| Fair leadership              | -0,261**             | -0,279**          | 0,267**                 |
| Social climate               | -0,248**             | -0,172**          | 0,226**                 |
| Innovative climate           | -0,087               | -0,163**          | 0,131*                  |
| Inequality                   | 0,157*               | 0,238**           | -0,244**                |
| Human resource primacy       | -0,365**             | -0,233**          | 0,249**                 |
| Work-family conflict         | 0,339**              | 0,244**           | -0,231**                |
| Family-work conflict         | 0,084                | 0,251**           | -0,087                  |
| Work centrality              | -0,194**             | -0,146*           | 0,226**                 |

|                            |          |          |         |
|----------------------------|----------|----------|---------|
| Commitment to organization | -0,320** | -0,181** | 0,305** |
| Perception of group work   | 0,041    | -0,140   | 0,327** |
| Intrinsic motivation       | 0,044    | -0,100   | 0,191** |
| Extrinsic motivation       | 0,038    | -0,079   | 0,095   |

\*p<0,05, \*\*p<0,01

In order to explore the prediction strength of burnout correlates, standard multiple regression analysis was performed, including all three dimensions of burnout as criteria variables, and predictors being variables showing statistically significant correlation with emotional exhaustion, depersonalization, and personal accomplishment. Regarding emotional exhaustion, the analysis included variables shown in Table 6 below. F (12,204) was 9,57 (p<0,001), which indicates this combination of predictors

can statistically significantly predict emotional exhaustion. Multiple correlation coefficient (R) using all predictors simultaneously was 0.61 (R<sup>2</sup>=0,374, corrected R<sup>2</sup>= 0,335), indicating that 33,5% of variance in emotional exhaustion can be accounted for by these independent variables. The most contributing predictors of emotional exhaustion were quantitative demands (β= 0,19, p<0,05) and decision demands (β=0,16, p<0,05).

**Table 6: β coefficients of predictor variables with Emotional Exhaustion**

|                            | Standardized  |        |        |
|----------------------------|---------------|--------|--------|
|                            | coefficient β | t      | p      |
| Occupation                 | 0,120         | 1,934  | 0,055  |
| Quantitative demands       | 0,193         | 2,507  | 0,013* |
| Decision demands           | 0,165         | 2,236  | 0,026* |
| Role clarity               | 0,051         | 0,840  | 0,402  |
| Role conflict              | 0,120         | 1,649  | 0,101  |
| Workplace support          | 0,045         | 0,585  | 0,559  |
| Fair leadership            | 0,035         | 0,403  | 0,688  |
| Human resource primacy     | -0,141        | -1,659 | 0,099  |
| Work-family conflict       | 0,126         | 1,889  | 0,060  |
| Work centrality            | -0,096        | -1,500 | 0,135  |
| Commitment to organization | -0,147        | -1,885 | 0,061  |
| Self-esteem                | -,0082        | -1,344 | 0,181  |

\*p<0,05

The same procedure was conducted with the other two dimensions of burnout (Table 7 and Table 8). Regarding depersonalization, F (16,204) of 3,07 (p<0,001) indicates that the proposed combination of predictors statistically significantly predicts depersonalization. Multiple correlation coefficient (R) using all predictors simultaneously was 0.455 (R<sup>2</sup>=0,207, corrected R<sup>2</sup>= 0,140), indicating that 14 % of variance in depersonalization can be accounted for by these independent variables. The most contributing predictors of depersonalization were workplace support (β= 0,20, p<0,05) and self-esteem

(β=0,20, p<0,01). Bordering on significance was the variable of family-work conflict (β=0,14, p=0,053).

Lastly, with regard to personal accomplishment, multiple regression analysis yielded F (14,115) of 4,14 (p<0,001), indicating that the proposed combination of predictor variables statistically significantly predicts this dimension of burnout. Multiple correlation coefficient (R) using all predictors simultaneously was 0.604 (R<sup>2</sup>=0,365, corrected R<sup>2</sup>= 0,276), indicating that 27,6 % of variance in personal accomplishment can be accounted for by

these predictors. The most contributing predictors of personal accomplishment were work centrality ( $\beta=0,26$ ,  $p<0,01$ ) and perception of mastery ( $\beta=0,21$ ,  $p<0,05$ ). Bordering on significance was the variable of workplace support ( $\beta=0,25$ ,  $p=0,053$ ).

**Table 7:  $\beta$  coefficients of predictor variables with Depersonalization**

|                            | Standardized        |        |         |
|----------------------------|---------------------|--------|---------|
|                            | coefficient $\beta$ | t      | p       |
| Occupation                 | 0,085               | 1,182  | 0,239   |
| Age                        | -0,053              | -0,701 | 0,484   |
| Quantitative demands       | 0,088               | 1,007  | 0,315   |
| Decision demands           | 0,005               | 0,065  | 0,948   |
| Role clarity               | -0,038              | -0,487 | 0,627   |
| Role conflict              | 0,149               | 1,761  | 0,080   |
| Perception of mastery      | 0,074               | 0,889  | 0,375   |
| Workplace support          | -0,205              | -2,195 | 0,029*  |
| Fair leadership            | 0,062               | 0,623  | 0,534   |
| Innovative climate         | -0,058              | -0,695 | 0,488   |
| Inequality                 | 0,030               | 0,388  | 0,699   |
| Human resource primacy     | -0,012              | -0,117 | 0,907   |
| Social climate             | -0,002              | -0,021 | 0,984   |
| Family-work conflict       | 0,137               | 1,950  | 0,053   |
| Commitment to organization | 0,015               | 0,172  | 0,864   |
| Self-esteem                | -0,203              | -2,705 | 0,007** |

\* $p<0,05$ ; \*\* $p<0,01$

**Table 8:  $\beta$  coefficients of predictor variables with Personal Accomplishment**

|                            | Standardized        |        |         |
|----------------------------|---------------------|--------|---------|
|                            | coefficient $\beta$ | t      | p       |
| Occupation                 | -0,059              | -0,651 | 0,517   |
| Gender                     | 0,007               | 0,083  | 0,934   |
| Decision demands           | 0,069               | 0,696  | 0,488   |
| Perception of mastery      | 0,207               | 2,052  | 0,043*  |
| Workplace support          | 0,246               | 1,961  | 0,053   |
| Empowering leadership      | 0,088               | 0,774  | 0,441   |
| Fair leadership            | -0,143              | -1,214 | 0,227   |
| Inequality                 | -0,017              | -0,195 | 0,846   |
| Human resource primacy     | 0,002               | 0,022  | 0,983   |
| Work-family conflict       | -0,118              | -1,293 | 0,199   |
| Work centrality            | 0,257               | 3,015  | 0,003** |
| Commitment to organization | 0,082               | 0,743  | 0,459   |
| Perception of group work   | 0,066               | 0,640  | 0,523   |
| Self-esteem                | 0,099               | 1,019  | 0,311   |

\* $p<0,05$ ; \*\* $p<0,01$



## Discussion

The main research goal of the present article was to establish burnout levels in healthcare professionals in Bosnia and Herzegovina, and their association with various psychosocial factors at work. Around one third of the sample displayed fully favorable score pattern of burnout (low emotional exhaustion, low depersonalization, and high personal accomplishment). On the other hand, unfavorable result on all three scales, i.e. full pattern of burnout, was barely detected (2.9% of doctors, and 0% of nurses), whereas unfavorable result on any two scales was detected in 14.4% of doctors, and 4.8% of nurses. Likewise, an unfavorable result on either one dimension of burnout was displayed by 22.9% of doctors and 18.3% of nurses. Regarding levels of all three dimensions of burnout, the results of this study are in line with a recent one using the same methodology, conducted in Sarajevo Canton (Džubur *et al*, 2018). However, compared to other burnout studies depersonalization is significantly lower, while personal accomplishment is higher (Pranjić, 2006; Selmanović *et al*, 2011; Stanković *et al*, 2019). Taken together, our results indicate that emotional exhaustion seems to be the most prominent dimension of burnout in our sample.

When compared to their colleagues in Europe it seems like healthcare professionals in Bosnia and Herzegovina display lower but comparable levels of emotional exhaustion, lower depersonalization, and higher level of personal accomplishment. Compared to theoretical norms set by Maslach, levels of burnout, defined on all three dimensions simultaneously, generally seem to be low. Although there is a substantial variability of burnout prevalence stemming from differences in burnout definitions (Rotenstein *et al*, 2018), this percentage is still lower compared to results of current burnout studies. One UK study, for example, showed that physician burnout scores for emotional exhaustion ranged from 31 to 54.3%, depersonalization 17.4 to 44.5% and low personal accomplishment 6 to 39.6% (Imo, 2017). The comparison with somewhat outdated but comprehensible EGPRN study (Soler *et al*, 2008), illustrates the same point showing that 44% of GPs in Europe displays high level of emotional exhaustion, 35% high depersonalization, and 32% low personal accomplishment. Respective percentages of physicians in our sample are 22.9, 10.5, and 17. Therefore, according to our data, the experience of

burnout in all three of its dimensions among Bosnian-Herzegovinian physicians is below European average. Nurses as well fare much better than their colleagues abroad, with much less emotional exhaustion and depersonalization, accompanied by higher sense of personal accomplishment. For illustration purposes, compared with 32.3 % of those experiencing high emotional exhaustion, and 27.7% experiencing high depersonalization in one Italian study (Vitale, Cesano, and Germini, 2020), respective percentages in our sample's nurses were 18.3% and 5.8%. Comparisons with other studies using similar methodology and instruments confirm the conclusion of less burnout among Bosnian-Herzegovinian nurses. This encouraging indicator might be interpreted in various ways besides the cultural differences, response style, coping mechanisms, and social desirability of expressing symptoms.

Furthermore, this study yielded interesting results regarding higher emotional exhaustion in physicians compared to nurses. Although nurses spend more time directly interacting with patients, doctors carry higher job demands and responsibility for the treatment outcome, which presumably leads to more stress and therefore more emotional exhaustion. Higher exposure of doctors to emotional and cognitive demands, compared to nurses, has been established in other studies as well (Ilić *et al*, 2017). In addition, this study shows that younger doctors and older nurses are more prone to depersonalization. This might be tackled by promoting engagement and meaningfulness of work-related experiences, that comprise of the connection with patients and making a difference in other people's lives.

Moreover, some gender differences were expected and confirmed, namely, that depersonalization dimension of burnout, often considered as a defense mechanism of objectifying patients and distancing oneself from them, is more prominent in male than in female physicians. This might indicate differences in acquired gender roles, also found in other studies (Purvanova and Muros, 2010). Also, personal accomplishment perception was significantly higher in female than in male physicians, which might manifest satisfaction in obtaining a high-status professional career given the gender-role expectations. However, this result is opposite of what Džubur *et al* (2018) found, that male health

professionals exhibit higher sense of personal accomplishment than female. Nevertheless, their conclusion is based on the whole sample (including doctors, nurses, and dentists), while our refers only to doctors.

Our results also indicate that personality seems to play a role in burnout, as self-esteem was found correlated with all three of its dimensions. The higher the self-esteem, the lower emotional exhaustion and depersonalization, and the higher personal accomplishment. It seems like self-esteem serves as a protective factor when it comes to burnout. However, based on this research, it is not conclusive if self-esteem is a determinant of burnout, or a moderating variable between different psychosocial factors included in burnout process. It is plausible that self-esteem serves as a personal resource, mitigating between strains and responses. Previous research has found personal resources to be negatively associated with burnout (Ilić *et al*, 2017).

The abundance and complexity of factors summarized under workplace "psychosocial" factors can provide healthcare institutions' management with useful guidance that benefits their organizations. Firstly, based on our results, one dimension of burnout that healthcare institutions should acknowledge and focus mostly on is emotional exhaustion, especially in doctors. Since it is mostly predicted by quantitative demands (work overload) and decision demands, it is plausible to expect that reducing work load would also reduce risk of emotional exhaustion. Decision-making demands, being inherent to the job itself are more difficult to modify. However, some form of shared decision-making could relieve this burden as well (Dobler *et al*, 2017).

Secondly, this study has identified some organizational resources which are negatively associated with emotional exhaustion, that are highly modifiable. Namely, human resource primacy, commitment to organization, fair leadership, social climate, workplace support, etc. can all be affected by an organizational policy. Promotion and reinforcement of values that are at the core of what makes a supporting and stimulating work environment seems to be a way to benefit both employees and institutions. Similarly, our results have confirmed the importance of social support in the workplace. Since the best predictors of

depersonalization were workplace support and self-esteem, strengthening workplace support (support from colleagues and from the superior) would likely have an effect on depersonalization. It seems that various forms of social support modify one's experience of job demands, by providing not only emotional support, but also informational and actual assistance to the work (Halbesleben, 2006). Likewise, many statistically significant negative correlations of burnout were of organizational nature besides workplace support, such as fair leadership, human resource primacy, social climate, innovative climate, etc. The aforementioned psychosocial variables can be improved to benefit employees, and contribute to psychologically healthier work environment. Boosting self-esteem by measures that overlap with the aforementioned nurturing and stimulating work setting would presumably have a similar effect. In contrast, personal accomplishment as final dimension of burnout, seems to be best predicted by work centrality and perception of mastery. This finding might imply that personal accomplishment is more affected by one's own (more permanent) relationship towards their work and performance, as well as the role it plays in one's life.

Nevertheless, this study has potential limitations. Apart from its correlational nature that prevents causal interpretations, this study also has shortcomings relating to measures based on self-report. Another limitation refers to non-probability sampling and are relatively small number of participants that prevent us from making generalizations based on research findings. Furthermore, the fact that some health professionals declined their participation might have made the sample itself selected based on burnout level, meaning that those who were more stressed were possibly left out from the study, due to their perception of lacking time. This might have yielded a more advantageous picture of the overall burnout level. Although this possibility cannot be ruled out, our results do confirm findings on emotional exhaustion level of previous Bosnian-Herzegovinian studies, a core component of burnout, indicating the sample bias is most probably small or non-existent.

Results of the present study, however, not only provide a reference point in further monitoring of burnout levels among healthcare professionals in primary healthcare institutions in Bosnia and Herzegovina,

but also point out to many organizational factors, indicating that burnout is not only a matter of an individual, but also a system issue, requiring to be addressed on many levels. It is plausible that best results in prevention and early detection of burnout are achieved through intervention tailored to meet specific needs of an organization, explored through action research. Nevertheless, generally stimulating and supportive work environment remains a standard recommendation as to how to achieve that goal, regardless of the institution's particularities. Institutions may also act on individual level, through stress management training programs, considering that stress might be considered a precursor of burnout, more specifically, its core dimension-emotional exhaustion. Resources needed for an individual to prevent, and, if needed, tackle burnout, should be made available by institutions. Likewise, it seems important, especially at the beginning of the

healthcare career, to have employees' expectations and goals resemble realistic work environment as much as possible. Educational interventions like these can be directed to the group level, including also management and communication training, support groups, team building sessions, mental health awareness campaigns, etc.

#### Acknowledgement

Researcher gives thanks to healthcare institutions management for enabling this research to be conducted, as well as to healthcare professionals for their valuable given time.

#### Funding

No specific funding was received for this study.

#### Conflict of Interest

Nothing to declare.

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