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Exposure to Stress and the Burnout Syndrome in Healthcare Workers, Expert Workers, Professional Associates and Associates in Social Service Institutions

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Abstract: Background: The workplace burnout syndrome is often associated with particular aspects of certain job positions, especially those which entail working with people with special needs. The burnout syndrome in healthcare jobs is a serious problem which has grown into an epidemic among healthcare workers and associates. **Objectives:** The aim of this research is to assess the presence of stress and burnout syndrome at work with healthcare workers, expert workers, professional associates and associates in social service institutions in Belgrade. **Material and Methods:** This research has been conducted in the form of a cross-sectional study of a representative sample in social institutions in Belgrade. It has been conducted from March to the end of June of 2023. The sample of the study had 491 participants. The questionnaires used were a structured instrument with social-demographic and social-economic characteristics, workplace characteristics, life style characteristics, and the following questionnaires: DASS-21, Copenhagen, Brief Resilience Scale, and Brief Resilient Coping Scale. **Results:** The end results indicate the following to be significant risk factors for the occurrence of workplace burnout syndrome: overtime (OR=2.62; CI=1.50-4.56), BRS average score (OR=0.28; CI=0.17-0.44), DASS21 D heightened depression (OR=2.09; CI=1.1-4.04), DASS21 A heightened anxiety (OR=2.38; CI=1.34-4.21), DASS21 S heightened stress (OR=2.08; CI=1.11-3.89). The only protective risk factor which stood out was the self-assessment of health levels (OR=0.60; CI=0.42-0.85). **Conclusion:** Overtime is a significant predictor of workplace burnout. Apart from it, other significant predictors of workplace burnout were heightened depression, anxiety, and stress levels.

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Keywords: burnout syndrome; stress; resilience; social institutions; job - professional person

1. Introduction

In today's modern world, stress has become an inevitable part of the human life. Its causes and effects are numerous, and many individuals are continuously exposed to stress amid difficult professional circumstances. Stress, especially for those working in healthcare and social services, can have deep and significant impact on physical, mental, and emotional state of an individual.

Today, different behaviour patterns and illnesses are related to stress occurrence. The notion of stress can be found in literature as the notion of many scientific disciplines. Still, as it is inevitably tied to it, it is mostly connected to jobs where communication and working with people are predominant [1]. Workload significantly impacts exhaustion, work quality, motivation, and job satisfaction. All these are conditions which interfere with team communication, cause fatigue, and together, endanger the health of the employees as well as patients' safety [2]. Extended exposure to situations which the organism recognizes as a threat may lead to a number of disorders which all have a negative impact on basic life functions and the working abilities of a person, as well as their health state [3]. Inadequate communication, and especially bad relationships are a factor which adds to the development of this syndrome [4]. The burnout syndrome occurs after long-term exposure to significant stress, especially in situations of others' great expectations. According to data so far, this is classified as professional stress and has an impact on job positions in regards to working with people in job spheres predominantly oriented to providing certain help to other people. Research with people of different job profiles showed higher tendencies towards burnout with people of great potential and great expectations, i.e. ambition, and the riskiest groups are healthcare, social services, and education work fields [5].

Out of 40 participating job positions, the highest stress levels had healthcare workers, as published by the American National Association of Safety Professionals. In their study, they have concluded that medical care workers are significantly more exposed to stress, and, unlike many other jobs, they show organism exhaustion, absence from work, environment and family problems, as well as mental and physical disorders, according to Engen Maye et al. in 2013 [6].

Within their profession, social workers face numerous difficulties while working with different profiles, including persons with psychological problems, developmental problems, and dementia. Once the workload of the social worker becomes too heavy, and the personal well-being is constantly put aside, the burnout risk grows significantly. The burnout may be worsened by feeling tired and vice versa, which is the essential reason for social workers and associates recognize and understand signs and symptoms of both [1]. Workplace stress was studied as well, and it was pointed out that work management, career advancement, the role of the individual, work tasks, work environment, work conditions, and working in shifts are the most significant group of stressors. Long-term exposure to those stressors may lead to burnout syndrome characterized by mental, physical, or both mental and physical exhaustion [7].

Workplace burnout syndrome is often associated with particular aspects of certain jobs, especially those in relation to people with difficulties. According to research of workplace burnout syndrome, jobs such as medical and social workers, prison workers, and lawyers are particularly sensitive [7].

Demographic variables in positive correlation with burnout syndrome, according to the research, are gender, age, education, marital status, and work experience.

Burnout syndrome in healthcare is a serious problem, an epidemic among healthcare workers and associates. A damaging impact on psycho-physical health of the employees has been confirmed, as well as the quality of services they provide, patients' safety and the maintenance of the health system [8]. The prevalence of burnout syndrome among healthcare workers is varied, yet the majority of studies show it to be around 50% [9].

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The burnout syndrome may also have a long-term impact on the mental health of the healthcare workers, as well as the quality of their lives. Its prevention demands an active management of resources and changes in the work environment, as well as the development of personal characteristics which can help with stress.

The main aim of this research is to evaluate the presence of stress and burnout syndrome in healthcare workers, expert workers, professional associates and associates in social protection institutions and to examine the impact of certain social-demographic and work environment characteristics on the occurrence of burnout syndrome on the population in question.

2. Materials and method

2.1. Study design:

This research has been designed as a cross-sectional study and conducted from March to the end of June of 2023 on a representative sample in social institutions in Belgrade. The sample of the study had 491 participants, healthcare workers, expert workers, professional associates and associates in direct work with the users of social protection institutions on residence in the following institutions in Belgrade, Serbia:

1. Babies, children, and the youth protection center in Belgrade
2. Adults and the elderly residence institution in Belgrade
3. Developmentally challenged children and the youth day care center in Belgrade
4. Children's and the youth's institution in Sremčica

The common criteria for all participants were: adults, both genders, older than 21, certain education profile, work experience over three years, volunteering in the study. The excluding factors were: persons younger than 21, work experience shorter than three years, fixed-term contracts, diagnosed mental disorders, longer work absences (6 months) prior to the research. The participants have, after giving consent, fulfilled questionnaires with the explanations given by the main researcher and the adequate help by the researches, if needed.

2.2. Research instruments

The structured research instrument had the questions regarding social-demographic and social-economic characteristics, work environment characteristics, and lifestyle characteristics. For the workplace burnout assessment, Copenhagen Burnout Inventory, CBI, was used. It has 19 questions dealing with exhaustion and tiredness relating to the burnout in following aspects: personal burnout (questions 1-6), work-related burnout (questions 7-13), and client-related burnout (questions 14-19) [10].

The participants had the task of choosing the option closest to how they feel, following the frequency on the 5-level Likert scale in the span 0-4. The scoring was done by transforming the answers to time percentages: 0 = 0%, 1 = 25%, 2 = 50%, 3 = 75% and 4 = 100%, according to the instructions by the questionnaire's author. The score on each scale was calculated as the average score on the questions the scale entails, and the total score of workplace burnout was calculated as the average score of all three scales together, i.e. the average value of separate scales' scores. All the participants with scores over 50% are considered to have the workplace burnout syndrome.

For the employees' resilience examination, BRS, Brief Resilience Scale was used, created by Smith et al [11]. This scale assesses the resilience construct, seen as the individual's ability to bear with the problems from their environment, and recover from stressful situations. The BRS is a one-dimensional scale which has 6 items. The total score on this scale is the arithmetic mean of all six.

Apart from BRS, the Brief Resilience Coping Scale, BRCS was used. It has 4 items.

Stress, depression, and anxiety were assessed through the DASS-21 questionnaire. The DASS-21 has 21 items and includes three sub-scales with 7 items. The participants had to assess their feelings from the past week on the Likert 4-span scale, and following the frequency on the Likert 5-span scale [12]. Depression, anxiety, and stress scores are the sum of the relevant scores in the 0-21 span for each

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sub-scale. The seriousness of the symptoms was calculated by cut-off scores for defining normal, mild, moderate, significant, and very significant scores for all sub-scales. For the D scale, the total

Score of 0 – 4 is normal; 5 – 6 mild depression; 7 - 10 moderate depression; 11 – 13 severe depression ; ≥ 14 very severe depression. For the scale „A", the score of 0 – 3 is considered normal ; 4 – 5 mild anxiety; 6 – 7 moderate anxiety; 8 – 9 severe anxiety; ≥ 10 very severe anyiety. For the„C" scale, the score 0 – 7 is normal; 8 – 9 mild stress; 10 – 12 moderate stress; 13 – 16 severe stress; ≥ 17 very severe stress.

2.3. Ethical aspects of the research

The research was conducted following the approval for it from the Ethical boards of the social service institutions and with consent of the participants.

2.4. Statistical data processing

For the primary data processing, descriptive statistical methods were used, methods for testing statistical hypotheses, methods for modeling relations of the outcomes and potential predictors. Depending on variable types and normality of distribution, the data description was showed as N(%), arithmetic mean±standard deviation (C) or median (min-max). Out of methods for testing statistical hypotheses Tests used were: T-test, Mann-Whitney test, chi-square test, Fisher test, ANOVA, Kruskal-Wallis. For the modelling of relations of dependent variable with potential predictors, logistic regression was used. The multivariate regression models included predictors from uni-variant analyses which were statistically significant at the level 0.05. For the internal consistency of the questionnaires assessment the Cronbach's alpha was used. Statistical hypotheses were tested based on the levels of statistical significance (alpha level) of 0.05. The results were showed in tables and graphically. All data were processed in IBM SPSS Statistics 22 (SPSS Inc., Chicago, IL, USA) software package, R program environment, (R Core Team, 2022).

3. Results

This research had a total of 491 participants, 60 (12.2%) men and 431 (87.8%) women. The average age was 45.9 years (95% CI 45.0-46.8). The youngest person was 21, and the oldest 64. The arithmetic mean of the Copenhagen workplace burnout questionnaire research was 55.4 (95% CI 53.8-57.1). The lowest result was 3.9 and the highest 100.0. The highest average score was on the question SPD1 - *Do you consider work in social service institution to be hard?* (70.8%) and the lowest on LS6 - *How often do you feel weak and prone to illness?* (41.4%). The skewness and kurtosis values show that there was no deviation from the normal distribution in the questionnaire (Table 1).

Table 1. Average values, variability, and the distribution of the Copenhagen workplace burnout questionnaire scale, and its sub-scales.

Question	*Mean*	*SD*	*Median*	*Min*	*Max*	*Skewness*	*Kurtosis*
PB1	60.6	20.4	50	0	100	-0.29	-0.07
PB2	58.7	21.6	50	0	100	-0.24	-0.46
PB3	50.0	24.6	50	0	100	-0.21	-0.38
PB4	45.5	26.4	50	0	100	-0.07	-0.71
PB5	51.9	24.4	50	0	100	-0.10	-0.53
PB6	41.4	25.1	50	0	100	0.11	-0.58
WRB1	69.0	23.2	75	0	100	-0.52	0.08
WRB2	62.5	23.3	75	0	100	-0.27	-0.21
WRB3	48.9	24.4	50	0	100	-0.04	-0.26
WRB4	63.0	25.2	75	0	100	-0.23	-0.48

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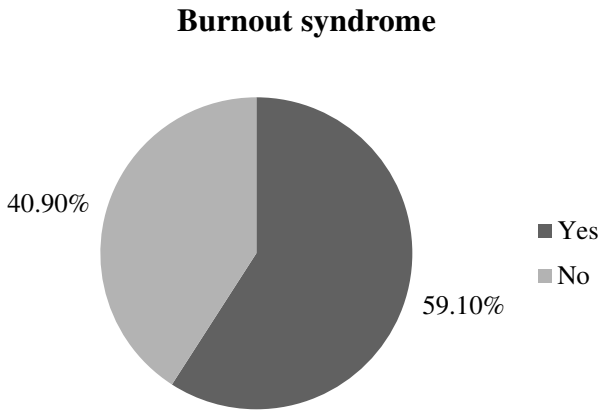
WRB5	49.0	28.0	50	0	100	0.06	-0.74
WRB6	46.7	25.7	50	0	100	0.20	-0.45
WRB7	45.6	28.8	50	0	100	-0.09	-0.97
CRB1	70.8	23.4	75	0	100	-0.44	-0.21
CRB2	54.2	26.3	50	0	100	-0.21	-0.39
CRB3	63.7	25.1	75	0	100	-0.33	-0.34
CRB4	60.5	28.7	75	0	100	-0.40	-0.55
CRB5	54.6	26.2	50	0	100	-0.23	-0.36
CRB6	56.7	28.7	50	0	100	-0.35	-0.55

(PB - Personal burnout; WRB – Work-related burnout; CRB – Client-related burnout; Mean – arithmetic mean; SD – standard deviation; Median – Median; Min – Minimum value; Max – Maximum value).

The distribution of participants according to the presence of workplace burnout is shown in Graph 1.



Graph 1. The distribution of participants according to the presence of workplace burnout.

There is a statistically significant difference between participants with and without workplace burnout syndrome in relation to: gender, age, education, presence of children in the family, and the self-assessment of monthly income (Table 2).

Table 2. The distribution of social-demographic and social-economic characteristics of the participants in relation to the presence of workplace burnout syndrome .

Variables	**Has workplace burnout syndrome (n=290)**	**Does not have workplace burnout syndrome (n= 201)**	***p*-value**
Gender, n (%)			
Male	28 (9.7%)	32 (15.9%)	**0.037**
Female	262 (90.3%)	169 (84.1%)	
Age, am±sd	46.8±9.7	44.6±11.0	**0.021**
Age categories, n (%)			

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20-30	24 (8.3%)	24 (11.9%)	
31-40	45 (15.5%)	55 (27.4%)	
41-50	111 (38.3%)	53 (26.4%)	**0.029**
51-60	93 (32.1%)	54 (26.9%)	
over 60	17 (5.9%)	15 (7.5%)	
Residence, n (%)			
City	251 (86.6%)	179 (89.1%)	0.408
Country	39 (13.4%)	22 (10.9%)	
Marital status, n (%)			
Married	85 (29.3%)	73 (36.3%)	
Single	134 (46.2%)	96 (47.8%)	
Divorced	43 (14.8%)	19 (9.5%)	0.145
Widowed	15 (5.2%)	9 (4.5%)	
Other	13 (4.5%)	4 (2.0%)	
Education, n (%)			
high school	156 (53.8%)	77 (38.3%)	
College	41 (14.1%)	43 (21.4%)	**0.002**
specialist studies / vocational	19 (6.6%)	11 (5.5%)	
BSc/BA, MSc/MA, PhD	74 (25.5%)	70 (34.8%)	
Потомство, n (%)	223 (76.9%)	138 (68.7%)	**0.042**
Children in family, median (range)	2 (0-5)	1 (0-4)	0.142
Family members, median (range)	4 (1-8)	4 (1-12)	0.549
Homeowner, n (%)	209 (72.1%)	139 (69.2%)	0.485
Sole provider, n (%)	123 (42.4%)	71 (35.3%)	0.114
Self-assessment of monthly income, n (%)			
Very bad	23 (7.9%)	4 (2%)	
Bad	60 (20.7%)	29 (14.4%)	
Average	165 (5.9%)	122 (60.7%)	**<0.001**
Good	39 (13.4%)	41 (20.4%)	
Very good	3 (1%)	5 (2.5%)	

There is a statistically significant difference between the participants with and without workplace burnout syndrome in relation to the characteristics of the work environment: occupation, overtime, shift work, adequate resources, work in spacious and pleasant rooms (Table 3).

Table 3. The distribution of work environment of the participants in relation to the presence of workplace burnout syndrome.

Variables	**Has WBS (n=290)**	**Does not have WBS (n= 201)**	***p*-value**
Institutions, n (%)			
Šekspirova	77 (26.6%)	53 (26.4%)	0.057
Zvečanska	92 (31.7%)	76 (37.8%)	

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Sremčica	30 (10.3%)	8 (4%)	
Beograd	91 (31.4%)	64 (31.8%)	
Occupation, n (%)			
Healthcare worker	119 (41%)	85 (42.3%)	
Expert worker	83 (28.6%)	71 (35.3%)	0.114
Professional associate	24 (8.3%)	17 (8.5%)	
Associate	64 (22.1%)	28 (13.9%)	
Work experience in the field, median (range)	17 (3-40)	14 (3-41)	**0.032**
Time spent in current position, median (range)	13.0 (2-40)	11 (2-41)	0.111
Overtime, n (%)	106 (36.6%)	48 (23.9%)	**0.003**
Shifts work, n (%)	209 (72.1%)	144 (71.6%)	0.918
Management position, n (%)	31 (10.7%)	30 (14.9%)	0.162
Sufficient resources, n (%)	151 (52.1%)	148 (73.6%)	**<0.001**
Spacious and pleasant rooms, n (%)	164 (56.6%)	161 (80.1%)	**<0.001**
Commuting, n (%)			
Up to 30 min	83 (28.6%)	66 (32.8%)	
30-60 min	110 (37.9%)	75 (37.3%)	0.282
>60 min	97 (33.4%)	60 (29.9%)	
Means of transport, n (%)			
Public	216 (74.5%)	152 (75.6%)	
Car	57 (19.7%)	38 (18.9%)	0.958
Cycling / on foot	17 (5.9%)	11 (5.5%)	

There is a statistically significant difference in participants with and without workplace burnout syndrome in relation to: smoking habits, amount of cigarettes, using sick leave, amount of sick leave, and self-assessed health (Table 4).

Table 4. The distribution of participants' habits in relation to workplace burnout syndrome presence.

Variables	**Has WBS(n=290)**	**Does not have WBS (n= 201)**	***p*-value**
Nicotine use, n (%)	144 (49.7%)	80 (39.8%)	**0.031**
Amount of cigarettes, n (%)			
0	146 (50.3%)	121 (60.2%)	
Up to 10	44 (15.2%)	25 (12.4%)	**0.037**
10-20	76 (26.2%)	42 (20.9%)	
over 20	24 (8.3%)	13 (6.5%)	
Alcohol use, n (%)	166 (57.2%)	112 (55.7%)	0.738
Over 5 drinks, n (%)			
No	257 (88.6%)	172 (85.6%)	0.340

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Once	28 (9.7%)	27 (13.4%)	
At least once per month	5 (1.7%)	2 (1%)	
Sick leave, n (%)	119 (41%)	52 (25.9%)	**0.001**
Sick leave days, median (range)	0 (0-300)	0 (0-120)	**<0.001**
Self-assessed health, n (%)			
Very bad	10 (3.4%)	0 (0%)	
Bad	48 (16.6%)	5 (2.5%)	
Average	145 (50%)	77 (38.3%)	**<0.001**
Good	74 (25.5%)	98 (48.8%)	
Very good	13 (4.5%)	21 (10.4%)	

There is a statistically significant difference between participants with and without WBS in relation to the assessment of depression, anxiety, and stress according to the DASS-21 scale and resilience according to BRCS scale; the statistically significant differences are in relation to: the degree of DASS-21 D, degree of DASS-21 A, degree of DASS-21 S, degree of BRCS, and the average score on BRS (Table 5).

Table 5. The distribution of mental health symptoms (depression, anxiety, stress, resilience) in relation to WBS presence.

Variables	**Has WBS (n=290)**	**Does not have WBS (n= 201)**	***p*-value**
DASS-21 D, n (%)			
Normal	138 (47.6%)	177 (88.1%)	
Mild	49 (16.9%)	16 (8%)	
Average	53 (18.3%)	7 (3.5%)	**<0.001**
Serious	25 (8.6%)	1 (0.5%)	
Very serious	25 (8.6%)	0 (0%)	
DASS-21 A, n (%)			
Normal	99 (34.1%)	161 (80.1%)	
Mild	20 (6.9%)	14 (7%)	
Average	70 (24.1%)	18 (9%)	**<0.001**
Serious	39 (13.4%)	5 (2.5%)	
Very serious	62 (21.4%)	3 (1.5%)	
DASS-21 S, n (%)			
Normal	121 (41.7%)	169 (84.1%)	
Mild	47 (16.2%)	25 (12.4%)	
Average	54 (18.6%)	2 (1%)	**<0.001**
Serious	48 (16.6%)	5 (2.5%)	
Very serious	20 (6.9%)	0 (0%)	
BRCS, n (%)			
Low resilience	109 (37.6%)	36 (17.9%)	**<0.001**
Average resilience	139 (47.9%)	103 (51.2%)	

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High resilience	42 (14.5%)	62 (30.8%)	
BRS average score, am±sd	2.84±0.60	3.44±0.59	**<0.001**

After applying univariate analysis, 15 variables were included in the multivariate regression model (Table 6). The entire model, with all predictors, was statistically significant (p<0.001). There is no significant multicollinearity among the predictors. The model describes 51% variation of the dependent variable. In the model of multivariate logistic regression, the statistically significant WBS factors were: overtime (OR=2.62; CI=1.50-4.56), BRS average score (OR=0.28; CI=0.17-0.44), DASS-21 D heightened depression (OR=2.09; CI=1.1-4.04), DASS-21 A heightened anxiety (OR=2.38; CI=1.34-4.21), DASS-21 S heightened stress (OR=2.08; CI=1.11-3.89). The only protective risk factor which stands out is self-assessed health (OR=0.60; CI=0.42-0.85), i.e., the higher self-assessed health levels the participants had, the lower their chance for WBS was.

Table 6. Multivariate logistic regression analysis with WBS as the outcome variable.

Independent variable	**B**	**P**	**OR**	**95% trust interval**	
				Lower limit	**Upper limit**
Gender (F per M)	-0.081	0.838	0.92	0.42	2.01
Age (years)	0.018	0.340	1.02	0.98	1.06
Education level	0.136	0.190	1.15	0.93	1.40
Children	0.206	0.501	1.23	0.68	2.23
Self-assessed monthly income	-0.086	0.616	0.92	0.65	1.29
Work experience (years)	-0.007	0.665	0.99	0.96	1.03
Overtime	0.962	0.001	**2.62**	**1.50**	**4.56**
Sufficient resources	-0.457	0.128	0.63	0.35	1.14
Spacious and pleasant rooms	-0.590	0.063	0.55	0.30	1.03
Self-assessed health level	-0.513	0.004	**0.60**	**0.42**	**0.85**
Degree of BRCS	-0.299	0.107	0.74	0.52	1.07
BRS average	-1.291	<0.001	**0.28**	**0.17**	**0.44**
DASS21 D heightened depression	0.735	0.029	**2.09**	**1.08**	**4.04**
DASS21 A heightened anxiety	0.867	0.003	**2.38**	**1.34**	**4.21**
DASS21 S heightened stress	0.732	0.022	**2.08**	**1.11**	**3.89**

4. Discussion

The aim of this research was to determine the presence of stress and burnout syndrome in healthcare workers, expert workers, professional associates, and associates working in social service institutions. The aim was also to study the impact of certain social-demographic characteristics, as well as workplace characteristics, on the presence of burnout syndrome in the participating population. Doctors, nurses, counselors, and social workers often face trauma and others' suffering, which is fertile ground for indirect trauma, often referred to as "empathy fatigue". Providing others with help and support may in time lead to exhaustion, lowered ability for efficient work, which can in turn evolve into burnout syndrome [13]. So far, there have been identified contributing factors for workplace burnout syndrome in people working in children's protection and well being, and who have endured excessive burden and demands of work with little to no control of it; violence threats, but also working with trauma victims and victims of stressful life events [14]. The generalization of the studies conclusions which questioned the predictors of workplace burnout syndrome in the

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institutions for children's protection and well being is limited by the differences in working conditions and work management in different countries [15].

In this study, out of all the participants, over half of them showed signs of workplace burnout syndrome, i.e., 59.1%, while the lower part, 40.9% showed no WBS development. The results of a North Carolina studies show 39% of workplace burnout syndrome symptoms with social workers, which is quite similar in percentages to this study [16].

Female participants in this study showed higher percentage of WBS than male participants. As one of the domains of this syndrome is emotional exhaustion, it can be seen that gender is a significant variable, and that women experience higher levels of burnout, which can be explained with the societal role of women, but also their constant tendencies to establish the balance between professional and private lives [17].

When it comes to the participants' age, the results of this study have shown that those with workplace burnout syndrome were, on average, older than those without. Contrary to those results, it was earlier shown that burnout is more common in younger people, which can be explained by excessive enthusiasm and unrealistic workplace expectations, which are unsatisfactory in reality [18]. Age has been often mentioned in literature as one of individual workplace burnout syndrome factors, with the tendency to appear in younger employees [19].

In this study, the highest percentage of participants who have developed workplace burnout syndrome said they are not smokers. The results of another studies, however, have shown that tobacco use enhances the risk of this syndrome [20], which this study does not show. These results may be explained by the fact that tobacco use is a stress management mechanism, pleasure, and an escape from stressful work activities, which shows relaxing and anxiolytic effects [21].

Apart from working hours, professional status and professional titles were also closely tied to the burnout syndrome. Out of all the participants in this study, the largest number had high school level of education. When it comes to academic titles, a study conducted in Turkey implied that the amount of burnout decreases with higher levels of academic titles [22]. The results of this study were consistent with the results of the study of workplace burnout syndrome, and the joint factors in relation to healthcare workers, where it was shown that those with the lowest education were 1.57 times more prone to emotional exhaustion in relation to those with higher education [23].

One of the results of this research was that the persons with developed WBS had more years of experience in the field. When it comes to the levels of burnout with employees of children's protection and well-being institutions, those who have more than a year of experience showed higher levels of burnout, which is in line to this research results [24].

All the previously listed factors which showed an impact in the univariate analysis did not remain significant in the multivariate model. A significant factor which did stand out in the latter was overtime, i.e., the participants who had overtime showed a 2.6 times higher risk of WBS compared to those with no overtime, with control of all other factors in the multivariate analysis model. So far, literature has been showing the connection between short-term and long-term working hours and burnout syndrome among healthcare workers. Healthcare workers with over 60 hours weekly were twice as prone to WBS compared to a standard 40-hour week. The authors of that study pointed out the linear rise of the chances for burnout with the larger amout of hours, to 74 per work week (three times more likely) and 84 hours per week (four times as likely) [25].

In general, mental health problems in healthcare workers show a high degree of coexistence which can be explained with their exposure to the patients' illnesses and a stressful workplace environment. They are, thus, inevitably more vulnerable to showing stress, anxiety, and depression [25–28]. Even though the highest percentage of participants (over 50%) had normal depression, anxiety, and stress levels, this research shows that, when they are heightened, they are seen as workplace burnout syndrome predictors. Persons with heightened depression, anxiety, and stress are more likely to experience WBS, 2, 2.4, and 2.1 times respectively, other factors in the multivariate analysis controlled. It was previously shown that depression and stress are statistically significantly related to workplace burnout levels, which is in line with the results of this study [29] .

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Early identification of lower resilience may be the key to efficient prevention of negative thoughts and feelings, which can, consequentially, lead to the development of depression and suicidal tendencies. Measuring workplace resilience may also help identify those healthcare workers who are risking leaving their job due to health issues which are a consequence of lower resilience [30]. In this study, a significantly higher BRS scale values were seen with participants who had no workplace burnout syndrome. Some of previous studies showed negative correlation between resilience and burnout syndrome in nurses [31]. Similarly, another study had such results and shown negative association between burnout syndrome and innate resilience [32].

5. Conclusion

Overtime is a significant predictor of workplace burnout, and its outcome is inevitably manifold. This research showed several predictors of workplace burnout: heightened depression, anxiety, and stress, which was somewhat expected considering that mental health issues in healthcare workers show high levels of coexistence. In addition to this, it is important to highlight the effect of early identification of lower resilience, as it can lead to efficient prevention of negative thoughts and feelings.

Institutional Review Board Statement: Ethical approval was taken from each Institution where studz was performed. It can be seen in attached files.

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