



# Comparative Study of Burnout and Other Aspects of Mental Health in Medical Staff Working in Covid-19 and Non-Covid-19 Wards

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## Abstract

**Background:** The Covid-19 pandemic has put unprecedented pressure on the medical staff, leading to mental disorders and burnout. **Objectives:** The present study aimed to compare burnout and other aspects of mental health in medical staff working in Covid-19 and non-Covid-19 wards.

**Methods:** This cross-sectional study was conducted in the Social Determinants of Health Research Center of Qazvin University of Medical Sciences from 10 December 2020 to 16 April 2021. A total of 384 respondents (187 cases in Covid-19 wards and 197 subjects in non-Covid-19 wards) were selected via the convenience sample method. The Maslach Burnout Inventory (MBI) and the General Health Questionnaire-28 (GHQ-28) were distributed to all participants online. Moreover, sociodemographic data and occupational conditions were collected and analyzed using appropriate statistical methods.

**Results:** Based on the results, medical staff working in Covid-19 wards had significantly higher GHQ scores, compared to those in non-Covid-19 wards (29.82±11.07 vs. 25.76±11.83; P<.001, respectively). The risk factors associated with high scores in GHQ subscales included more shifts, being a nurse and being a physician (P<.05). In terms of burnout subscales, the medical staff working in Covid-19 wards had significantly higher depersonalization and emotional exhaustion, as well as lower individual performance (P<.05). The risk factors associated with burnout subscales included the female gender, being a nurse, being a physician, having children, confirmed Covid-19 infection, and staff relocation during the Covid-19 pandemic (P<.05).

**Conclusion:** As evidenced by the results of the present study, individual variables, along with the prevalence of Covid-19, can affect the psychological consequences of medical staff and be considered a risk factor for each of them.

**Keywords:** Burnout, Covid-19, General Health Questionnaire, Infectious disease, Medical staff, Psychiatry

## 1. Background

In Iran, the first news of Covid-19 in February 2020 raised mounting concerns over the problems and consequences of the disease. One of the main groups involved in this epidemic is the medical staff who are at high risk of the disease and its outcomes due to frequent encounters, presence in polluted space, and increased workload (1, 2). Being away from family members during quarantine is one of the stressors associated with the pandemic. Excessive work and emotional distress can lead to increased errors and decreased quality of care, which in turn may lead to increased job stress (3, 4). Unbearable stress results in the risk of mental health problems, such as anxiety and depression, sleep problems, pain, as well as physical complaints, such as muscle tension (5).

The results of a study by Lai et al. in Wuhan, China, revealed that health care workers reported higher levels of anxiety, depression, insomnia, and pain. Moreover, among them, women and those in direct contact with Covid-19 patients reported higher rates of psychological symptoms (6). The results of another study on the Severe acute respiratory syndrome (SARS) outbreak in Hong Kong showed

that health care workers had high levels of anxiety following direct contact with SARS-infected patients (7). When these problems persist in medical staff, health systems are challenged and more insidious mental health problems, such as burnout, emerge (8). Therefore, psychological consequences, apart from the mentioned effects (effect on the physical-mental-social health of employees), can also affect the attention, perception, and decision-making ability of staff, leading to job burnout in the workplace (9, 10).

Burnout is a psychological syndrome characterized by factors, such as emotional exhaustion, mental fatigue, depersonalization, or in the form of negative feelings and perceptions. In the International Classification of Diseases, burnout is recognized as a chronic stress syndrome that has not been successfully managed (11). A study on Italian health staff demonstrated that those who were directly involved with Covid-19 patients experienced higher levels of job stress, physical symptoms, and burnout (12). A study in Turkey disclosed that the rate of burnout was higher among staff in emergency departments, ambulances, and intensive care units (ICUs) of Covid-19 (13). Contrary to the aforementioned studies, Wu et al. reported that

physicians and nurses working in Covid-19 wards had significantly lower levels of burnout than physicians and nurses working in other wards (14); therefore, more studies are needed in this field.

Health managers' awareness of mental health problems and burnout is of utmost importance in the prevention and appropriate treatment; therefore, it is essential to identify the associated factors (15, 16). Various studies have indicated that job-related factors, such as infection, type of medical staff profession, having children, and direct contact with Covid-19, may be an important risk factor for psychological outcomes (17, 18). Therefore, in addition to the mentioned issues, research on these factors is now more necessary than ever since based on the obtained results, measures can be taken to maintain and promote mental health.

## 2. Objectives

The present study aimed to compare burnout and other aspects of mental health in medical staff working in Covid-19 and non-Covid-19 wards. Due to potential differences in various exposure rates of medical staff in Covid-19 and non-Covid-19 wards, the present study can lead to a deeper analysis of psychological symptoms.

## 3. Methods

This cross-sectional study was conducted at the Social Determinants of Health Research Center of Qazvin University of Medical Sciences from 10 December 2020 to 16 April 2021. To this end, health care workers, including nurses, physicians, technicians, and health experts, were reviewed. The participants were selected via the convenience sampling method in which a sample is taken from a group of people who can be easily contacted or accessed. In this method, the desire to participate is of particular importance. Three questionnaires, including the Maslach Burnout Inventory (MBI), the General Health Questionnaire-28 (GHQ-28), and a researcher-made questionnaire (including sociodemographic items, working conditions, and other details of individuals), were provided to the participants.

Participants were evaluated in two groups. The first group was made up of medical staff working in the Covid-19 wards of Qazvin University of Medical Sciences hospitals. The second group consisted of medical staff employed in hospitals not related to Covid-19 wards of Qazvin University of Medical Sciences. Questionnaires were delivered online via email, social media, and targeted mail to groups of participants. The survey was conducted among the subjects so that the inclusion and exclusion of each individual were based on their willingness. The study protocol was approved by the Ethics Committee of Qazvin University of Medical Sciences and informed written consent was obtained

from all participants. Consistent with the ethical principles of the research, the medical staff were assured that their information would remain confidential. In this respect, they were assured that their name or ID was unrelated to their response and the results of the research would be published anonymously.

### 3.1. Outcome measurement

A time frame was set for all psychometric instruments under two weeks. These measures were implemented following the arrival of the new virus variant (The mutation E484K) into the country. This new variant seems to be impacting younger age groups more than the previous variant (19); therefore, the measurement of psychological tools was particularly important in such circumstances; accordingly, three questionnaires were distributed among the participants.

The first questionnaire included sociodemographic data (age, gender, marital status, having children, occupation, and educational level), working conditions, and other details of subjects, such as exposure to SARS-CoV-2 infection and staff redeployment. The second questionnaire consisted of the General Health Questionnaire (GHQ-28) which was developed by Goldberg with four subscales. The items are rated on a 4-point Likert scale with a maximum possible score of 84. The cut-off point of 24 was used to differentiate the mental disorders of the medical staff from their mental health so that the total score higher than 24 in this questionnaire indicates mental health disorder and those less than 24 are suggestive of mental health. A cut-off score of 6 was considered for each subscale of physical health (somatic), depression, anxiety, and social functioning. Scores higher than 6 indicate unhealthiness, and scores lower than 6 were regarded as a health criterion (20).

The validity of the questionnaire has been confirmed in Iran. The sensitivity and specificity of this questionnaire were estimated to be 84.7% and 93.8%, respectively. The Likert scoring method for this questionnaire showed a cut-off point of 24. The sensitivity, specificity, and overall rate of misclassification were estimated to be 70.5%, 92.3%, and 12.3%, respectively (21). A variety of studies in Iran have found the reliability of the questionnaire rendering Cronbach's alpha coefficients of 88%-96% (22, 23). The third questionnaire used in this study was the MBI. This expression provides a new estimation of burnout and stress. This 22-item questionnaire measures emotional exhaustion, depersonalization, and personal accomplishment (individual performance) in the context of professional activity. The validity of the questionnaire was confirmed by experts (Using the Lawshe method) in previous studies and its reliability was estimated to be 0.95 using Cronbach's alpha method (24, 25).

### 3.2. Statistical analysis

Following data collection, the results were analyzed using SPSS software (version 25). Categorical variables were presented as frequency and percentage, while continuous variables were described as mean and standard deviation. An independent t-test was used to compare continuous variables, while a chi-square test was used to compare categorical variables. Logistic or linear regression analysis was employed to evaluate the relationship between each variable and factors associated with mental health and burnout. The type of regression was selected based on the type of dependent variable (continuous, binomial). A p-value of less than 0.05 was considered statistically significant.

## 4. Results

Among the 402 medical staff who completed the questionnaire, only 384 cases were analyzed, and 18 questionnaires were excluded due to incomplete information. Out of those surveyed, 187 subjects were employed in the Covid-19 ward, and 197 cases worked in non-Covid-19 wards. In terms of gender, 79.68% of the respondents were female. Moreover, the majority of respondents (76.30%) were nurses. [Table 1](#) displays the sociodemographic characteristics and occupational conditions of respondents. As illustrated in this table, there was no significant difference between the two groups in terms of age, gender, marital status, education, job classification, and the number of shifts ( $P > 0.05$ ).

**Table 1.** sociodemographic characteristics and occupational conditions of the respondents

Variable	Covid-19 ward n=187	Other wards n=197	p-Value
<b>Age</b>	39.87±12.22	40.15±11.62	0.81
<b>Gender (female)</b>	142 (46.4%)	164 (53.6%)	0.07
<b>marital status</b>			
Single	37 (48.7%)	39 (51.3%)	0.96
Married	146 (48.8%)	153 (51.2%)	
Divorce	4(44.4%)	5 (55.6%)	
<b>education</b>			
Diploma and less	14 (46.7%)	16 (53.3%)	0.3
Associate's and bachelor's degree	141(50.9%)	136 (49.1%)	
Master's	20(37%)	34 (63%)	
PhD and above	12 (52.2%)	11 (47.8%)	
<b>occupation</b>			
Nurse	150 (51.19%)	143 (48.80%)	0.16
physician	19 (48.71%)	20 (51.28%)	
Technician and health expert	12 (32.43%)	25 (67.56%)	
Other	6 (40%)	9 (60%)	
<b>Number of shifts</b>			
1-3	12 (30.76%)	27 (69.23%)	0.05
3-6	101(49.50)	103 (50.49%)	
6<	74(52.48%)	67(47.51%)	

Data are presented as n (%) and mean ± standard deviation.

Physical symptoms, anxiety, insomnia, and the total GHQ score were found to be significantly higher in the medical staff working in Covid-19 wards, as compared to those reported in their counterparts employed in non-Covid-19 wards (Table 2;  $P < 0.05$ ). No significant difference was observed between the two groups in

terms of depression and social dysfunction ( $P > 0.05$ ). In addition to mental health findings, the results of the burnout assessment are also presented in [Table 2](#). As depicted, the sub-criteria of burnout (emotional exhaustion, depersonalization, and personal functioning) were also significantly different in the

**Table 2.** Analysis of psychological consequences in the two groups studied

Variable	Covid-19 ward n =187	Other wards n=197	p-Value
<b>GHQ-28 - depression</b>	3.47±2.19	3.14±2.27	0.14
<b>depression &gt; 6</b>	32 (52%)	30.00 (48%)	0.61
<b>GHQ-28 - Social dysfunction</b>	6.81±3.98	6.77±4.09	0.92
<b>Social dysfunction &gt; 6</b>	113 (48%)	121.00 (52%)	0.84
<b>GHQ-28 - Somatic symptoms</b>	8.54±4.20	6.87±4.23	$P < .001$
<b>Somatic symptoms &gt; 6</b>	124 (54%)	105 (46%)	0.01
<b>GHQ-28 - Anxiety and insomnia</b>	10.42±4.85	8.52±4.40	$P < .001$
<b>Anxiety and insomnia &gt; 6</b>	142 (54%)	122 (46%)	$P < .001$
<b>Total GHQ score</b>	29.82±11.07	25.76±11.83	$P < .001$
<b>GHQ &gt; 24</b>	137 (55%)	111 (45%)	$P < .001$
<b>Individual performance</b>	21.22±8.78	24.54±12.30	$P < .001$
<b>Depersonalization</b>	10.17±6.28	8.30±4.33	$P < .001$
<b>Emotional exhaustion</b>	28.58±9.68	24.35±8.62	$P < .001$

Data are presented as n (%) and mean ± standard deviation

medical staff of Covid-19 ward, compared to non-Covid-19 wards (Table 2; P<0.05).

The results of the analysis of the relationship between the various parts of treatment and psychological consequences are illustrated in Table 3. As demonstrated, the medical staff in the Covid-19 ward were more likely to have physical symptoms, anxiety,

insomnia, and total GHQ score, as compared to those in non-Covid-19 wards. Regression results (Beta, p-value) also indicated that the staff in the Covid-19 ward had higher levels of emotional exhaustion, depersonalization, and lower levels of individual performance, compared to those in non-Covid-19 wards (Table 3; P<0.05).

**Table 3.** Results of the analysis of the relationship between the different parts of treatment and psychological consequences

Variable	Anxiety and insomnia > 6		Somatic symptoms > 6		Total mental health score > 24		Individual performance		depersonalization		Emotional exhaustion	
	OR	P-value	OR	P-value	OR	P-value	Beta	P-value	Beta	P-value	Beta	P-value
	[95% CI]		[95% CI]		[95% CI]		B	[95% CI]	B	[95% CI]	B	[95% CI]
Other wards												
Covid-19 ward	1.94	0.003	1.72	0.01	2.13	<0.001	-0.15	0.003	0.17	0.001	0.22	<0.001
	[1.24,3.01]		[1.14,2.60]		[1.39,3.27]		-3.13	[-5.46,-1.16]	1.86	[0.79,2.94]	4.23	[2.40,6.07]
* adjusted												
Other wards												
Covid-19 ward	1.95	0.004	1.75	0.009	2.98	0.001	0.017	0.001	0.16	0.001	0.24	<0.001
	[1.25,3.05]		[1.15,2.67]		[1.36,3.24]		-3.67	[-5.82,-1.52]	1.82	[0.73,2.90]	4.45	[2.71,6.37]

\*Variables are adjusted for age, gender, and education

Table 4 presents the results of the analysis of the relationship between individual variables and mental health outcomes. As illustrated, the health score of GHQ-28 > 24 was related to nursing and physician professions such that nurses (OR=5.91, 95% CI: [1.83, 19.04], P<0.05) and physicians (OR=3.95, 95% CI: [1.06, 14.56], P<0.05) were more likely to have mental health outcomes than other occupations. Symptoms of anxiety and insomnia with more shifts are also associated with the occupations of nurses, physicians, and health experts. No significant relationship was observed

between individual variables and somatic symptoms.

Table 5 demonstrates the results of the analysis of the relationship between individual variables and the outcomes of burnout. As mentioned earlier, depersonalization symptoms in the Covid-19 ward were associated with childlessness and staff redeployment during the Covid-19 pandemic. Emotional exhaustion was related to the female gender, having children, being a nurse or physician, confirmed Covid-19 infection, and staff redeployment during the Covid-19 pandemic. Individual

**Table 4.** Results of the analysis of the relationship between individual variables and mental health outcomes

Variable	Anxiety and insomnia > 6		Somatic symptoms > 6		Total mental health score > 24	
	OR	p-Value	OR	p-Value	OR	p-Value
	[95% CI]		[95% CI]		[95% CI]	
Age	0.99	0.53	1.01	0.51	0.99	0.87
	[.97,1.01]		[0.98,1.02]		[0.98,1.02]	
Male						
Female	1.07	0.78	1.19	0.48	0.73	0.25
	[0.63,1.82]		[0.72,1.96]		[0.43,1.24]	
Having a child	1.24	0.33	1.1	0.64	1.36	0.14
	[0.80,1.91]		[0.73,1.66]		[0.89,2.08]	
Other occupations						
Nurse	7.29	0.001	2.57	0.08	5.91	0.003
	[2.26,23.57]		[0.89,7.42]		[1.83,19.04]	
Physician	4.91	0.018	1.94	0.28	3.95	0.04
	[1.31,18.35]		[0.57,6.52]		[1.06,14.56]	
Technician and health expert	3.93	0.04	1.05	0.94	1.92	0.33
	[1.03,14.89]		[0.31,3.62]		[0.51,7.29]	
1-3 shifts						
3-6 shifts	1.81	0.13	0.81	0.59	1.24	0.58
	[0.82,3.97]		[0.36,1.79]		[0.57,2.71]	
6< shifts	2.31	0.03	0.88	0.76	1.96	0.09
	[1.05,5.07]		[0.39,1.96]		[0.96,4.30]	
Confirmation of SARS-CoV-2 infection	0.9	0.78	0.91	0.8	1.01	0.96
	[0.42,1.92]		[0.44,1.87]		[0.48,2.13]	
Staff redeployment during Covid-19 pandemic	1.08	0.74	1.44	0.13	1.59	0.06
	[0.66,1.77]		[0.89,2.31]		[0.97,2.61]	

**Table 5.** Results of the analysis of the relationship between individual variables and the consequences of burnout

Variable	Depersonalization		Emotional exhaustion		Individual performance	
	Beta	P-value	Beta	P-value	Beta	P-value
	B	[95% CI]	B	[95% CI]	B	[95% CI]
Age	-0.005	0.917	0.017	0.72	-0.048	0.345
	-0.002	[-0.48,0.43]	0.014	[-0.06,0.088]	-0.043	[-0.134,0.47]
Gender	-0.029	0.574	0.14	0.004	-0.118	0.02
	-0.386	[-1.73,0.96]	3.222	[1.02,5.42]	-3.159	[-5.88,-0.49]
Having children	-0.2	0.006	0.173	0.011	0.268	0
	-2.182	[-3.72,-0.64]	3.255	[0.73,5.77]	5.828	[2.78,8.87]
Other occupations	reference					
Nurse	0.05	0.34	0.15	0.005	0.012	0.82
	0.59	[0.62,1.81]	0.98	[0.29,1.68]	0.15	[-1.24,1.54]
Physician	0.09	0.07	0.08	0.001	-0.011	0.83
	0.81	[0.57,1.1]	0.14	[0.071,0.21]	-0.16	[-0.166,1.33]
Health technicians and experts	0.006	0.895	0.001	0.153	-0.002	0.578
	0.05	[-0.68,0.78]	0.13	[-0.082,0.53]	-0.059	[-0.27,0.15]
Number of shifts	0.004	0.933	0.052	0.287	0.048	0.352
	0.038	[-0.84,0.92]	0.781	[-0.66,2.22]	0.825	[-0.916,2.56]
Confirmation of SARS-CoV-2 infection	-0.052	0.378	0.134	0.018	-0.028	0.639
	-1.012	[-3.28,-1.24]	4.468	[0.78,8.14]	-1.063	[-5.51,3.38]
Staff redeployment during Covid-19 pandemic	0.172	0.02	0.16	0.022	-0.172	0.019
	2.12	[0.34,3.91]	3.419	[0.50,6.33]	-4.236	[-7.76,-0.71]

performance was associated with female gender and staff redeployment during the Covid-19 pandemic, and having children had a direct impact on individual performance (Table 5).

## 5. Discussion

The present study aimed to compare the mental health and burnout of medical staff working in Covid-19 and non-Covid-19 wards during the fourth peak of this disease from 10 December 2020 to 16 April 2021. The results demonstrated that the consequences of mental health and burnout were significantly higher in the employees working in Covid-19 wards, compared to those in non-Covid-19 wards. Given the new virus variant versus the previous variant (the mutation E484K, first identified in the South African SARS-CoV-2 variant, has now been identified in the UK fast-spreading variant) (19), such results were somewhat conceivable since the staff working in Covid-19 wards are the first to be at the forefront of fighting infectious diseases and Covid-19. Furthermore, they are the first to be exposed to the virus (26, 27). Research has demonstrated that among the medical staff, the new virus variant is described as "a worrying development" since it is thought that this mutation may reduce vaccine effectiveness (19).

The Mental Health Survey found that the medical staff who worked in the Covid-19 ward had higher levels of physical symptoms, anxiety, and insomnia, as compared to those in non-Covid-19 wards. Since the two groups did not differ significantly in terms of age, gender, and education, the results did not alter much after adjusting for potentially disruptive factors, and these factors were also higher in the medical staff working in Covid-19 wards, compared to those in non-Covid-19 wards. These results were in agreement with those reported by Kim et al.

(2016) and Lima et al. (2020). They also indicated that the spread of viral diseases, such as SARS and Covid-19, can increase individuals' levels of anxiety, stress, and insomnia (28, 29).

In the present study, due to the stressful situation of employees working in the Covid-19 ward, the prevalence and the chance ratio of physical symptoms were significantly high. Based on previous studies, stress disrupts the function of the central nervous system, autonomic nervous system, immune system, and endocrine glands (hormones). The autonomic nervous system releases large amounts of stress hormones in response to stress, leading to physiological changes and subsequent physical symptoms (30, 31).

In terms of burnout, there was a significant difference between the employees working in Covid-19 and non-Covid-19 wards in terms of depersonalization, emotional exhaustion, and individual performance so that staff working in Covid-19 wards had more emotional exhaustion and less individual performance. Therefore, the new pandemic, in addition to affecting the physical symptoms, anxiety, and insomnia among the medical staff working in Covid-19 wards, can affect their burnout components (three burnout components). The results of the present study are justifiable in terms of the type of stress.

Studies have shown that confrontation with a highly transmittable and pathogenic viral infection exposes people to significant stress that can affect mental health in different ways. Acute stress (short-term stress) mainly causes anxiety, mood swings, and sleep disorders, while chronic stress (long-term stress) may cause burnout syndrome. This type of stress seems to be endless and is strongly associated with impaired ability to work (32, 33). Since the emergence of the fourth peak in Iran about a year after the first peak, medical staff have experienced

long-term emotional stress.

Therefore, depersonalization symptoms are easily caused by chronic stress and are inversely related to individual performance (34). These results are in line with those obtained by Sadeghi et al. (35) and Torrente et al. (36) who revealed that employees working in Covid-19 wards suffered from stress. Consequently, they evade their responsibilities, feel less successful in performing their tasks, and all these lead to lower individual performance (35, 36). Kim et al. also found that the level of stress in staff can exert a negative impact on individual performance (29).

Regression results demonstrated that individual variables can affect the psychological consequences of the studied factors, as well as the prevalence of Covid-19, and can be considered a risk factor for each of them. Concerning the sub-criteria of mental health, the risk factors for anxiety and insomnia in our sample included more shifts, being a nurse, a physician, or a health expert due to maximum workload and contact with patients in these groups. In the case of the following criteria for burnout, these risk factors included female gender, being a nurse, being a physician, having children, confirmed Covid-19 infection, and staff relocation during this pandemic. Therefore, it is critical to take these variables into account when developing a preventive program or managing the psychological consequences of the Covid-19 outbreak. Lai et al. (6) discovered that nurses and health professionals were more likely to suffer from anxiety and insomnia. According to a recent study in Wuhan, the majority of care workers were concerned about the contamination of family members (37). This can exacerbate emotional exhaustion in nurses and physicians, causing these emotional experiences to manifest as physical symptoms and insomnia.

In the present study, women experienced more emotional exhaustion than men did. Maslach et al. (38) also showed that women scored higher in emotional exhaustion, as compared to men. This is in line with gender role theory which predicts that women should be more likely to express feelings of emotional fatigue (e.g., emotional exhaustion) since they learn to express their feelings, while men usually bottle up their emotions. In summary, the assumption that women have more emotional exhaustion may lead to job discrimination against women and may lead to a lack of diagnosis of burnout in men (39).

In the present study, having children was also related to emotional exhaustion. According to a study conducted by Maciaszek et al., having a child is also a risk factor for psychological symptoms (18). In the current study, all burnout subscales were linked with staff redeployment during the Covid-19 pandemic. There has already been evidence of a link between staff redeployment during an epidemic and increased levels of burnout. This is mainly due to increased

workload and shortage of health care staff (4).

Furthermore, the findings of this study indicated that the confirmation of SARS-CoV-2 infection was also identified as a risk factor for emotional exhaustion in medical staff. There is evidence in the literature that pandemic disease increases the workload of health care workers, which in turn increases burnout and its components. Nevertheless, exposure to SARS-CoV-2 infection is not necessarily associated with an increased risk of burnout (40); therefore, further studies are needed to confirm the aforementioned results.

### Study Limitations

Among the notable limitations of the present study, we can refer to the cross-sectional design of research and online distribution of questionnaires. The latter may have resulted in response bias which is common in frequent web-based surveys and can lead to overestimation of the odds ratio.

## 6. Conclusion

As evidenced by the results of the present study, the medical staff working in Covid-19 wards had higher GHQ scores (prone to anxiety, insomnia, and somatic symptoms), as compared to their counterparts in non-Covid-19 wards. The risk factors associated with GHQ included more shifts and being a nurse or physician. Furthermore, the results pointed out that health care workers, mainly medical staff, are entering the stage of burnout. In terms of burnout subscales, they had significantly more depersonalization and emotional exhaustion, as well as lower individual performance. Risk factors associated with burnout subscales included the female gender, being a nurse, being a physician, having children, confirmed Covid-19 infection, and staff redeployment during the Covid-19 pandemic. Therefore, paying attention to these variables will be critical in developing a program to prevent the psychological consequences of the Covid-19 outbreak and manage the distribution, employment, and performance of medical staff. Since the psychological effects of pandemics may become apparent in the long term, further research is recommended to better investigate the long-term effects of Covid-19. The absence of timely interventions in this area will endanger the mental health of medical staff. As a result of such a factor as a hidden layer, the quality of medical services may gradually deteriorate, causing further problems in the current crisis of Covid-19 and even the post-Covid-19 era.

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