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Investigating the relationship between social support and COVID-related anxiety among medical staff

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Abstract

Introduction: The prevalence of the coronavirus led to anxiety caused by this disease in the hospital medical staff. This research aims to know the relationship between social support and anxiety caused by Corona among the medical staff.

Materials and Methods: The statistical population of this descriptive-correlational study included the medical staff involved in the Corona wards of Ghaem Hospital in Mashhad in 2020. Total of 100 staff were selected by the convenient sampling method. The participants fulfilled the Sarason Social Support Questionnaire and the Corona Disease Anxiety Scale. We analyzed the data using Pearson's correlation coefficient and regression analysis.

Results: The correlation test and regression analysis results indicate that the number of support networks significantly negatively affects anxiety levels related to the coronavirus (P= 0.02). Additionally, the likelihood of contracting the virus has a significant positive impact on anxiety levels caused by COVID-19 (P= 0.01). The adjusted R2 value suggests that social support can predict 8.6% of the variance in anxiety levels associated with COVID-19.

Conclusion: Regarding the strong link between social support networks and anxiety related to the coronavirus, it is advisable to increase awareness through education, media, and other channels about supporting healthcare workers.

Keywords: Anxiety, COVID-19, Medical staff, Social support

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Introduction

Emerging viral infectious epidemics pose a significant challenge in the 21st century. Recent outbreaks of diseases such as Ebola and Middle East respiratory syndrome have had devastating effects on both health and economies. According to a report by the World Health Organization (WHO), the COVID-19 pandemic originated in Wuhan, China, in December 2019 and rapidly spread globally.

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The WHO declared COVID-19 a global emergency on January 30, 2020, necessitating a coordinated international response. Despite the availability of advanced technologies, this novel virus has seriously threatened the world (1). Considering that COVID-19 has affected almost all important economic, political, social, and even military aspects in all countries of the world, or it is better to say that it has paralyzed, the psychological effects of this viral disease on the mental health of people at different levels of society are of great importance (2,3). Healthcare staff are more exposed to psychological and anxiety disorders than other people due to being on the front line of dealing with this disease (4-7).

Anxiety is an ambiguous and unpleasant state of worry with unknown origins that can lead to maladjustment and other psychological disorders in individuals (8). Several studies have found that healthcare personnel often experience depression, anxiety, and insomnia. Those who have direct contact with COVID-19 patients tend to have higher levels of anxiety compared to those who do not have direct contact (9-11).

Among these, one of the important factors that can play a crucial role in reducing stress and anxiety among healthcare staff is their social support. Social support has direct effects on depression and anxiety and plays a significant role in enhancing mental and physical health. This is because social support involves important social relationships and reduces isolation. Secondly, the presence of a caring and familiar person provides essential resources such as affection, information, transportation, food assistance, financial support, and attention to health (12). Various studies have confirmed that support from family and friends is essential during the coronavirus pandemic (13,14).

Social support is a powerful coping factor that helps individuals cope successfully with stressful situations and challenges (15,16). Given the aforementioned issues, as well as the COVID-19 crisis in society, which places additional stress on healthcare professionals, and given that social support is more prominent in crises, the issue of social support for healthcare professionals becomes particularly important. However, there is limited research to explain the relationship between social support and anxiety caused by COVID-19 in-hospital healthcare professionals. Therefore, the present study seeks to answer whether there is a relationship between social support and COVID-19 anxiety in healthcare professionals.

Materials and Methods

This correlational study was conducted in August 2020 on 100 personnel of the coronavirus treatment staff at Ghaem Hospital, Mashhad, Iran (Intensive Care Unit, Neurology Department 1, Emergency Department) who were in direct contact with a person infected with COVID-19. To determine the sample size, given the known population size (140 people) and placement in the Cochran formula, a sample size of 103 people was determined. We used the convenient sampling method.

Finally, 100 people completed the questionnaires. Inclusion criteria included having at least one year of work experience, not having a severe psychiatric disorder, and being in direct contact with a person with COVID-19. Exclusion criteria included unwillingness to participate, incomplete questionnaire responses, and having COVID-19 at the time of questionnaire completion.

Research instruments

A) Sarason Social Support Questionnaire (SSSQ): Sarason et al. developed this tool in 2013. It consisted of two sections: the number of social networks and satisfaction with support. This questionnaire included 27 items (17). The validity and reliability of Persian version of this questionnaire have been confirmed (18).

B) Corona Disease Anxiety Scale: Alipour et al. developed this scale. It consists of 18 items and they approved the reliability and validity of this scale (19).

After collecting data, the information was entered and analyzed using SPSS software. Descriptive statistical tests and analytical statistics such as the Pearson correlation coefficient, t-test, and ANOVA were used. Univariate linear regression was utilized to predict the level of anxiety induced by the coronavirus based on the social support variable, and a linear model was employed to control for confounding variables.

Results

In this study, 100 (64 women and 36 men) medical personnel were included. The mean age of the participants was 36 years, with an age range of 23 to 60 years. The other demographic variables are presented in Table 1.

Table 1. The demographic variables of medical staff

Variable		Number (Percentage)
Marital status	Married	65
	Single	31
	Other	4
Field of study	Nursing	68
	Medicine	7
	Other	25
Educational degree	Associate degree and below	6
	Bachelor's degree	81
	Master's degree and above	13
History of corona infection	Yes	24
	No	69
	Suspected	7
History of presence in crisis	Yes	23
	No	77
Background disease history	Yes	11
	No	89

Based on the findings, the mean score of COVID-19 anxiety among medical staff was 15.06, with a range from 0 to 47, indicating a moderate level of anxiety. Analysis of anxiety levels across different groups showed that ICU department personnel, women, single individuals, and physicians experienced higher levels of COVID-19 anxiety. Those with personal or family experience of COVID-19 infection reported increased anxiety, while individuals with prior crisis experience had lower anxiety levels. However, those with underlying health conditions or family members with such conditions reported higher anxiety levels.

Notably, individuals taking psychiatric medication reported increased anxiety. Significant differences in anxiety levels were observed based on gender, field of study, history of COVID-19 infection, and psychiatric medication use, as indicated by t-test and ANOVA analyses (Table 2).

Table 2. Results of the comparison of anxiety levels caused by COVID-19 among different groups

Variable		Mean score of anxiety	Degree of freedom	T value	P
Gender	Male	14.61	53	3.2	0.00*
	Female	17.21			
Field of study	Nursing	15.57	99	0.9	0.03*
	Medicine	18.01			
	Other employees	12.09			
History of corona infection	Yes	17.54	91	-1.7	0.02*
	No	13.74			
History of taking psychiatric medication	Yes	19.40	98	1.03	0.03*
	No	14.83			

As shown in Table 3, there was a significant relationship between the number of support networks and the level of anxiety (*P*= 0.02). Additionally, there was a significant relationship between people's probability of contracting coronavirus and their anxiety (*P*= 0.01). However, there was no significant relationship between people's satisfaction with social support and anxiety caused by Corona (*P*= 0.67). Furthermore, the relationship

between work experience and anxiety was not significant (*P*= 0.71). The number of support networks has a negative effect of 0.3 on anxiety caused by COVID-19, and probability of contracting coronavirus has a positive effect of 0.24 on anxiety caused by COVID-19.

Table 3. The results of correlation coefficient related to COVID-19 anxiety

Variable	Anxiety caused by Corona	
	Pearson correlation coefficient	P
Number of social support network	-0.3	0.02
The percentage probability of contracting the coronavirus is low	0.24	0.01
Satisfaction with perceived support	0.04	0.67
Work history	-0.03	0.71

Next, simple linear regression was used to predict the level of anxiety caused by COVID-19 based on social support. The regression analysis results indicated that the amount of anxiety caused by the pandemic can be predicted based on the level of social support. The results of the simple linear regression analysis of the independent and dependent variables using the simultaneous method are presented in Table 4.

Table 4. Regression analysis of COVID-19 anxiety levels based on social support

Variable/Criterion	Predictor variable	R	R^2	Adjusted R^2	Standardized regression coefficient (Beta)	95% confidence interval for the regression coefficient		P
						The lower limit	The upper limit	
Social support	Anxiety caused by Corona	0.30	0.095	0.086	-0.30	-0.18	-0.04	0.002

Discussion

The present study aimed to investigate the relationship between social support and anxiety caused by COVID-19 in the medical staff. Based on the results, the mean prevalence of anxiety showed a moderate level of anxiety among the majority of the medical staff in the present study. The outbreak of COVID-19 is not only one of the most uncertain and ambiguous health conditions but also one of the most ambiguous living conditions in the recent history of the world; therefore, the perception of anxiety and fear associated with it is higher than the risk of its mortality (20). Regarding the demographic variables of the study, other variables had a significant relationship with anxiety. The present study showed that women experienced more anxiety due to COVID-19 than men. In most studies, such as the study by Lai et al., Sirati et al., and Rahmanian et al., women were more susceptible to psychological disorders such as anxiety, which is consistent with the results of the present study (4,9,10). The reason for this may be related to the limited contribution of women to social participation, biological factors, and environmental stress.

The present study found higher levels of anxiety among physicians compared with other healthcare workers. A study by Qi et al. in China during the COVID-19 epidemic found that healthcare workers, particularly physicians, were more susceptible to serious psychological distress at work and experienced higher levels of stress than other workers (21).

The study revealed that individuals who had prior COVID-19 infections or had family members affected by the virus experienced higher levels of anxiety during the outbreak. Furthermore, individuals with a history of taking psychiatric medication reported the highest anxiety levels related to COVID-19. The study by Sirati et al. found that individuals taking medication had higher stress levels than those not, which aligns with the current findings (9). The results also indicated that individuals who had experienced past unpleasant events leading to fear and anxiety, as well as those with a history of crises, were better equipped to handle the current condition and reported lower levels of anxiety. This finding aligns with a study by Rahmani et al. (22). The results of this study indicated a

significant negative relationship between social support and anxiety related to COVID-19. This is consistent with studies by Akbari et al., Karimi et al., Narimani and Aini, Permatasari and Ismail, Henry et al., Mata et al., and Aini et al. (13,15,23-27). Perceived social support is an important predictor of mental and physical health at all stages of life, acting as a protective bumper against stress (28).

Therefore, individuals with more social support can use problem-focused coping strategies more effectively, leading to lower levels of distress and better overall health. High levels of social support give individuals confidence that others will help them in need, potentially reducing the perceived distress of traumatic events. Receiving various forms of social support can mitigate stressful situations' negative effects. Consequently, social support promotes confidence in effectively coping with the challenges posed by coronavirus disease, resulting in lower anxiety levels in individuals with strong social support networks (23). This study had some limitations. It was conducted among medical staff at Ghaem Hospital in Mashhad, and the small sample size may limit the generalizability of the results to other cities in the country. Another limitation was the use of the convenience sampling due to quarantine conditions. Future research should consider a larger sample size and explore other variables that may affect anxiety related to COVID-19. The implementation of supportive interventions to reduce anxiety among medical staff is also recommended.

Conclusion

The results indicated a significant relationship between coronavirus anxiety and social support. Greater support from medical staff correlates with lower levels of anxiety about COVID-19. This suggests that individuals who have access to resources such as support from family, friends, and colleagues are better equipped to manage anxiety during the pandemic, leading to a sense of control over negative psychological states. As a result, they experience lower levels of anxiety as the coronavirus spreads.

Conflict of Interests

All authors declare no conflicts of interest.

Funding

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Ethical Considerations

The present study was approved by the ethics committee of Mashhad University of Medical Sciences. All ethical standards, including obtaining permission, written consent, stating the aims, and maintaining confidentiality of information were followed.

Code of Ethics

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Authors' Contributions

Alireza Ebrahimi: Conceptualization, methodology, and writing the original draft

Farzad Akbarzadeh: Data curation, formal analysis, and editing of the manuscript

Tayyebeh Jafarian: Data collection, project administration, review, and editing the manuscript

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