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Original article

Prevalence and Correlates of Burnout Syndrome Among South-Tunisian Schoolteachers During the COVID-19 Crisis

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Keywords
Burnout, Prevalence, Maslach Burnout Inventory-Human Services Survey, Teachers, Work, Tunisia.

ABSTRACT

Findings available on the rates of burnout syndrome (BS) among teachers were contradictory, ranging from 1% to very high levels (above 50%). This study aimed to find out the prevalence of burnout among school teachers of Sfax, Southern Tunisia, during the COVID-19 crisis and to investigate its associated factors. This cross-sectional study included a representative sample of primary, middle, and high school teachers in the Governorate of Sfax, Southern Tunisia, during the 2020–2021 school year, in April, during the third wave of the COVID-19 pandemic. The BS was assessed using the 22-item French-validated version of the Maslach Burnout Inventory Human Services Survey (MBI-HSS). Among 525 school teachers, the prevalence of BS was 47.2% (n=248). Multivariate logistic regression analysis showed that independent factors of BS were female gender (AOR=3.5; p=0.001), back pain (AOR=3.2; p<0.001), daily use of coffee (AOR=1.7; p=0.015), close contact with COVID-19 cases (AOR=1.6; p=0.021), and having problems with students (AOR=1.57; p=0.022). Besides, exercising physical activity (AOR=0.6; p=0.022) and attending a training session about COVID-19 prevention (AOR=0.56; p=0.004) were independently associated with lower prevalence of BS. This study illustrated high rates of BS among teachers in Southern Tunisia amid the COVID-19 crisis. Thus, strategies to better support teachers by preventing the appearance of burnout syndrome and maximizing their quality of life at work seem to be crucial.

Introduction

Teaching is considered a job that demands multifaceted skills and a high degree of flexibility [1]. In fact, teachers confront significant challenges because they must adapt curricula to a wide range of learning styles, manage shifting education policies, attend to students with special needs, and juggle administrative work. Thus, teachers reported high levels of stress compared to other occupational groups [2–4]. However, the quality of teaching and learning activities may be affected when educators become ill due to occupational hazards in the workplace [5]. Indeed, the mental health of teachers is a basic component of the quality of education and affects both teachers' work achievement and the mental health of students [4,6], With their long hours and heavy workload, teachers are in danger of being overworked and not taking care of their own mental health. Burnout syndrome (BS) is typically characterized by the clinical manifestation of three symptoms produced by the experience of chronic occupational stress: emotional exhaustion (EE), depersonalization (DP), and a lack of accomplishment (PA) [3,6,7].

It was defined by the World Health Organization as a syndrome conceptualized as resulting from chronic workplace stress that has not been successfully managed. It is characterized by three dimensions: feelings of energy depletion or exhaustion; increased mental distance from one's job, or feelings of negativism or cynicism related to one's job; and reduced professional efficacy. As a negative psychological experience, BS could cause several harmful consequences, such as the retirement of experienced and productive teachers ahead of time, and a meta-analysis recently published in 2019 showed that BS was significantly associated with depression and anxiety [8]. However, for teachers who still work, BS contributes to lower effectiveness and productivity at work, poor job performance, other physical and psychological health issues, and adverse student outcomes [4]. Consequently, burnout has a powerful force that rips into the health, safety, and progress of the education profession. To push back against that force, it's crucial to understand the magnitude of this mental health problem among teachers and what contributes to it to avoid its complications, especially in the COVID-19 era. In fact, Previous data showed that teachers had a significantly higher prevalence of negative mental health outcomes during the pandemic when compared to healthcare and office workers. Moreover, the literature has shown that there are higher levels of psychiatric illnesses such as depression, anxiety disorders, loss of quality of life, fatigue, and negative feelings such as stress and frustration in teachers before the COVID-19 pandemic.

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Moreover, a serious lack of burnout data hampers the efforts of education departments to assess the real extent of BS and then to prevent psychological problems. Controversially, findings available on the rates of BS among teachers were contradictory [9], ranging from 1% to very high levels (above 50%). In Tunisia, published data on burnout among teachers are limited and disparate. Moreover, the lack of regular psychological surveillance and support could be a potential factor in BS among Tunisian teachers. In light of the scarcity of reliable and representative studies in the local area, the present study aimed to estimate the prevalence of BS among school teachers of Sfax, Southern Tunisia, and to investigate its associated factors.

Methods

Study design and settings

We conducted a cross-sectional study among teachers of primary, middle, and high public schools in the Governorate of Sfax, Southern Tunisia, in the 2020–2021 school years, in April during the third wave of the COVID-19 pandemic in the country. In Tunisia, primary school comprises the first 6 years of studies for students aged 6 to 12 years. Secondary school grade is divided into two levels: the middle school including the first 3 years of basic education for 13-15-year students and high school receiving students aged from 15 to 19 years old.

Study population and sampling procedures

A representative sample was drawn from an exhaustive and updated list of teachers working at public Education Institutions in Tunisia. A stratified three-step cluster sampling procedure was used to obtain a representative sample of teachers in the study area. The first stratified sampling consisted of randomly selecting two delegations from both the urban and the rural regions in the governorate of Sfax. A rural delegation was defined as an area located 12 km or more away from the town center. Then, an exhaustive list of all public primary, middle, and high schools of the selected delegations was used as the second stratum, from which 24 schools were randomly drawn proportionally to the number of teachers in each school. Subsequently, at the third stage, based on a complete list of teachers provided by the school administration, an elementary randomized sample of teachers was selected.

Based on a 5% margin of error, an expected prevalence of BS among Tunisian teachers of 49.7 % published in a recent Tunisian study among teachers [10], and a confidence level of 95%, the sample size calculation gave a required sample of at least 434 subjects. For cluster sampling, we needed to incorporate a design effect (DEFF) of 1.2, suggesting that the sample size variance was 1.2 times bigger than it would be if the sample was selected randomly. After multiplying by an assumed DEFF of 1.2, the minimum sample size was 521. In order to account for non-responders, the sample size was inflated by 10%, making the final target sample size 573.

Data collection and study tools

Standard socio-demographic characteristics such as gender, age, marital status, number of children, residency, history of chronic diseases, and educational level were collected using a self-administered questionnaire. The data collection tool was administered on printed paper without asking about names or any other personal data. Data regarding the characteristics of the working environment like working experience, work-life conflict, administrative difficulties, teachers' satisfaction with equipment at the workplace, living environment and social support from family or colleagues. Lifestyle habits such as tobacco and exercising physical activity were also collected. The questionnaire also comprised particular data concerning the COVID-19 crisis, such as being infected with the SARS-CoV-2 virus, having close contact with COVID-19 cases, and attending a training session about COVID-19 prevention. Burnout syndrome was assessed using the 22-item-French validated version of the Maslach Burnout Inventory-Human Services Survey (MBI-HSS), measuring the three dimensions of BS: EE: 9 items, DP: 5 items, and a low sense of PA: 8 items [3,10–13]. The participants were asked to rate the items on a 7-point Likert scale ranging from 0 (never) to 6 (every day). For EE and DP, higher scores indicated greater burnout, while the PA score was inversely related to the level of burnout reported. The normative scores provided by Maslach et al. for teachers were used in assessing the levels of burnout: 27 or higher for EE; 14 or higher for DP; and 30 or lower for PA (13). For this study, we opted for an approach supported by Maslach in order to use binary dichotomized variables for the overall BS assessment, reporting that high scores on either the EE or DP scales but not a low score on the PA scale can distinguish the clinically burned out from the non-burned [14,15].

Statistical analysis

Statistical analysis was performed using SPSS 24. After verifying the normality of the variables' distribution, continuous variables were presented as mean ± standard deviation for normally distributed variables or median and interquartile range [IQR] for non-normally distributed variables. The results of categorical variables were presented as numbers and percentages. Univariate analysis using simple logistic regression was performed to assess the crude odds ratio (COR) of associated factors (COR, 95% confidence interval (CI)). Then, all variables significant at $p < 0.2$ in the univariate analysis were entered into a multivariate model using a logistic binary regression [adjusted Odds Ratio (AOR); 95% (CI), p] in order to determine the independent factors associated with BS. P values lower than 0.05 were considered statistically significant.

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Results

Participants' characteristics and work conditions

Their median age was 48 years with IQR= [41-53] years. Overall, 525 school teachers agreed to respond to the questionnaire and were recruited for the study analysis, giving a response rate of 91.3%. The male-to-female ratio was 0.8. Recruited teachers worked in rural areas in 293 cases (55.8%). Of all teachers, 478 cases (91%) were married. There were 52 childless teachers (9.9 %). History of chronic disease was noted in 132 cases (25.1%), back pain in 377 (71.8%), and physical activity in 176 teachers (33.5%). Working experience> 10 years accounted for 81.7% of cases (n=429). Reported problems at work were noted with students in 176 teachers (33.5%), with students' parents in 57 cases (10.9%), with colleagues in 18 teachers (3.4%), and with administrative officers in 27 cases (5.1%) (Table1).

Table 1. Description of the study population (N=525)

Variables	N	Percentage (%)
Gender		
Males	233	44.4
Females	292	55.6
Marital status		
Single	21	4
Married	478	91
Divorced	17	3.2
Widowed	9	1.7
childlessness	52	9.9
Educational level		
Secondary	113	21.5
University	359	68.4
Post-university	53	10.1
Educational level of the partner		
Primary	30	5.7
Secondary	186	35.4
University	309	58.9
Type of school		
Primary	151	28.8
Middle	118	22.5
High	256	48.8
Working area (N=401)		
Urban	293	55.8
Rural	108	20.6
Working experience		
< 10 years	96	18.3
> 10 years	429	81.7
Problems with students	176	33.5
Problems with students' parents	57	10.9
Problems with colleagues	18	3.4
Perceived workplace safety	364	69.3
Respectful behavior of students	357	68
Lack of gratification and promotion	255	48.6
Feeling well paid	83	15.8
Poor material conditions	305	58.1
Poor environmental conditions	305	57.9
Reforms make work harder	262	49.9
History of chronic disease	132	25.1
Back pain	377	71.8
Exercising physical activity	176	33.5
Daily use of coffee	417	79.4

N: Number

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Prevalence of burnout syndrome and its dimensions

Prevalence of BS among teachers was 47.2% (n=248). Overall, 219 school teachers (41.7%) had EE, 79 teachers (15%) had DP, and 172 teachers (32.8) reported a lack of professional accomplishment.

Factors associated with burnout syndrome and its dimensions among teachers

Univariate analysis

Burnout syndrome was statistically associated with female gender (OR=2; p<0.001), university educational level (OR=1.7; p=0.01), daily use of coffee (OR=1.6; p=0.017), back pain (OR=2.1; p<0.001), history of chronic disease (OR=1.6; p=0.019), having problems with students (OR=1.5; p=0.017), perception of educational reforms as source of making work harder (OR=1.4; p=0.03) and having a close contact with a COVID-19 cases. Otherwise, exercising physical activity (OR=0.5; p=0.005), attending a training session about COVID-19 prevention (OR=0.5; p=0.001), and workplace safety (OR=0.7; p=0.048) were statistically associated with lower prevalence of BS among teachers (Table 2).

Multivariate analysis

Independent factors of burnout were female gender (AOR=3.5; p=0.001), back pain (AOR=3.2; p<0.001), daily use of coffee (AOR=1.7; p=0.015), close contact with COVID-19 cases (AOR=1.6; p=0.021), and having problems with students (AOR=1.57). In addition, exercising physical activity (AOR=0.6; p=0.022) and attending training sessions about COVID-19 prevention (AOR=0.56; p=0.004) were statistically associated with a lower prevalence of BS (Table 3).

Independent factors of EE were female gender (AOR=1.6; p=0.013), back pain (AOR=1.8; p=0.005), daily use of coffee (AOR=1.8; p=0.017), close contact with COVID-19 cases (AOR=1.7; p=0.007), having problems with students (AOR=1.7; p=0.007), having chronic disease (AOR=1.7; p=0.016), and perception of reforms as making work harder (AOR=1.7; p=0.004). Besides, exercising physical activity (AOR=0.6; p=0.025) and attending training sessions about COVID-19 prevention (AOR=0.56; p=0.006) were statistically associated with lower prevalence of EE (Table 3). Lack of PA was independently associated with respectful behavior of students (AOR=0.5; p=0.008), university educational level (AOR=0.5; p=0.048), and type of educational institution: middle (AOR=1.9; p=0.004) and high school (AOR=2.1; p=0.001) (Table 3).

Discussion

This original study is the first survey investigating BS and its dimensions and their correlated factors among Tunisian teachers during the COVID-19 crisis. Alarming rates of BS among participants were highlighted, which were concomitant with many challenges that were facing the Tunisian Educational system during the last decades.

In fact, BS rates vary depending on the country and the professional categories among teachers, according to a recent review [9]. At the local level, prevalence rates were discordant in previous Tunisian studies, ranging from 21% [16] to 49.7% [10]. The prevalence of BS (47.2%) reported during the COVID-19 crisis was not far from what was reported in a recent survey conducted in Southern Tunisia in 2015 (49.7%) [10]. This fact could be explained by the deterioration of life and work conditions of Tunisian teachers after the revolution in 2011. In fact, they were at risk to have more BS since this time, and the COVID-19 pandemic only makes the situation worse or bolder. At the international level, this prevalence was lower than Chinese (53.2%) [4] and Moroccan findings (54%) [17] but higher than other outcomes from Prague (18.3%) [18] and Iraq (24.5%) [19]. These discrepancies between countries could be related to differences in occupational settings or sociocultural predictors or to the BS definition. In fact, BS frequency should not necessarily be the same in developed and developing countries. It seemed to be evidence that teachers who had satisfying working conditions and psychological support and checks should be less likely to suffer from this trouble. Furthermore, our findings highlighted a high prevalence of EE (41.7%), a lack of PA (32.8%), and a moderate rate of DP (15%). For EE and DP, our rates were lower than other studies reporting rates above 50% [4,20]. However, for lack of PA, our prevalence was higher than others' findings, where prevalence did not exceed one-fifth of teachers [4,20]. In fact, this could be explained by the impact of the COVID-19 crisis on teachers' perception of their job, which was largely supported by previous studies [21,22].

Outcomes of the association between gender and BS have shown divergent results. Some studies indicated that female gender is correlated with higher BS among teachers [18,23,24], which was in line with our findings showing an association of female gender with both BS and EE. Nevertheless, other surveys reported an association between male gender and BS [19], while further studies indicated no relation between them [4,17]. A former meta-analysis suggested that this gender difference might be attributed to divergent career expectations due to differences in the socialization role and in stress management between men and women [25], which is amplified by harder social and familial functions associated with professional mission for females.

Having problems with students was an independent factor of BS and EE among teachers. This finding was similar to further studies [19,26], considering that problems in the teacher-student relationship are a possible mediator of BS among teachers and concluding that students' misbehavior is one of the main causes of emotional dysregulation. In this perspective, respectful behavior of students was independently associated with lower prevalence of lack of professional accomplishments among teachers.

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One of the most surprising findings in this study was that back pain was an independent factor of EE and BS among teachers. A recent study highlighted this association and explained it by the bidirectional relation between back pain and burnout [27]. Authors affirmed that burnout, as a result of chronic occupational stress, leads to the activation of the autonomic nervous system and the hypothalamic-pituitary-adrenal axis, which in turn leads to several biochemical changes, mainly the autonomic nervous system and the hypothalamus-pituitary-adrenal axis liberations [27]. Subsequently, these changes associated with sympathetic hyperactivity could be implicated in the development of neuropathic pain, which could amplify the EE. Further physical conditions were related to EE, such as a history of chronic diseases, which was supported by a former study showing the impact of overall well-being on EE [13].

There was also a concern about finding daily use of coffee independently associated with EE and BS. Actually, caffeine is the most psychoactive substance consumed worldwide. In fact, there was a scarcity of published data showing an association between burnout and coffee use. A recent study affirmed that daily coffee use among high-responsibility workers increased fear of failure and could lead to serious consequences [28], which was concordant with our results.

Interestingly, physical activity was independently associated with lower prevalence of EE and BS among teachers. The protective role of physical activity toward several mental and physical health issues has become evident [29,30]. This result was supported by several surveys underlining the importance of practicing regular physical activities, particularly among workers, to temper work-related stressors and to prevent them from leading to BS [29,30].

The most interesting point of this study was that it was conducted during the COVID-19 pandemic, which suggests that close contact with COVID-19 cases was independently associated with EE and BS. Indeed, this study was conducted during the third wave of the COVID-19 crisis in Tunisia, when most health indicators showed that the health-care system was saturated. Thus, having close contact with COVID-19 cases could result in emotional stress from being infected and then transmitting the virus to their families, which could lead in turn to a higher predisposition to BS. On the other hand, attending training sessions about COVID-19 prevention was independently associated with lower prevalence of both EE and BS, which could be explained by the eventual positive effect of decreasing stress levels to promote psychological reassurance and then to limit risks for BS.

Conclusion

To conclude**,** this study illustrated high rates of BS among teachers in Southern Tunisia during the COVID-19 crisis. Teachers with a greater risk of BS were identified. Female teachers, those having back pain, and daily coffee consumers were more likely to suffer from BS, and to whom more attention should be paid mainly. Implementation of programs focusing on the promotion of mental health among school teachers should be a priority to plan in order to better support teachers and to enhance their quality of life at work.

Ethical considerations

This study did not involve human beings, intervention, or experiments, and participation was entirely voluntary. Anonymity and confidentiality were guaranteed and maintained.

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Conflict of interest

All authors report no conflicts of interest relevant to this article.

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Table 2. Associated factors of burnout syndrome and its dimensions

Variables	Burnout syndrome (N=248)			Emotional Exhaustion (N=219)			Depersonalization (N=79)			lack of professional accomplishment (N=172)		
	N (%)	OR [95%CI]	p	N (%)	OR [95%CI]	p	N (%)	OR [95% CI]	p	N (%)	OR [95% CI]	p
Type of school			0.2			0.06			0.3			***0.005***
Primary	80 (53)	1		74 (49%)	1		17 (11.3%)	1		34 (22.5)	1	
Middle	54 (45.8)	0.7 [0.4-1.2]	0.2	50 (42.4%)	0.6 [0.4-1.1]	0.019	19 (16.1%)	1.5 [0.7-3.1]	0.2	41 (34.7)	1.8 [1.1-3.1]	***0.027***
High	114 (44.5)	0.7 [0.4-1.1]	0.1	95 (37.1%)	0.8 [0.5-1.4]	0.3	43 (16.8%)	1.5 [0.8-2.9]	0.1	97 (37.9)	2 [1.3-3.3]	***0.001***
Gender												
Males	88 (37.8)	1	***<0.001***	76 (32.6%)	1	***<0.001***	33 (14.2%)	1	0.6	87 (37.3)	1	***0.046***
Females	160 (54.8)	2 [1.4-2.8]		143 (49%)	1.9 [1.3-2.8]		46 (15.8%)	1.1 [0.6-1.8]		85 (29.1)	0.6 (0.4-0.9)	
Marital status												
Married	230 (48.1)	1.4 [0.8-2.6]	0.19	203 (42.5%)	1	0.2	75 (15.7%)	1	0.1	155 (32.4)	1	0.6
Unmarried	18 (38.8)			16 (34%)	0.7 [0.3-1.4]		4 (8.5)	0.5 [0.1-1.6]		17 (36.2)	1.2 [0.6-2.5]	
Childlessness												
No	231 (48.8)	1	***0.027***	203 (42.9%)	1	0.09	72 (15.2%)	1	0.7	157 (33.2)	1	0.5
Yes	17 (32.7)	0.4 [0.3-0.9]		16 (30.8%)	0.6 [0.3-1.1]		7 (13.5%)	1.1 [0.5-2.6]		15 (28.8)	0.8 [0.7-1.6]	
Place of residency												
Owner	150 (45.6)	1	0.3	134 (40.7%)	1	0.5	41 (12.5%)	1	***0.03***	99 (30.1)	1	0.09
Rental	98 (50)	1.2 [0.8-1.7]		85 (43.4%)	1.1[0.7-1.5]		38 (19.4%)	1.7 [1.1-2.7]		73 (37.2)	1.3 [0.9-2]	
Educational level			***0.004***			***0.001***			0.3			***0.03***
Secondary level	43 (38.1)	1		34 (30.1%)	1.1 [0.5-2.2]	1	22 (19.2%)	1		47 (41.6)	1	
University level	187 (52.1)	1.7 [1.1-2.7]	***0.01***	170 (47.4%)	2.2 [1.2-4.2]	0.8	50 (13.9%)	0.6 [0.2-1.6]		105 (29.2)	0.5 [0.3-0.8]	***0.015***
Post-university level	18 (34)	0.8 [0.4-1.6]	0.6	15 (28.3%)	2 [1.3-3.2]	***0.01***	7 (13.2%)	0.9 [0.4-2.4]		20 (37.7)	0.8 [0.4-1.6]	0.6
Daily use of coffee												
No	40 (37)	1	***0.017***	35 (32.4%)	1	***0.028***	13 (12%)	1	0.3	41 (38)	1	0.19
Yes	208 (49.9)	1.6 [1.1-2.6]		184 (44.1%)	1.6 [1.1-2.5]		66 (15.8%)	1.3 [0.7-2.6]		131 (31.4)	0.7 [0.4-1.1]	
Back pain												
No	50 (33.8)	1	***<0.001***	41 (27.7%)	1	***<0.001***	21 (14.2%)	1	0.7	52 (35.1)	1	0.4
Yes	198 (52.5)	2.1 [1.4-3.2]		178 (47.2%)	2.3 [1.5-3.5]		58 (15.4%)	1.1 [0.6-1.8]		120 (31.8)	0.8 [0.5-1.2]	
History of chronic disease												
No	174 (44.3)	1	***0.019***	148 (37.7%)	1	***0.001***	57 (14.5%)	1	0.5	130 (33.1)	1	0.7
Yes	74 (56.1)	1.6 [1.1-2.3]		71 (53.8%)	1.9 [1.2-2.8]		22 (16.7%)	1.1 [0.6-2]		42 (31.8)	0.9 [0.6-1.4]	
Exercising physical activity												
No	180 (51.6)	1	***0.005***	187(44.3%)	1	***0.015***	63 (15%)	1	0.8	105 (30.1)	1	0.06

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Yes	68 (38.6)	0.5 [0.4-0.8]		32 (31.1%)	0.5 [0.3-0.8]		16 (15.5%)	1.1 [0.5-1.9]		67 (38.1)	1.4 [0.9-2.1]	
Working experience												
< 10 years	50 (52.1)	1	0.2	44 (45.8%)	1	0.3	1 (13.5%)	1	0.6	30 (31.3)	1	0.7
≥ 10 years	198 (46.2)	0.7[0.5-1.2]		175 (40.8%)	0.8 [0.5-1.2]		66 (15.4%)	1.1 [0.6-2.2]		142 (33.1)	1.1 [0.6-1.7]	
Problems with students												
No	152 (43.6)	1	***0.017***	129 (37%)	1	***0.002***	57 (16.3%)	1	0.2	123 (35.2)	1	0.08
Yes	96 (54.5)	1.5 [1.1-2.2]		90 (51.1%)	1.7 [1.2-2.5]		22 (12.5%)	0.7 [0.4-1.2]		49 (27.8)	0.7 [0.4-1.1]	
Problems with students' parents												
No	218 (46.6)	1	0.3	190 (40.6%)	1	0.13	72 (15.4%)	1	0.5	153 (32.7)	1	0.9
Yes	30 (52.6)	1.2 [0.7-2.2]		29 (50.9%)	1.5 [0.8-2.6]		7 (12.3%)	0.7 [0.3-1.7]		19 (33.3)	1.1 [0.5-1.8]	
Perceived workplace safety												
No	86 (53.4)	1	***0.048***	78 (48.8%)	1	***0.037***	26 (16.1%)	1	0.6	54 (33.5)	1	0.8
Yes	162 (44.5)	0.7 [0.4-0.9]		141 (38.7%)	0.6 [0.4-0.9]		53 (14.6%)	0.8 [0.5-1.4]		118 (32.4)	0.9 [0.6-1.4]	
Respectful behavior of students												
No	85 (50.6)	1	0.2	76 (45.2%)	1	0.2	25 (15%)	1	0.9	68 (40.5)	1	***0.01***
Yes	163 (45.7)	0.8 [0.5-1.1]		14 3(40.1%)	0.8 [0.5-1.1]		54 (15.1%)	1.1 [0.6-1.7]		104 (29.1)	0.6 [0.4-0.8]	
Poor environmental conditions												
No	98 (44.3)	1	0.25	81 (36.7%)	1	***0.045***	39 (17.6%)	1	0.1	85 (38.5)	1	***0.018***
Yes	150 (49.3)	1.2 [0.8-1.7]		138 (45.4%)	1.4 [1.1-2.1]		40 (13.2%)	0.7 [0.4-1.1]		87 (28.6)	0.6 [0.4-0.9]	
Reforms make work harder												
No	112 (42.6)	1	***0.03***	93 (35.4%)	1	***0.003***	46 (17.5%)	1	0.1	90 (34.2)	1	0.4
Yes	136 (51.9)	1.4 [1.1-2]		126 (48.1%)	1.6 [1.2-2.4]		33 (12.6%)	0.6 [0.4-1.1]		82 (31.3)	0.8 [0.6-1.2]	
Training session about COVID-19 prevention												
No	179 (52.3)	1	***0.001***	160 (46.8)	1	***0.001***	52 (15.2)	1	0.8	106 (31)	1	0.2
Yes	69 (37.7)	0.5 [0.3-0.8]		59 (32.2)	0.5 [0.3-0.9]		27 (14.8)	1.1 [0.6-1.7]		66 (36.1)	1.4 [0.5-1.2]	
COVID-19 infection												
No	202 (48.1)	1	0.4	176 (41.9%)	1	0.8	63 (15%)	1	0.9	131 (31.2)	1	0.1
Yes	46 (43.8)	0.8 [0.5-1.3]		43 (41%)	0.9 [0.6-1.4]		16 (15.2%)	1.2 [0.5-5.6]		41 (39)	1.4 [0.9-2.2]	
Close contact with COVID-19 case												
No	144 (42.4)	1	***0.002***	123 (36.2%)	1	***<0.001***	50 (14.7%)	1	0.7	114 (33.5)	1	0.6
Yes	104 (56.2)	1.7 [1.2-2.5]		96 (51.9%)	2 [1.3-2.7]		29 (15.7%)	1.1 [0.6-1.7]		58 (31.4)	0.9 [0.6-1.3]	

N: number, %: percentage, OR: Odds Ratio, CI: confidence interval

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Table 3. Independent factors of burnout syndrome and its dimensions; Results of multivariate logistic regression

Variables	Burnout syndrome			Emotional Exhaustion			Lack of professional accomplishment		
	AOR	95%CI	p	AOR	95%CI	p	AOR	95%CI	p
Gender			0.001			0.013	-	-	-
Male	1			1					
Female	3.5	[1.7-7.4]		1.6	[1.1-2.4]				
Back pain			<0.001			0.005	-	-	-
No									
Yes	3.2	[1.7-5.9]		1.8	[1.2-2.9]				
Daily use of coffee			0.015			0.017	-	-	-
No	1			1					
Yes	1.8	[1.1-2.8]		1.8	[1.1-2.9]				
Training session about COVID-19 prevention			0.004			0.006	-	-	-
No	1			1					
Yes	0.56	[0.38-0.9]		0.56	[0.38-0.6]				
Close contact with COVID-19 cases			0.021			0.007	-	-	-
No	1			1					
Yes	1.56	[1.06-2.2]		1.7	[1.1-2.5]				
Having problems with students			0.022			0.007	-	-	-
No	1			1					
Yes	1.57	[1.1-2.3]		1.7	[1.1-2.5]				
Exercising physical activity			0.024			0.025	-	-	-
No	1			1					
Yes	0.6	[0.4-0.9]		0.6	[0.4-0.9]				
Chronic disease	-	-	-			0.016	-	-	-
No				1					
Yes				1.7	[1.1-2.6]				
Reforms make work harder	-	-	-			0.004	-	-	-
No				1					
Yes				1.7	[1.1-2.5]				
Respectful behavior of students	-	-	-	-	-	-			0.008
No							1		
Yes							0.5	[0.3-0.8]	
Educational level	-	-	-	-	-	-			0.048
Secondary level							1		
University level							0.5	[0.3-0.9]	0.018

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Post-university level							0.8	[0.4-1.6]	0.5
Type of school	-	-	-	-	-	-			0.004
Primary							1		
Middle							1.9	[1.1-3.3]	0.019
High							2.1	[1.3-3.4]	0.001

OR: Odds ratio; CI: Confidence Interval

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