

Determination of Emergency Nurses' Willingness to Care for COVID-19 Patients and Related Factors during the Pandemic

Abstract

Background: The willingness of emergency nurses to participate in the treatment and care of infected patients, as essential and important members of the health-care team, is crucial for a dynamic response to epidemics.

Aim: This study was carried out to determine the willingness of emergency nurses to care for coronavirus disease 2019 (COVID-19) patients and related factors.

Methods: This descriptive and cross-sectional study was conducted with 203 nurses in the emergency departments of seven hospitals designated as pandemic hospitals in Istanbul, with an online survey developed in line with the literature. The data were analyzed in the Statistical Package for the Social Sciences program using an independent-sample t-test, Chi-square test, and logistic regression model.

Results: In this study, it was determined that 53.7% of the emergency nurses were not willing to care for COVID-19 patients, 23.2% had trouble keeping their jobs, and 27.6% were considering changing their departments or professions. There was a significant difference between the willingness and the variables of marital status, having a child, institution, and training status specific to COVID-19 patients ($P < 0.05$). The determining factors in the willingness of the nurses were the confidence in their knowledge and skills in managing COVID-19 and the belief that they would be protected from COVID-19 ($P < 0.05$).

Conclusion: This study has revealed that most emergency nurses were not willing to participate in the care of COVID-19 patients. The willingness of nurses to work throughout the pandemic can be improved by increasing the preparedness of nurses for the epidemic with adequate training and psychological support, providing social support, raising the sense of security, and applying effective communication strategies.

Keywords: Coronavirus disease 2019, emergency nursing, willingness, willingness to care

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Introduction

Recently, countries in the world have experienced several global epidemics of coronavirus, such as severe acute respiratory syndrome and Middle East respiratory syndrome, which have resulted in serious casualties.¹ A novel coronavirus epidemic, identified as severe acute respiratory syndrome coronavirus 2, which led to coronavirus disease 2019 (COVID-19), was initially diagnosed in December 2019 in China^{2,3} and outspread swiftly worldwide.⁴ In the World Health Organization COVID-19 dashboard,⁵ as of May 3, 2021, the onset of data collection, there were a total of 152,534,452 COVID-19 cases worldwide, including 3,198,528 deaths. In Türkiye, the 6th country affected by the pandemic, 4,875,388 cases were reported, including 40,844 deaths, as of the same date.

The COVID-19 pandemic, which has become a global public health emergency, has assigned extraordinary burdens on health-care systems around the world.^{1,6} In fact, the emergency services function during a pandemic is expected to go beyond providing emergency care to have a share in public health.⁷ The rising demand for emergency services has also increased the value of the crucial role that emergency nurses take part in public health response.^{7,8}

Emergency nurses work in an extremely stressful environment, including long shifts, dealing with life-threatening diseases, caring for severely injured and traumatized patients, struggling with nervous relatives, and strict administrators.⁹ Besides, waiting times in the emergency department, an overcrowded and demanding population,

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and the insufficient workforce are other common sources of stress.¹⁰ Such intense work demands often cause physical and mental health problems in health-care professionals.^{3,9} Emergency nurses, who are exposed to many difficulties and risks even in routine health-care delivery, are exposed to higher levels of difficulties and risks in the COVID-19 pandemic.¹¹ Hence, frontline nurses who come closer and frequently get in touch with COVID-19 patients during the pandemic experience anxiety and fear on behalf of themselves and their families, especially when they witness that other health-care professionals infected,¹² and often suffer from psychological distress such as burnout, stress, anxiety, and depression.¹³ Indeed, occupational stress, burnout, and job dissatisfaction have remarkable effects on the intention of leaving the current organization and the profession in the long view.^{10,14,15}

The willingness of nurses to attend to the treatment and care of infected patients, as essential members of the health-care team, is crucial for a dynamic response to epidemics.¹⁶ Studies¹⁷⁻²⁵ in the literature showed that the willingness of health-care professionals to be involved in the management of infectious diseases is variable. Although many health-care professionals expressed that they were willing to work at risk of infection and death during the pandemic, some emphasized that the occupational hazards were too high and they even considered quitting their profession.¹⁸ Previous studies specified that the willingness of nurses to participate in frontline work is between 60.4% and 90.5%;^{18,22,23} in Ethiopia, 40.5% of health-care workers were unprepared for the COVID-19 pandemic, and 21.1% were unwilling to work;²⁵ in Korea, it was shown that 12.3% of the nurses did not want to work during the current pandemic and 10.6% were considering quitting their job.¹⁸

Related factors of nurses' willingness to work during a pandemic may be entitled intricate.²² In an integrative review by Devnani,²⁶ related factors with the willingness to work during an influenza epidemic involved male gender, being a physician or nurse, working full-time in a clinic or emergency room, previous flu training, working experience in an influenza epidemic, beliefs, and values, trust the employer, and having adequate personal protective equipment (PPE). In addition, in the current studies, these factors were self-efficacy, professional perception and risks,^{19,22-24} workload, knowledge level and education,^{22,24,27} safety concerns, and family and childcare obligations.^{18,21}

The unwillingness of health-care professionals to work during an infectious disease pandemic can cause a serious decrease in the number of active workers, as well as difficulties in the treatment and care process. This situation, which can be due to many reasons, may lead to the inability to provide health services or a decrease in the quality of health-care provided. In the international literature, there were various studies^{18,19,21-24} examining the willingness of health-care professionals to participate in the management of COVID-19 patients and related factors in the early eras of the pandemic; however, these studies included a sample that was not specific to emergency nurses. In addition, although there are a few studies examining the professional and psychological perceptions of emergency department staff who were on the front lines of the pandemic in Türkiye;²⁸⁻³⁰ no study has been found to determine the willingness of emergency nurses to attend to the care of COVID-19 patients and related factors. In this context, this study, the results of which we think are very important in the planning of interventions to increase the quality of care and prevent loss of workforce,^{24,31,32} is the initial study to examine the

willingness of emergency nurses to attend to the care of COVID-19 patients and related factors. This study was conducted to determine the willingness of emergency nurses to participate in the care of COVID-19 patients and related factors.

Study Questions

1. What is the willingness of emergency nurses to care for COVID-19 patients during the pandemic?
2. What are the factors related to the willingness of emergency nurses to care for COVID-19 patients during the pandemic?

Materials and Methods

Type of the Study

This study was descriptive and cross sectional.

Population and Sample of the Study

This study was performed in the emergency departments of seven tertiary pandemic hospitals assigned as pandemic hospitals by the Ministry of Health in Istanbul, the most populous city in Türkiye, from June to November 2021. These hospitals were institutions with high patient and employee capacity that perform high-risk applications including COVID-19 testing, initial treatment and care, intubation, and transmission of COVID-19 disease.

The population of the study comprised 470 emergency nurses, and a total of 41 nurses who did not provide the inclusion criteria, were on health leave, were on maternity leave, or resigned, were excluded from the study. Sampling inclusion criteria were determined as follows: (a) Working full-time for at least 6 months in the emergency department, (b) caring for COVID-19 patients for more than 1 month on the front lines, and (c) volunteering to participate in the study.

The sample size was calculated as 203 with the known universe sampling formula at a 95% confidence level and with a sampling error of 0.05, and the data collection process was finalized when this number was reached. Thus, 47% of the nurses were reached.

Data Collection Tool

The data were collected with a 3-part survey formed by the researchers in the light of the literature,^{22,25} consisting of 40 closed-ended questions evaluating the individual characteristics of emergency nurses, their willingness to attend to the care of COVID-19 patients, and related factors.

In the first part, there were 12 closed-ended questions that included information about nurses' age, gender, education level, length of service in the profession/department, COVID-19-specific training situation, etc.

In the second part, there were seven closed-ended questions on willingness to provide care during the COVID-19 pandemic.

In the third part, there were 16 closed-ended questions about the related factors that may affect the willingness to provide care during the COVID-19 pandemic.

The Lawshe technique³³⁻³⁵ was used for the content validity of the survey. The prepared form was evaluated by five experts including four surgical nurses and one psychiatric nursing faculty member. Experts scored the suitability of the items as "Item appropriate-1," "Item suitable but need major change-2," "Item suitable but needs minor

change-3," and "Item very appropriate-4." According to the Lawshe technique,³³⁻³⁵ the content validity criterion was determined as 0.99, and it was determined that there was no expression with a content validity rate below 0.99. The content validity index of the survey was determined as 0.98. According to expert opinions, some minor adjustments were made, and the form was given its final shape. A pilot study was performed with 18 emergency nurses to evaluate the comprehensibility of the survey. As a result of the pilot study, the readability of the online form was increased by editing the visual parts that made it difficult to fill up in the virtual environment. The data procured in the pilot study were not incorporated into the analysis.

Data Collection

The data were collected electronically from emergency nurses, who provided the criteria of the study. The online survey was distributed to the emergency nurses through e-mail and workgroups through the manager nurses of the hospitals' nursing directorate. First, the nurses were informed about the study, and consent was received that they were willing to participate in the study and then were directed to the questionnaire questions in the system and were asked to respond to these questions. It took an average of 5–10 min to fill. In this process, no participant's contact information was shared with each other. The answers to the survey questions were also kept confidential. Manager nurses only took roles as intermediaries. Nurses who did not consent to participate in the study were prevented from reading and answering the survey questions on the system.

Data Analysis

The data were analyzed with the Statistical Package for the Social Sciences 22.0 (IBM Corp., Armonk, NY, USA). The data were normally distributed because the skewness and kurtosis values of the data were between -1.5 and $+1.5$. To determine whether the variables used in the study differ in terms of demographic characteristics, the independent-sample *t*-test was utilized to compare the mean of the two groups, and the Chi-square analysis was performed to assess the differences between categorical variables. Since the dependent variable has two categories, the parameter estimation methods were analyzed in detail, and logistic regression analysis was carried out based on the Odds ratio for the interpretation of the coefficients. Besides, frequency (n), percent (%) mean, and standard deviation were utilized for descriptive statistics of the data. The results were considered at the 95% confidence interval and the significance level was $P < 0.05$.

Ethical Considerations

The research was conducted in accordance with the principles stated in the Declaration of Helsinki. The necessary permission was obtained from the Ministry of Health of the Republic of Türkiye to carry out the study in hospitals⁵ affiliated with the Ministry of Health. To be carried out in the university¹ and private¹ hospitals, the institution permissions were obtained from each institution separately. Ethical approval was received from the Maltepe University Ethics Committee (Date: April 04, 2021, Meeting Number: 2021/12, and Decision Number: 2021/12-10). In addition, online informed consent was obtained from the nurses who provided the sampling criteria and were willing to participate in the study. The privacy of the participants was protected by restricting the survey results online so that no one other than the

researchers could see them, not sharing the data obtained from the research with anyone other than the research team, and keeping the online database on a locked computer. In addition, measures to prevent the participant from answering multiple surveys over the same device and connection were taken with the Google Forms application.

Results

It was determined that 73.9% of nurses were women, 41.4% were married, 33.5% had children, 63.1% had a bachelor's degree, and 88.2% worked as a staff nurse. It was stated that 79.3% of the nurses received training on the care of COVID-19 patients, 96.6% had close contact with a patient with a high risk of transmitting COVID-19 infection, and 34.5% had COVID-19 infection (Table 1).

There was a considerable difference between the variables of marital status, having a child, the institution, the level of education for the care of COVID-19 patients, and the willingness to participate in the care of COVID-19 patients ($P < 0.05$). Accordingly, the nurses who were married (65.5%), had children (66.2%), worked in a training and research hospital (55.3%), a city hospital (73%), a public hospital (76.9%) or a private hospital (57.1%), and were not trained in the care of COVID-19 patients (69%) were not willing to provide care of COVID-19 patients. It was realized that there was a substantial difference between the institution emergency nurses work in and their willingness to attend to the care of COVID-19 patients ($P < 0.05$). Accordingly, it was found that 38.5% of nurses working in the training and research hospital were unwilling to care for COVID-19 patients whereas 46.8% of the nurses working at the university hospital were willing to care for COVID-19 patients (Table 1).

It was discovered that 53.7% of the nurses were not willing to participate in the care of COVID-19 patients, 28.1% would prefer COVID-19 patients if they had to make a choice, and 98% did not have any situation in which they refused to care, and 92.6% did not disrupt their work order (Table 2). In addition, it emerged that 23.2% of emergency nurses had trouble keeping their jobs, 61.7% of them were nurses who were unwilling to attend to the care of COVID-19 patients, whereas 27.6% of them were considering changing their departments or professions, and 60.7% of them were nurses who were unwilling to care (Table 2).

It was found that there was a remarkable difference between the nurses' fear of being sick and contagious and their willingness to provide care ($P < 0.05$) (Table 3). Consistently, nurses who feared COVID-19 (61.3%) were not willing to participate in the care of COVID-19 patients whereas nurses (58.2%) who were not afraid of COVID-19 were willing to provide care. Apart from that, there was no considerable difference between confidence in one's knowledge and skills in managing COVID-19, insufficient support and feelings of loneliness, coping with psychological responses to the pandemic, and the belief that one will be protected from COVID-19 and willingness to care ($P > 0.05$).

The willingness of nurses to attend to the care of COVID-19 patients was taken as the reference variable in the dependent variable. Independent variables were specified as confidence in knowledge and skills, fear, feeling of insufficient support and loneliness, coping with psychological responses to the pandemic, belief in protection from COVID-19, receiving support, and perceived risk. In the logistic regression model performed to determine the variables affecting the

| Table 1. Comparison of Demographic Characteristics of Emergency Nurses (n=203) | | | | | |
|--|----------------------------------|--------------------------------|----------------------|----------------|---------|
| Variables | Unwilling to care (Mean ± SD) | Willing to care (Mean ± SD) | Total (Mean ± SD) | t | P-value |
| Age | 29.75 ± 6.57 | 28.17 ± 5.78 | 29.02 ± 6.25 | 1.807 | 0.072 |
| Year of work as a nurse | 7.53 ± 7.13 | 6.09 ± 6.24 | 6.86 ± 6.77 | 1.538 | 0.126 |
| Year of work as an emergency nurse | 3.51 ± 3.25 | 3.06 ± 3.57 | 3.30 ± 3.40 | 0.927 | 0.355 |
| Variables | Unwilling to care n (%) | Willing to care n (%) | Total N (%) | χ ² | P |
| Gender | | | | | |
| Female | 78 (52) | 72 (48) | 150 (73.9) | 0.664 | 0.415 |
| Male | 31 (58.5) | 22 (41.5) | 53 (26.1) | | |
| Marital status | | | | | |
| Married | 55 (65.5) | 29 (34.5) | 84 (41.4) | 8.000 | 0.005 |
| Unmarried | 54 (45.4) | 65 (54.6) | 119 (58.6) | | |
| Status of having a child | | | | | |
| Yes | 45 (66.2) | 23 (33.8) | 68 (33.5) | 6.407 | 0.011 |
| No | 64 (47.4) | 71 (52.6) | 135 (66.5) | | |
| Education level | | | | | |
| High school | 12 (52.2) | 11 (47.8) | 23 (11.3) | 0.378 | 0.945 |
| Associate degree | 8 (47.1) | 9 (52.9) | 17 (8.4) | | |
| Bachelor's degree | 70 (54.7) | 58 (45.3) | 128 (63.1) | | |
| Postgraduate | 19 (54.3) | 16 (45.7) | 35 (17.2) | | |
| Institution | | | | | |
| University hospital | 24 (22) | 44 (46.8) | 68 (33.5) | | |
| Training and research hospital | 42 (38.5) | 34 (36.2) | 76 (37.4) | | |
| City hospital | 19 (17.4) | 7 (7.4) | 26 (12.8) | | |
| Public hospital | 20 (18.3) | 6 (6.4) | 26 (12.8) | | |
| Private hospital | 4 (3.7) | 3 (6.4) | 7 (3.4) | 18.938 | 0.001 |
| Working position in the emergency department | | | | | |
| Manager nurse | 17 (70.8) | 7 (29.2) | 24 (11.8) | 3.216 | 0.073 |
| Staff nurse | 92 (51.4) | 87 (48.9) | 179 (88.2) | | |
| Status of receiving education in the care of COVID-19 patients | | | | | |
| Yes | 80 (49.7) | 81 (50.3) | 161 (79.3) | 5.020 | 0.025 |
| No | 29 (69) | 13 (31) | 42 (20.7) | | |
| Follow-up of a guideline regarding COVID-19 in the emergency department | | | | | |
| Yes | 21 (52.5) | 19 (47.5) | 40 (19.7) | 3.343 | 0.188 |
| No | 62 (50) | 62 (50) | 124 (61.1) | | |
| I am not sure | 26 (66.7) | 13 (33.3) | 39 (19.2) | | |
| Close contact with suspected/confirmed COVID-19 patients | | | | | |
| Yes | 104 (53.1) | 92 (46.9) | 196 (96.6) | 0.917 | 0.338 |
| No | 5 (71.4) | 2 (28.6) | 7 (3.4) | | |

(Continued)

Table 1. Comparison of Demographic Characteristics of Emergency Nurses (n=203) (Continued)

| Variables | Unwilling to care (Mean ± SD) | Willing to care (Mean ± SD) | Total (Mean ± SD) | t | P-value |
|---|----------------------------------|--------------------------------|----------------------|-------|---------|
| Status of having had a COVID-19 infection | | | | | |
| Yes | 42 (60) | 28 (40) | 70 (34.5) | 1.708 | 0.191 |
| No | 67 (50.4) | 66 (49.6) | 133 (65.5) | | |

SD: Standard deviation, COVID-19: Coronavirus disease 2019.

Table 2. Distribution of Emergency Nurses' Willingness to Join in the Care of COVID-19 Patients (n=203)

| Variables | Unwilling to care n (%) | Willing to care n (%) | Total n (%) |
|--|-------------------------|-----------------------|-------------|
| If you had to make a choice to care between a COVID-19 patient and another patient, would you choose the COVID-19 patient? | | | |
| Yes | 3 (5.3) | 54 (94.7) | 57 (28.1) |
| No | 106 (72.6) | 40 (27.4) | 146 (71.9) |
| Have you ever refused to care for patients with COVID-19? | | | |
| Yes | 3 (75) | 1 (25) | 4 (2) |
| No | 106 (53.3) | 93 (46.7) | 199 (98) |
| Have there been situations where you did not want to work in the unit during the COVID-19 pandemic? | | | |
| Yes | 32 (60.7) | 20 (39.3) | 52 (25.6) |
| No | 77 (51) | 74 (49) | 151 (74.4) |
| Have you disrupted your work schedule during the COVID-19 pandemic? | | | |
| Yes | 8 (53.3) | 7 (46.7) | 15 (7.4) |
| No | 101 (53.7) | 87 (46.3) | 188 (92.6) |
| Are you having trouble keeping at your job during the COVID-19 pandemic? | | | |
| Yes | 29 (61.7) | 18 (38.3) | 47 (23.2) |
| No | 80 (51.3) | 76 (48.7) | 156 (76.8) |
| Are you considering changing your department or position in your profession due to the COVID-19 pandemic? | | | |
| Yes | 34 (60.7) | 22 (39.3) | 56 (27.6) |
| No | 75 (51) | 72 (49) | 147 (72.4) |

COVID-19: Coronavirus disease 2019.

dependent variable of nurses' willingness to participate in the care of COVID-19 patients with the help of independent variables, it was realized that the omnibus test and the model were generally compatible, and its general significance was substantial ($P < 0.05$). It was identified that the logistic regression model estimated according to the results of the Hosmer and Lemeshow test was suitable for the data ($P > 0.05$). The Cox and Snell R² (0.103) and Nagelkerke R² (0.139) values indicate the magnitude of the variance explained by the model in the dependent variable. It was observed that the willingness of nurses to care for COVID-19 patients was affected by 13% of the independent variables. In addition, the sensitivity rate of 83.2%, showing how sensitive the test is in detecting true positives; the specificity rate, showing how sensitive it is in detecting true negatives, was 45.8%. This indicates that the model predicts that 67.8% of nurses are willing to attend to the care of COVID-19 patients. Eventually, it was stated that the classification power of the model was good (Table 4).

It was determined that the factors affecting the willingness of nurses to care for COVID-19 patients were confidence in their knowledge and skills in managing COVID-19 (OR=0.459; 95% CI: 0.294–0.715; $P < 0.05$) and the belief that they would be protected from COVID-19 (OR=1.427; 95% CI 1.053–1.935; $P < 0.05$). Those who were not willing to join in the care of COVID-19 patients were likely to believe in their knowledge and skills in managing COVID-19 [$1-0.459*100$]=54.1% less than those who were willing to care for COVID-19 patients were 1.42 times more likely to believe that they will be protected from. It was found that the independent variables of fear, insufficient support and feelings of loneliness, coping with psychological reactions to the pandemic, receiving support, and perceived risk did not have a significant effect on the willingness to care for COVID-19 patients (Table 4).

Discussion

Globally, nurses' willingness may vary regarding region and country.²² This study revealed that more than half of the emergency nurses were not willing to attend to the care of COVID-19 patients during the pandemic. Other studies in the literature indicated that 90.5% of nurses in China²², 88.1% in Qatar²³, and 60.4% in Korea¹⁸ were willing to join in frontline work. Besides these studies, 35.9% of health-care professionals in Nepal³⁶ and 12.5% of nurses in Korea¹⁸ were found to be unwilling to work throughout the COVID-19 pandemic. As a matter of fact, this variability may have resulted from the sample group differences of these studies or the cultural diversity of nurses. Considering that this study included only emergency nurses and was carried out in the late term of the pandemic, the fact that emergency nurses were exposed to more mental health problems with the prolongation of the pandemic suggested that this may have affected their willingness to work on the front lines.

| Table 3. Comparison of the Factors Affecting the Willingness of Emergency Nurses to Care for COVID-19 Patients (n=203) | | | | |
|--|-----------------|---------------|------------|---------|
| Variables | Unwilling n (%) | Willing n (%) | Chi-Square | P-value |
| Confidence in one's knowledge and skills | | | | |
| Do you think that you have sufficient knowledge and skills to undertake the treatment and care of COVID-19 patients? | | | | |
| Yes | 84 (51.5) | 79 (48.5) | 1.553 | 0.213 |
| No | 25 (62.5) | 15 (37.5) | | |
| Do you think that you have sufficient protective skills during performing your job? | | | | |
| Yes | 90 (50.8) | 87 (49.2) | 4.506 | 0.056 |
| No | 19 (73.1) | 7 (26.9) | | |
| Do you think that current nursing interventions are adequate for the care of COVID-19 patients? | | | | |
| Yes | 78 (50.3) | 77 (49.7) | 2.998 | 0.083 |
| No | 31 (64.6) | 17 (35.4) | | |
| Fear and perceived risk | | | | |
| Are you afraid of the contamination of COVID-19 even though you have been vaccinated? | | | | |
| Yes | 76 (61.3) | 48 (38.7) | 7.394 | 0.007 |
| No | 33 (41.8) | 46 (58.2) | | |
| Are you afraid of infecting your family and/or relatives with COVID-19? | | | | |
| Yes | 104 (55.1) | 80 (44.9) | 1.185 | 0.553 |
| No | 11 (46.7) | 8 (53.3) | | |
| Are you at risk of being infected with COVID-19 while working in the emergency department? | | | | |
| | | Mean ± SD | t* | P |
| Yes | | 9.53 ± 0.81 | -0.136 | 0.892 |
| No | | 9.51 ± 1.05 | | |
| Insufficient support and feelings of loneliness | | | | |
| Does caring for COVID-19 patients cause your family and/or relatives to stay away from you? | | | | |
| Yes | 80 (54.1) | 68 (45.9) | 1.167 | 0.558 |
| No | 29 (53.7) | 26 (46.3) | | |
| Do you have a fear of stigma for caring for COVID-19 patients? | | | | |
| Yes | 30 (55.6) | 24 (44.4) | 0.102 | 0.749 |
| No | 79 (53) | 70 (47) | | |
| Do you think that you get enough support from your managers during the COVID-19 pandemic? | | | | |
| Yes | 49 (55.7) | 39 (44.3) | 0.247 | 0.619 |
| No | 60 (52.2) | 55 (47.8) | | |
| Do you ever feel lonely during the COVID-19 pandemic? | | | | |
| Yes | 67 (51.1) | 64 (48.9) | 0.966 | 0.326 |
| No | 42 (58.3) | 30 (41.7) | | |

(Continued)

Table 3. Comparison of the Factors Affecting the Willingness of Emergency Nurses to Care for COVID-19 Patients (n=203) (Continued)

| Variables | Unwilling n (%) | Willing n (%) | Chi-Square | P-value |
|--|-----------------|---------------|------------|---------|
| Coping with psychological responses to the pandemic | | | | |
| During the COVID-19 pandemic, can you cope with your feelings such as stress, anxiety, and depression? | | | | |
| Yes | 67 (54.5) | 56 (45.5) | 0.783 | 0.076 |
| No | 42 (52.5) | 38 (47.5) | | |
| Do you get angry easily and cannot control your anger during the COVID-19 pandemic? | | | | |
| Yes | 39 (50.6) | 38 (49.4) | 0.463 | 0.496 |
| No | 70 (55.6) | 56 (44.4) | | |
| Do you ever feel tired or exhausted during the COVID-19 pandemic? | | | | |
| Yes | 88 (55) | 72 (45) | 0.518 | 0.472 |
| No | 21 (48.8) | 22 (51.2) | | |
| Do you have sleep problems during the COVID-19 pandemic? | | | | |
| Yes | 62 (58.5) | 44 (41.5) | 1.843 | 0.175 |
| No | 47 (49) | 49 (51) | | |
| The belief that will be protected from COVID-19 | | | | |
| Do you believe that personal protective equipment will protect you from COVID-19? | | | | |
| Yes | 66 (56.4) | 51 (43.6) | 0.365 | 0.819 |
| No | 43 (50) | 43 (50) | | |
| Do you believe that following standard care protocols will protect you from COVID-19? | | | | |
| Yes | 62 (51.7) | 58 (48.3) | 0.485 | 0.486 |
| No | 47 (56.6) | 36 (43.4) | | |
| Do you believe that getting vaccinated will protect you from COVID-19? | | | | |
| Yes | 67 (54) | 57 (46) | 0.015 | 0.904 |
| No | 42 (53.2) | 37 (46.8) | | |

COVID-19: Coronavirus disease 2019, t* Independent sample t test.

In this study, it was specified that about one-fourth of the emergency nurses had trouble keeping their jobs and were considering changing their departments or professions. Said and El-Shafei¹⁵ stated that 24.8% of nurses in Egypt thought of leaving nursing after the pandemic, Jang et al.¹⁸ reported that 69.4% of nurses in Korea had occupational risks and 10.2% were considering quitting, and similarly, Karaveli and Kukul Güven³⁰ found that 21.3% of the emergency department staff in Türkiye were considering quitting their jobs during the pandemic. In this study, the fact that the rate of emergency nurses who had trouble keeping their jobs and who were considering changing their departments or professions was higher than the results in the literature may be related to the sample group of the study and the prolonged pandemic. Indeed, even in the pre-pandemic period, it was shown that more than 50% of emergency workers were not satisfied with their jobs.³⁷ Besides, it has been stated that health-care professionals working in emergency departments are

more probably to utilize incompatible coping strategies for stress and anxiety, compared to other clinics.¹⁰ On the other hand, occupational stress has important effects on the intent to quit the profession as well as the current organization in the future.^{14,15} For this reason, it is crucial to properly manage the work intentions of health-care professionals throughout an epidemic to perform adequate public health emergency strategies.¹⁸ Authorities should immediately focus on strategies aimed at building a less stressful environment in emergency departments, increasing job satisfaction and stress adaptation among emergency nurses, and improving their mental health.

Related factors of nurses' willingness to work during a pandemic can be intricate.²² Consistent with the studies in the literature, it was found that about one-third of the emergency nurses who were married and had children were unwilling to work on the front lines of the pandemic. This result is compatible with the studies reporting that

Table 4. The Effect of Independent Variables on the Willingness of Emergency Nurses to Participate in the Care of COVID-19 Patients: Regression Model (n=203)

| Independent variable | Categories | Wald | | P-value | Exp (β) (Odds) | 95 CI% | |
|---|------------|--------|-------|---------|------------------------|--------|-------|
| | | | | | | Lower | Upper |
| Confidence in one's knowledge and skills | - | 11.812 | -0.78 | 0.001 | 0.459 | 0.294 | 0.715 |
| Fear | - | 2.844 | 0.47 | 0.092 | 1.596 | 0.927 | 2.749 |
| Inadequate support and feelings of loneliness | - | 1.420 | 0.23 | 0.233 | 1.257 | 0.863 | 1.832 |
| Coping with psychological responses to the pandemic | - | 0.076 | -0.05 | 0.783 | 0.954 | 0.681 | 1.336 |
| The belief that will be protected from COVID-19 | - | 5.249 | 0.36 | 0.022 | 1.427 | 1.053 | 1.935 |
| Support status ¹ | No | 0.175 | -0.22 | 0.676 | 0.801 | 0.282 | 2.271 |
| Perceived risk ² | No risk | 0.001 | 20.88 | 0.999 | - | 0.000 | - |
| Constant term | - | 0.370 | 0.71 | 0.543 | 2.028 | - | - |

Dependent variable: "Willingness to care for COVID-19 patients", subcategories: Yes, No.
 Reference categories: Yes¹, There is a risk².

family-level factors such as the necessity of child care, lack of social support, and concern for family and friends are related to nurses' willingness to join in frontline work.^{18,21,22,24,31} Indeed, it has been shown that the factor that forces the emergency department staff in terms of working conditions in Türkiye is being infected with COVID-19 and infecting the family.³⁰ It has been reported that one of the factors that significantly affect the perceived stress score of emergency nurses in Türkiye during the pandemic is the thought that COVID-19 will be transmitted to oneself.²⁸ In a meta-analysis study, it was found that childcare obligation was considerably associated with a decline in the willingness to work among health-care workers throughout the influenza epidemic.³⁸ In patriarchal societies such as Türkiye, for women who participate in working life, unlike men, tasks such as housework and childcare continue to be the burden of women.³⁹ Indeed, it is stated that in some societies, women are anticipated to spend more time with their children and have more burdens in managing care compared to men.²⁴ Under increased workload and stress,⁴⁰ nurses' perceived risks, tasks related to caring for patients, and family burdens may trigger an inner conflict of values.^{22,31} For this reason, taking measures to support childcare can be a substantial facilitating factor for nurses who are married and/or parents to effectively perform their professional roles and responsibilities in crises such as epidemics.

In addition, it was specified that more than half of the emergency nurses working in a university hospital were more willing to care, whereas half of the emergency nurses trained in the care of COVID-19 patients were more willing to provide care. Similarly, Luo et al.²² reported that most nurses (86.6%) were trained in infection prevention and that nurses with educational experience were more willing to join in frontline work. Gan et al.³¹ also found that nurses with high-level professional qualifications, who receive frequent training on COVID-19 and spend 1-3 h a day learning relevant information were more probably to be willing to participate in frontline work. Furthermore, Al-Hunaishi et al.¹⁷ emphasized that enhancing self-efficacy with education can improve the willingness to attend to public health emergencies such as an epidemic. Regarding this result, it can

be said that nurses who are prepared for the pandemic by receiving training in the care of COVID-19 patients are more willing to work on the front lines. The higher willingness of emergency nurses to work in a university hospital may also be related to the more intense and effective in-service training programs. Accordingly, it may be possible to make nurses more willing to work on the front lines with continuous in-service training programs offered to improve nurses' self-efficacy, decrease perceived risks, and strengthen their sense of security.

As reported in the logistic regression model, the decisive factors in the willingness of emergency nurses to care for COVID-19 patients were the confidence in their knowledge and skills in managing COVID-19 and the belief that they would be protected from COVID-19. In the literature, it was seen that the related factors of nurses' willingness to care for COVID-19 patients were variable. In the study of Tong et al.,²⁴ factors related to nurses' willingness to join in the struggle against COVID-19 were being single, not having children, having higher professional qualifications and a more prestigious professional title, being a supervisor, having higher care dimensions inventory score, working in a hospital, and receiving care training provided by the employer. Gan et al.³¹ listed the characteristics of nurses who were likely to be willing to be young, single, have senior professional qualifications, work in intensive care units, receive family support, have adequate education and training, have good health status, and have low anxiety levels. Contrary to these studies, Wu et al.¹⁹ revealed that individual factors such as gender, education, fertility, nature, and level of hospitals did not have a significant effect on nurses' willingness to attend to epidemic control. On the other hand, Ke et al.²¹ grouped the related factors into individual aspects, family aspects, and organizational aspects. In light of these results, ensuring that nurses are adequately prepared for epidemics with continuing training and psychological support may be effective in maintaining nurses' willingness to fight on the front lines. In addition, effective organizational preparations to increase nurses' sense of security, ensuring adequate and quality PPE, constantly sharing up-to-date protocols with nurses, and implementing effective communication strategies

(information emails, brochures, face-to-face daily meetings, messages, etc.) might be vital. Indeed, it was indicated that motivational messages sent to emergency nurses in Türkiye during the COVID-19 pandemic significantly increased job satisfaction and communication skills and reduced the compassion fatigue of nurses.⁴¹

Limitations of the Study

This study has some limitations. First, the results cannot be generalized to other cities and all health-care professionals, as this study was conducted with emergency nurses from only seven hospitals in one metropolitan city in Türkiye. Second, the data were collected with a self-reported survey due to the lack of standardized assessment tools to evaluate nurses' willingness to join in frontline work. Furthermore, the online data collection and the nurses' self-report may have caused bias.

Conclusion

This study has indicated that more than half of the emergency nurses were not willing to join in the care of COVID-19 patients; approximately one-fourth of them had trouble keeping their jobs and were considering changing their departments or positions in the profession with the prolongation of the pandemic. The willingness of emergency nurses to work throughout the pandemic can be improved by increasing the preparedness of nurses for the epidemic with adequate training and psychological support, providing social support, raising the sense of security by effectively coordinating resources, and applying effective communication strategies. Finally, it might be helpful to gain a comprehensive understanding of nurses' willingness through semi-structured in-depth interviews.

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