General Mental Health of Personnel Working in Sanandaj Hospitals after COVID-19 Pandemic: A Cross-Sectional Study

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Article Info

Abstract

Background: Considering the various stressors that have been imposed on the personnel working in hospitals in recent years, this study aimed to determine the general state of mental health and its related factors among hospital personnel in Sanandaj, Kurdistan province, Iran.

Materials and Methods: This descriptive-analytical cross-sectional study was conducted from April 4 to May 5, 2023, on 890 hospital staff through availability sampling, using the demographic questionnaire and the General Health Questionnaire-28. To identify factors influencing the mental health problems, logistic regression was used. Data analysis was performed using SPSS v26 software and the minimum significance level for this study was set at 0.05.

Results: The mean (± standard deviation) age of the participants was 36.09 ± 10.45 years and the overall prevalence of general health problems was 68.1%. In the multivariable logistic regression models, females were more likely to experience a general mental health compared to men (OR = 1.548, 95% CI: 1.130 – 2.121). Additionally, participants who had a positive history of psychiatric disorder (OR = 2.499, 95% CI: 1.372 – 4.533), positive history of hospitalization and/or quarantine due to COVID-19 (OR = 1.819, 95% CI: 1.000 – 3.310, and OR = 2.191, 95% CI: 1.573 – 3.051 respectively), and history of COVID-19 mortality in family or friends (OR = 1.577, 95% CI: 1.118 – 2.224) were more likely to develop general mental health problems (P-value< 0.05).

Conclusions: Our study identified a high level of mental health problems among hospital staff. It is necessary to continuously assess and monitor the psychological status of healthcare workers and hospital staff as well as provide appropriate psychological interventions.

Keywords: COVID-19, Healthcare Workers, Mental Health.

Introduction

The World Health Organization (WHO) has provided a definition of mental health as "a condition of optimal functioning in which each person achieves their full potential, effectively manages typical life pressures, performs work with productivity and success, and contributes positively to their community" [1]. Mental health conditions depend on many factors, including demographic factors, index of socio-economic status, health behavior, ecological environmental factors, specific subgroup populations and age groups such as younger generations or the elderly, physical activity, sleep quantity and quality, smoking or drinking, living conditions, levels of air pollution as well as regional characteristics [2]. Work-related stress can influence both physical and emotional well-being, leading to a detrimental effect on the overall quality of life. Furthermore, research has demonstrated that specific

professions may encounter detrimental work-related incidents that might result in psychological injuries [3, 4]. Certain occupations are intrinsically more demanding than others, particularly those that directly interact with people and necessitate quick decision-making abilities, as these decisions may bring about severe consequences and are among the most anxiety-inducing [4]. Providing medical treatment is one of the most demanding occupations. However, not every healthcare worker experiences high stress or the same burnout symptoms. As an example, research has demonstrated that nurses working in the intensive care unit (ICU) experience greater occupational stress than their counterparts in the internal medicine or surgical units [4]. In addition to the usual stressful factors of the workplace, unexpected events may sometimes cause stress and psychological consequences. Every year, communities and individuals are impacted by natural and man-made disasters. These events cause economic and social upheaval, disease, and death as well as severely impair community functioning, which in turn affects people's mental health and well-being [5, 6]. The previous pandemic studies demonstrated that COVID-19 was a frightening and potentially traumatic occurrence that, similar to a natural disaster, had catastrophic impacts on the psychological well-being of populations worldwide [7-10]. Furthermore, many studies have indicated that this harm was particularly pronounced among specific demographics, such as individuals who served on the front lines during the epidemic [7, 8, 11].

Over the last pandemic, medical responders who fought on the front lines, healthcare professionals, prehospital responders (paramedics and ambulance personnel), and, in general, the staff of healthcare centers had a heightened risk of developing mental health issues due to the stressful consequences of being exposed to illness. This includes fears related to isolation and stigma, as well as worries about transmitting the sickness to their loved ones [6, 12]. A study that evaluated the mental health of healthcare workers (HCWs) at Imam Khomeini Hospital in Tehran, Iran, during the COVID-19 pandemic reported that 54% and 36.6% of the individuals, respectively, had some level of anxiety or depression [12].

Medical staff members had higher levels of fear, anxiety and depression than administrative staff members, according to a different study conducted among hospital employees comparing two groups of medical staff and administrative staff members in terms of these emotions. The group most susceptible to the illness was the personnel who were on the front lines [13].

Considering the existence of many concerns about the mental health of medical personnel who are faced with multiple occupational stressors, this study was designed to investigate mental health and its related factors in health care personnel working in different departments of hospitals in Sanandaj, Kurdistan Province, Iran, more than three years after the outbreak of COVID-19. The study considered stressors such as economic issues, job strain, and the nature of the work in hospital environments, as well as the impact of the global pandemic on societies and the resulting pressure on healthcare services and staff.

Materials and Methods

This descriptive-analytical cross-sectional study was performed from April 4 to May 5, 2023. The participants included personnel working at the general hospitals of Sanandaj, Iran (Kosar, Tohid, and Be'sat hospitals).

Participants consisted of hospital personnel who either directly or indirectly cared for or interacted with patients. Among these were nurses, physicians, paramedics, service personnel (those responsible for sanitizing inpatient wards or transferring patients for diagnostic imaging), and administrative department personnel. The hospital supervisors and the main researcher communicated the call for voluntary participation in the study to the hospital personnel. Hospital personnel could enter the study voluntarily if they wished. All respondents were asked to provide informed consent and answered the paper questionnaires anonymously. The individuals were notified that their information was classified and inaccessible to any other person or entity.

The samples size was calculated to be at least 578 based on similar studies and statistical formula. Using convenience sampling, 900 people were ultimately included in the study. A total of 890 people remained in the study, after 10 participants who had incomplete demographic information or who had not completed one or more of the questions were excluded at the conclusion of the data collection process. All subjects reported their demographic data, answered the General Health Questionnaire-28 (GHQ-28), and indicated to what extent each problem bothered them.

Demographic Information: Demographic information included data such as age, gender, education, occupation, marital status, number of children, monthly income, the department in which they work, work history, medical history, body mass index (BMI), history of psychiatric disorders, previous hospitalization for COVID-19, past quarantine experience, and instances of COVID-19-related deaths among relatives or acquaintances.

General Health Questionnaire-28 (GHQ-28): The GHQ-28 is a commonly utilized self-administered test to detect those likely to have or to be at risk of developing psychiatric disorders [14]. The measure is comprised of four distinct subscales: physical symptoms, anxiety and sleep disorders, social dysfunction, and depression [15]. The Likert scoring

system is used to assign scores to each item, ranging from 0 to 3. The total maximum score is 84, while the lowest score is zero. Psychiatric morbidity was defined as a total score of 23 or higher. Additionally, a score of 7 or higher in each subscale was also considered as psychiatric morbidity in that specific subscale [16]. Research on the validation of GHQ-28 has shown its strong validity and reliability across several countries [14]. The Persian version of GHQ-28 has demonstrated strong internal consistency, with a Cronbach's alpha coefficient ranging from 0.70 to 0.90.

Initially, descriptive analyses were performed to provide a detailed description of the socio-demographic characteristics of the individuals. Furthermore, the association between studied variables and GHQ scores was analyzed using the independent sample t-test and chi-square or Fisher exact test. In the next step, the variables that were significant in the univariate logistic regression analysis were included in the multivariable logistic regression models to explore the potential influencing factors on general mental health burden. The study calculated the adjusted odds ratio (AOR) and its corresponding 95% confidence interval. The data were analyzed using the Statistical Package for Social Sciences (SPSS) version 26.0. Statistical significance was determined using a two-sided test, with p-values less than 0.05 considered significant. This study is based on the approval of the ethics committee of Kurdistan University of Medical Sciences (Ethics code: IR.MUK.REC.1401.362). Participants were informed about the components of the study and its objectives upon entering the study.

Results

Demographic characteristics: Finally, out of 900 completed questionnaires, ten were removed due to incomplete completion, and 890 participants were recruited for the study. Of the 890 samples analyzed, 442 (49.7%) were male and 448 (50.3%) were female. Their age range was over 18 years, and the mean (± standard deviation) age of the participants was 36.09 ± 10.45 years. Among these samples, 532 (59.8%) of participants were married, and the education level of 590 (66.3%) was associate's degree to master's degree. The socio-demographic characteristics of the participants are reported in Table 1.

Table 1. Sociodemographic Characteristics of the Participants (N = 890)

Demographic Variable	Category	N. (%)
Sex	Male	442 (49.7)
	Female	448 (50.3)
Marital status	Single	324 (36.4)
	Married	532 (59.8)
	Divorced/Widowed	34 (3.8)
Number of children	No children	448 (54.8)
	One	186 (20.9)
	Two	190 (21.3)
	Three and more	26 (2.9)
Education level	Diploma and Lower	166 (18.7)
	Associate's degree to Master's degree	590 (66.3)
	PhD and higher	134 (15.1)
Job	Student	124 (13.9)
	Nurse aides and other health care providers	44 (4.9)
	Nurse and midwife	238 (26.7)
	Doctor	144 (16.2)
	Laboratory and pharmacy personnel	58 (6.5)
	Service and security personnel	118 (13.3)
	Hospital administrative staff	164 (18.4)
The main place of activity during the last two years	Service and security	88 (9.9)
	Administrative departments	256 (28.8)
	Laboratory and pharmacy	54 (6.1)
	Intensive care unit and emergency room	212 (23.8)
	Other hospital wards	280 (31.5)
Income (Tomans/month)	< 10 million	564 (63.4)
	10-20 million	274 (30.8)
	20-40 million	24 (2.7)
	> 40 million	28 (3.1)
History of psychiatric disorder	Positive	102 (11.5)
	Negative	788 (88.5)
History of HTN	Positive	102 (11.5)
	Negative	788 (88.5)
History of DM	Positive	46 (5.2)
	Negative	844 (94.8)
Body mass index (BMI)	Underweight	20 (2.2)
	Normal	360 (40.4)
	Overweight	384 (43.1
	Obese	126 (14.2)
History of hospitalization due to COVID-19	Positive	90 (10.1)

	Negative	800 (89.9)
History of quarantine	Positive	526 (59.1)
	Negative	364 (40.9)
History of COVID-19 mortality in family or friends	Positive	290 (32.6)
	Negative	600 (67.4)
Age years (mean ± SD)		36.09 ± 10.45
Job history years (mean ± SD)		10.05 ± 8.33

Prevalence of General Mental Health problems: The total incidence of general health problems, defined as a total GHQ-28 score of 23 or higher, was 68.1%. The average total GHQ-28 score among the participants was 33.42 (SD = 16.42). Regarding the subscales of the GHQ-28, the level of burden was higher in the social and anxiety dimensions compared to the physical and depressive dimensions (73.7% and 69.7% versus 60.2% and 44.7%, respectively) (Table 2).

Table 2. The prevalence of general mental health problems according to total GHO-28 and subscales (N = 890)

Scori ng		N. (%)	Mean	SD
Total GHQ-28	23 >	284 (31.9)	33.42	16.42
	23 ≤	606 (68.1)		
Somatic symptoms	7 >	354 (39.8)	8.50	4.77
	7 ≤	536 (60.2)		
Anxiety and sleep disorder	7 >	270 (30.3)	9.39	5.02
	7 ≤	620 (69.7)		
Social function	7 >	234 (26.3)	8.86	3.92
	7 ≤	656 (73.7)		
Depression symptoms	7 >	492 (55.3)	6.67	5.98
	7 ≤	398 (44.7)		

There was a statistically significant difference in the prevalence of general mental health problems by gender, marital status, job, education level, place of activity, history of psychiatric disorder, history of quarantine and/or hospitalization due to COVID-19 infection, and history of COVID-19 mortality in family or friends (P<0.05). Findings for the prevalence of general mental health problems categorized by variables are outlined in Table 3.

Table 3. The overall prevalence of mental health problems in the participants stratified by different variables (N=980)

Variable		GHQ-28 <23 N. (%)	GHQ-28 ≥ 23 N. (%)	P-value
Sex	Male	164 (37.1)	278 (62.9)	**0.001**
	Female	120 (26.8)	328 (73.2)	
Marital status	Single	116 (35.8)	208 (64.2)	**0.012**
	Married	164 (30.8)	368 (69.2)	
	Divorced/Widowed	4 (11.8)	30 (88.2)	
Number of children	No children	166 (34.0)	322 (66.0)	0.351
	One	54 (29.0)	132 (71.0)	
	Two	54 (28.4)	136 (71.6)	
	Three and more	10 (38.5)	16 (61.5)	
Education level	Diploma and Lower	74 (44.6)	92 (55.4)	**0.000**
	Associate's degree to Master's degree	168 (28.5)	422 (71.5)	
	PhD and higher	42 (31.3)	92 (68.7)	
Job	Student	50 (40.3)	74 (59.7)	**0.002**
	Nurse aides and other health care providers	20 (45.5)	24 (54.5)	
	Nurse and midwife	80 (33.6)	158 (66.4)	
	Doctor	46 (31.9)	98 (68.1)	
	Laboratory and pharmacy personnel	6 (10.3)	52 (89.7)	
	Service and security personnel	36 (30.5)	82 (69.5)	
	Hospital administrative staff	46 (28.0)	118 (72.0)	
***The place of activity**	Service and security	36 (40.9)	52 (59.1)	**0.000**
	Administrative departments	82 (32.0)	174 (68.0)	
	Laboratory and pharmacy	8 (14.8)	46 (85.2)	
	Intensive care unit and emergency room	52 (24.5)	160 (75.5)	
	Other hospital wards	106 (37.9)	174 (62.1)	
Income (Tomans/month)	< 10 million	166 (29.4)	398 (70.6)	0.054
	10-20 million	94 (34.3)	180 (65.7)	
	20-40 million	10 (41.7)	14 (58.3)	
	> 40 million	14 (50.0)	14 (50.0)	

History of psychiatric disorder	Positive	16 (15.7)	86 (84.3)	**0.000**
	Negative	268 (34.0)	520 (66.0)	
History of HTN	Positive	24 (23.5)	78 (76.5)	0.056
	Negative	260 (33.0)	528 (67.0)	
History of DM	Positive	18 (39.1)	28 (60.9)	0.329
	Negative	266 (31.5)	578 (68.5)	
Body mass index (BMI)	Underweight	8 (40.0)	12 (60.0)	0.529
	Normal	110 (30.6)	250 (69.4)	
	Overweight	130 (33.9)	254 (66.1)	
	Obese	36 (28.6)	90 (71.4)	
History of hospitalization due to COVID-19	Positive	16 (17.8)	74 (82.2)	**0.003**
	Negative	268 (33.5)	532 (66.5)	
History of quarantine	Positive	124 (23.6)	402 (76.4)	**0.000**
	Negative	160 (44.0)	204 (56.0)	
History of COVID-19 mortality in family or friends	Positive	72 (24.8)	218 (75.2)	**0.002**
	Negative	212 (35.3)	388 (64.7)	
Age years (mean ± SD)		36.27±11.22	36.01±10.08	0.722
Job history years (mean ± SD)		10.44±9.10	9.86±7.94	0.340

*The main place of activity during the last two years

Correlation between influential factors and overall mental health problems: The associations of potential influencing factors with general mental health problems in the personnel working in Sanandaj hospitals are provided in Table 4. According to the multivariable logistic regression models, females had a higher likelihood of experiencing general mental health problems compared to men (OR = 1.548, 95% CI: 1.130 – 2.121). Furthermore, individuals with a positive psychiatric disorder experience (OR = 2.499, 95% CI: 1.372 – 4.533), a positive history of hospitalization and/or quarantine due to COVID-19 (OR = 1.819, 95% CI: 1.000 – 3.310, and OR = 2.191, 95% CI: 1.573 – 3.051 respectively), and history of COVID-19 mortality in family or friends (OR = 1.577, 95% CI: 1.118 – 2.224) were more likely to develop general mental health problems (P-value< 0.05).

Table 4. Multivariate Logistic regression results of association between general mental health problems and Variables

Variable		OR *	95% CI **(lower-upper)	P-value
Sex	Male	1	1	1
	Female	1.548	1.130 – 2.121	**0.006**
Marital status	Divorced/Widowed	1	1	1
	Single	0.243	0.078 – 0.759	**0.015**
	Married	0.328	0.106 – 1.013	0.053
Education level	PhD and higher	1	1	1
	Associate's degree to Master's degree	1.164	0.738 – 1.837	0.514
	Diploma and Lower	0.705	0.393 – 1.266	0.242
The main place of activity	Service and security	1	1	1
	Administrative departments	0.852	0.484 – 1.498	0.578
	Laboratory and pharmacy	1.866	0.735 – 4.739	0.189
	Intensive care unit and emergency room	0.889	0.477 – 1.658	0.712
	Other hospital wards	0.538	0.301 – 0.964	**0.037**
History of psychiatric disorder	Negative	1	1	1
	Positive	2.499	1.372 – 4.533	**0.003**
History of HTN	Negative	1	1	1
	Positive	1.607	0.936 – 2.759	0.086
History of DM	Negative	1	1	1
	Positive	0.529	0.262 – 1.069	0.076
Body mass index (BMI)	Underweight	1	1	1
	Normal	1.146	0.420 – 3.131	0.790
	Overweight	0.889	0.322 – 2.456	0.820
	Obese	0.911	0.306 – 2.711	0.867
History of hospitalization due to COVID-19	Negative	1	1	1
	Positive	1.819	1.000 – 3.310	**0.050**
History of quarantine	Negative	1	1	1
	Positive	2.191	1.573 – 3.051	**0.000**
History of COVID-19 mortality in family or friends	Negative	1	1	1
	Positive	1.577	1.118 – 2.224	**0.009**
Age years		0.986	0.969 – 1.002	0.093

*OR = odds ratio; **confidence interval

Discussion

The purpose of this study was to assess the general mental health and associated factors of hospital staff in Sanandaj, Kurdistan Province, Iran, over three years after the COVID-19 pandemic. This study found that 68.1% of participants had general mental health issues. In terms of the subscales of general mental health, 60.2% of the studied subjects were suspected of having somatic symptoms, 69.7% anxiety and sleep disorders, 73.7% social dysfunction, and 44.7% depression symptoms.

Studies have shown that medical and hospital staff face a large number of work-related and personal risk factors that can affect their mental health and well-being. Job-related stressors, such as demanding workloads, extra working hours, increased administrative demands, less job security, and high-pressure environments, may contribute to mental health disorders and burnout among these people. Furthermore, it was found that increasing working hours, overtime and unpaid overtime hours are connected with poorer outcomes among trainees [17, 18].

Studies have revealed that workplace violence, which is a major threat toward nurses and paramedical staff, has a negative impact on their mental health and well-being. Verbal abuse, physical assault, bullying, sexual harassment, and racial harassment are examples of workplace violence that are employed in these businesses. The majority of workplace violence was committed by patients' family members as well as by patients, coworkers, and superiors. One of the main issues facing the government and society should be workplace violence, as it appears to be a significant risk involved in the work of medical and paramedical professionals [19, 20].

Evidence has shown that healthcare employees are reluctant to undertake specialist health examinations, mainly due to discomfort with confidentiality and potential implications for career progression [21].

The prevalence of anxiety and depression in this study was higher compared to previous Iranian studies that examined the mental health of HCWs at Imam Khomeini Hospital in Tehran [12], and a cross-sectional study conducted in primary healthcare centers as well as hospitals affiliated with six medical universities in Iran [22]. However, it is important to note that these findings are inconclusive due to variations in the measurement tool, study timing, and participant numbers across the studies. Of the studies mentioned above, the first was conducted at Imam Khomeini Hospital in Tehran during the COVID-19 pandemic and involved 306 HCWs. The study measured depression, anxiety, and perceived stress using the HADS and PSSS-4 questionnaires. The mean scores and standard deviations for depression, anxiety, and perceived stress were 6.33±4.10, 8.33±4.29, and 6.88±2.90, respectively. Also, 54% and

36.6% of the participants showed some degree of anxiety and depression, respectively [12]. Specifically, 1,133 participants in the second study were drawn from primary healthcare facilities and hospitals connected to six medical universities in the Iranian provinces of Tehran, Tabriz, Gilan, Ahvaz, Ghom, and Kurdistan. The Copenhagen Burnout Inventory, Generalized Anxiety Disorder-7, and Health Questionnaire-9 were employed in the study during the COVID-19 pandemic. The results indicated that 53% of the participants either had generalized anxiety disorder, major depressive disorder, or both disorders. Also, 48.9% of the study participants exhibited moderate and high levels of burnout [22].

Also, the prevalence of psychiatric comorbidity in the current study was higher than in studies conducted in other countries. A study conducted in 2020 examined the psychological effects of COVID-19 on HCWs in the Kurdistan region of Iraq. The study utilized the PTSD Checklist for DSM-5 (PCL-5) and the Hopkins Symptom Checklist (HSCL-25) to assess 182 HCWs. The findings revealed that 53.3% of participants exhibited symptoms indicative of post-traumatic stress disorder, 29.1% experienced anxiety, and 39.0% reported symptoms of depression [23]. The prevalence of mental health disorders in healthcare workers both during and after a pandemic was examined in one comprehensive review and meta-analysis. According to the findings, the most common mental health problem was PTSD (21.7%), followed by anxiety disorder (16.1%), major depressive disorder (13.4%), and acute stress disorder (7.4%) [18].

In the current study, factors related to psychiatric morbidity included gender, marital status, a previous history of psychiatric problems, and variables associated with the recent COVID-19 pandemic.

The findings that women have a higher prevalence of mental health problems are consistent with previous studies that were conducted in general and in stressful situations [8, 24, 25]. Several factors contribute to the higher rate of psychiatric problems in women, including less autonomy, socioeconomic problems, gender discrimination, and violence against women, women's responsibility in family affairs and child care, and biological factors [12, 25].

In line with other research results, the prevalence of mental health problems was substantially higher among divorced/widowed participants. This finding highlights the value of family support at trying times in life. It may be related to a lack of opportunities to talk to family members or help against unpleasant feelings, both of which can lead to psychological problems [26].

Participants in this study who had a history of psychiatric disorders had a significant prevalence of mental health issues. This finding is concordant with previous research, showing that a history of psychiatric problems and stressful events in life, stressful jobs, and

stressful work environments can cause relapses or potentially exacerbate an already-existing psychiatric illness [7, 8]. Due to the critical nature of screening and supporting this specific population, measures should be taken to alleviate work-related stress and environmental tensions as well as address any latent psychological issues that may be present.

Among the measures that can be taken to reduce work-related stress and promoting mental health, especially in the mentioned groups, the following can be mentioned: appropriate employment of personnel in different departments based on their ability as well as physical and mental health conditions; periodic screenings for physical and mental health issues; employing a number of trained mental health professionals in each hospital, and providing access to mental health resources plus therapeutic interventions; comprehensive policies to destigmatize psychiatric problems; training staff to recognize signs of psychological distress and encourage them to talk about their mental health, as well as to seek support; offering mindfulness and stress reduction programs or workshops; implementing policies that provide flexibility in work hours, telecommuting options, and accommodations for mental health conditions [27].

Further, increasing the number of personnel in each department, reducing night shift hours, promoting sleep hygiene and healthy diet, increasing the amount of benefits received, periodic retraining, support professional development, as well as providing fair and competitive compensation, adequate safety equipment, and planning appropriate policies to enhance the physical and life safety of front line personnel may be useful tactics for promoting mental wellness and lowering the likelihood of burnout among medical staff. Additionally, positive mental health outcomes are predicted by social support, which can originate from a variety of sources, including friends, family, and coworkers. This support can be instrumental (such as offering money or transportation), informational (such as offering advice or guidance), and emotional (such as expressing empathy and reassurance) [27, 28].

Based on the multivariate logistic regression, one of the significant factors related to the burden of mental health in the current study was the factors related to the COVID-19 pandemic, such as history of hospitalization due to COVID-19, history of quarantine during the pandemic, and COVID-19 mortality history among friends or family. Even though this study was conducted three years after the COVID-19 outbreak, it still seems that the factors related to COVID-19 have an impact on hospital personnel's general mental health.

According to previous studies that were conducted in the first and second years of the pandemic, in the second year of the pandemic, healthcare personnel continued to experience mental health symptoms, particularly anxiety and depression [29]. One meta-analysis and systematic review that examined the prevalence of mental health conditions in HCWs during and after a pandemic found that healthcare personnel are significantly impacted by mental disorders both during and after infectious disease pandemics, with a greater number of them exhibiting symptoms [30]. These results are consistent with studies conducted in previous infectious disease outbreaks, including SARS, which showed long-term psychiatric morbidity among SARS survivors 30 months after the SARS outbreak [31]. This study demonstrates that a new and highly lethal viral disease can result in substantial and long-lasting psychological issues. Nevertheless, COVID-19 will not mark the final emergence of novel infectious diseases capitalizing on contemporary globalization. This study has emphasized the importance of considering the psychological effects on those who survive future infectious illness epidemics of a similar nature.

The study found a significant occurrence of mental health issues, including depression, anxiety, sleep difficulties, somatic complaints, and social dysfunction. It emphasizes the importance of increasing staff awareness regarding these problems. Implementing suitable interventions to screen for these diseases in this particular population and providing the essential care as well as treatment measures in this field can successfully manage stressful conditions. Maintaining HCWs' mental health is critical, particularly during epidemics. Managing such stressful situations can be made more accessible by providing prompt psychosocial support, suitable psychological interventions, counseling sessions at mental health clinics, and the use of healthcare technology such as telepsychiatry. It is also essential to focus on several HCW support factors, such as offering helpful personal equipment, suitable workspace accommodations, and efficient psychological support.

There were certain limitations in this investigation. Our study's cross-sectional design and low likelihood of longitudinal case follow-up have been two of its shortcomings. Since the participants in this study were only hospital personnel in Sanandaj, the findings may lack generalizability to the entire community. Another limitation of this study was the small number of participants in some hospital jobs, such as midwives, laboratory personnel, etc. Finally, this study was only based on a questionnaire and not a structured clinical interview, so the certainty of the diagnosis may not be high.

Among the practical suggestions for improving the mental health of the treatment staff, the following can be mentioned: increasing the number of personnel in each department, appropriate employment of personnel in different departments based on their ability and physical and mental conditions as well as regularly reviewing workload; reducing night shift hours; promoting sleep hygiene and healthy diet; increasing the

amount of benefits received; encouraging regular health check-ups and screenings for physical and mental health issues; providing access to mental health resources together with support for professional development as well as fair and competitive compensation; implementing policies that provide flexibility in work hours, telecommuting options, and accommodations for mental health conditions; encouraging physical activity during work hours by providing opportunities for short breaks; offering mindfulness and stress reduction programs or workshops; creating a supportive peer network; providing opportunities for professional development and skill-building; providing a safe workplace; suggesting regular short breaks during the workday; and promoting work-life integration. Further, healthcare officials should address the requirements of hospital staff, which include supplying them with personal protection equipment, ensuring they have enough resting facilities, and meeting their emotional demands.

Conclusion

This study examined the mental health of personnel working in Sanandaj hospitals in Kurdistan province. Hospital employees had high rates of mental health issues. More than half of their general mental health has been somehow affected. According to the study results, it is very important to pay attention to the mental health of HCWs and hospital staff managing various patients.

Conflict of interest

None declared.

Ethical Considerations

The ethics committee at the Kurdistan University of Medical Sciences approved the current study.

Code of Ethics

The Ethics Committee of the Kurdistan University of Medical Sciences, Sanandaj, Iran, approved this study (Code: IR.MUK.REC.1401.362).

Authors' Contributions

Mahnaz Abdi: Study concept and design, analyze and interpret data, and draft the manuscript. Azad Maroufi: Study concept and design, critical revision of the manuscript for important intellectual content. Modabber Arasteh: Acquisition of data, critical revision of the manuscript for important intellectual content. Khaled Rahmani: Analysis and interpretation of data.

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