



Nurses' COVID-19 fears and patient safety attitudes in the pandemic

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ABSTRACT

Introduction and aim. The fear experienced by nurses during the COVID-19 pandemic may threaten patient safety. This study was conducted with the aim of examining nurses' COVID-19 fears and attitudes to patient safety in the pandemic.

Material and methods. The research had a descriptive and cross-sectional design. The research sample consisted of 245 nurses working at a teaching and research hospital in Istanbul, Turkey's most populous province. Research data were collected in June–July 2021. A Nurse Characteristics Form, the Fear of COVID-19 Scale (FCV-19S) and the Patient Safety Attitude Questionnaire were used to collect data. The data evaluation was performed using descriptive statistics, Student t test, one-way variance (ANOVA), and Pearson correlation analysis.

Results. The nurses' mean score for fear of COVID-19 was 16.67 ± 6.88 , and their mean score for patient safety attitude was 141.70 ± 27.78 . Their COVID-19 fear levels and mean patient safety attitude scores were found to differ according to their intention to leave the job, their education on COVID-19 and their age.

Conclusion. Nurses' experiencing of physical, social and psychological problems relating to the COVID-19 pandemic should be followed up in the long term.

Keywords. COVID-19, nurses, patient safety

Introduction

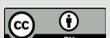
Patient safety is an integral part of quality health care.¹ For this reason, provision of sustainable, safe and optimal care for patients causes concern.^{2,3} Patient safety is the actions taken to prevent and remove problems which may affect patients and their families during health services provided by health professionals.⁴ The World Health Organization has reported that in hospitals in low and middle income countries, 134 million adverse events occur annually, and that of these, 2.6 million result in death. At the same time, it is reported that four out of ten people who are treated in hospital suf-

fer adverse effects from some situation or event.² Since the first days of the nursing profession, nurses have assumed a vital role in ensuring and improving patient safety, because of the nature of their work.^{1,5,6} In every environment in which they work, they are charged with protecting patients from possible dangers and preventing unwanted results of interventions.⁷ A wrong or negative attitude to patient safety may make the implementation of policies relating to patient safety more difficult. Therefore, it is necessary to know attitudes to patient safety and the factors affecting them in order to create a safe environment.⁸

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COVID-19 has threatened the lives of many people,⁹ and in particular has been the cause of stress, exhaustion, depression, anxiety, fear and sleeplessness in health workers who are fighting the disease.¹⁰⁻¹³ A high level of fear of COVID-19, particularly in nurses caring for patients affected by it, increases stress and negative feelings.^{14,15} Work-related stress is a potential cause of concern for health professionals. Nurses' experience of anxiety, depression, fear and exhaustion, can pose a risk for a safe health care service.^{8,11,16} A time of pandemic can disrupt wellbeing and work efficiency in times of crisis.¹⁷ Therefore, nurses should maintain their psychological health to ensure the quality of care for patients.^{11,12} Since the beginning of the pandemic, many studies have been conducted on the effects of COVID-19 on the mental health of health workers, but it is important to know how it affected how nurses fulfilled their roles, and the attitudes and behaviors which they displayed.^{6,10,11,18,19}

Attitude is a concept which includes beliefs and behaviors which can affect individuals' decisions and shape their behaviors.²⁰ Patient safety attitude refers to the extent to which the healthcare staff perceives the safety culture of the department or hospital.²¹ Showing a negative attitude to patient safety has a negative effect on interventions relating to patient safety.²² During the pandemic, nurses have put their lives at risk in order to perform their duties, and have felt the fear of becoming infected or of infecting others.⁶ A feeling of uncertainty in relation to COVID-19 may cause fears concerning coronavirus.¹⁷ Fear is a feeling which shows itself with a high level of emotional avoidance of the reason for certain stimuli, and which affects individuals' physical reactions, cognitive skills and mental states. An increase in the level of fear increases intolerance of an uncertain situation, triggers various negativities and can make the situation worse.¹³ Nurses are at high risk of occupational exposure while caring for patient with COVID-19. The severity of an illness, mortality and the risk of infection cause worry and fear in nurses. This can affect nurses' health and quality of care during the pandemic.^{17,18} To the best of our knowledge, there are no studies in the literature that have reported on the relationship between patient safety attitudes and COVID-19 fear levels in nurses.

Aim

This study was conducted with the aim of examining the fears of COVID-19 and attitudes to patient safety of nurses on the front line of the fight against the illness during the pandemic.

Material and methods

Ethical approval

In this study, all procedures were performed in accordance with the ethical standards, and by the Helsinki

Declaration. This study was approved by Ç University's institutional review body (Approval No. 2021-YÖNP-0378). The researcher explained to each nurse participant what the study was about as well as their rights and roles as study participants. Participation was voluntary, anonymous, and did not involve any compensation. Informed consent was obtained from all participants.

Study design and participants

This study used a descriptive cross-sectional research design. The population of the study consisted of 557 nurses working at a teaching and research hospital in Istanbul, Turkey's most populous province. Nurses who had been on active duty in patient care and who accepted to participate were included in the research. Nurses who were on leave or on sick leave on the dates when the research was performed (n=90), who had not been on active duty in patient care during the pandemic (n=124), who filled the data collection forms incompletely (n=28) or, who not accepted to participate (n=70) were not included in the study. The final study population consisted of 245 (73.1%) nurses.

Data collection tools

After the necessary explanations about the research were given to the nurses included in the research, data collection tools were applied to the nurses who volunteered to participate. Research data were collected in June-July 2021. A Nurse Characteristics Form, the Fear of COVID-19 Scale (FCV-19S) and the Patient Safety Attitude Questionnaire were used to collect data.

Nurse Characteristics Form: This form contained 21 questions dealing with the nurses' sociodemographic and other descriptive characteristics such as gender, age, marital status, the clinic where they worked, and total professional experience.

Fear of COVID-19 Scale (FCV-19S): The Fear of COVID-19 Scale was developed by Ahorsu et al. (2020) and adapted to Turkish language by Bakioğlu et al. (2021).^{17,18} The FCV-19S is a 7-item self-report instrument to measure the severity of COVID-19 fear. The scores that can be obtained from the scale are between 7 and 35. As the score obtained from the scale increases, the fear of COVID-19 increases. Cronbach's alpha internal consistency coefficient of the original scale was 0.82. Cronbach's alpha for Turkish version was 0.88. The Cronbach's a for the current total sample was 0.71.

Patient Safety Attitude Questionnaire: The Safety Attitude Questionnaire (SAQ) was developed by Sexton et al (2006) and adapted to Turkish language by Baykal and Altuntas (2010).^{21,23} The questionnaire includes 46 items and six subscales; job satisfaction, teamwork climate, safety climate, perceptions of management, stress recognition, and working conditions. The scores that can be obtained from the scale are between 46 and 230. An increase in total subscales of overall score indicates a

positive attitude toward patient safety; as the total score increases, patient safety attitude increases; and as the total score decreases, patient safety attitude decreases. The Cronbach alpha value of the scale was 0.93, and those of the sub-dimensions were between 0.72 and 0.86. In this study, the Cronbach's alpha value was found to be 0.71, and those of the sub-dimensions were between 0.64 and 0.72.

Statistical analysis

Continuous variables are expressed as means \pm SD, and categorical variables are expressed as percentages. The data was examined for conformity to normal distribution with the Kolmogorov-Smirnov test, and evaluated using the Student t test and one-way variance (ANOVA) analysis. Post-Hoc analyses were performed where appropriate using Bonferroni correction. The correlation between the nurses' coronavirus fear levels and their attitudes to patient safety was determined with Pearson correlation analysis. For all tests, two-sided P values of $<.05$ were considered as significant. Statistical analysis was performed using the Statistical Package for the Social Sciences (SPSS) version 20.0 for Windows (SPSS Inc., Chicago, Illinois, USA).

Results

The mean age of the nurses included in the study was 28.39 ± 4.57 years, and their total professional experience was 70.40 ± 50.05 months. A majority of the participants (51%) lived with their families, 80.4% were female, 74.3% were university graduates, and 65% were single. Similarly, 75.5% had no intention of leaving the profession, 82.2% had no chronic health problem, 81.6% had cared for COVID-19 patients, and 58.4% had not had a COVID-19 infection. The proportion of nurses who had had a problem with patient safety but who had not reported it was 54.9% (Table 1).

The nurses' mean score for coronavirus (COVID-19) fear levels was 16.67 ± 6.88 , and it was found that they experienced coronavirus fear at a low level (Table 1). Coronavirus fear levels were high in those who intended to leave the profession ($p=0.000$), those who had a chronic illness ($p=0.02$), and those who had had no training on COVID-19 ($p=0.003$). Coronavirus fear levels were higher in those aged 26–30 than in those aged 21–25 ($p=0.01$, Table 2).

The nurses' mean total score on the Patient Safety Attitude Questionnaire was 141.70 ± 27.78 , showing that they had a positive attitude to patient safety. Total scores related to the subscales show that the highest score was obtained from teamwork climate (39.84 ± 8.94) and that the lowest score obtained was from stress recognition (15.28 ± 4.88) (Table 1). Mean patient safety attitude scores were high in nurses who were aged 31 or above ($p=0.000$), those with a total professional experience of

Table 1. Nurses' socio-demographic and descriptive characteristics

		n (%)
Age	21-25 years	45 (18.4)
	26-30 years	151 (61.6)
	31 years or more	49 (20)
Total professional experience	1-5 years	163 (66.5)
	6-10 years	49 (20)
	11 years or more	33 (13.5)
Do you live alone at home?	Yes	83 (33.9)
	No. With my family	125 (51)
	No. With a friend	37 (15.1)
Gender	Female	197 (80.4)
	Male	48 (19.6)
Educational status	Health vocational high school	18 (7.3)
	Ordinary degree	30 (12.2)
	Honours degree	182 (74.3)
	Postgraduate (Masters/Doctorate)	15 (6.1)
Marital status	Married	85 (34.7)
	Single	160 (65.3)
Place of work	Ward	73 (29.8)
	ICU	139 (56.7)
	Operating theater	16 (6.5)
	Other	17 (6.9)
Work status	Clinician/Ward nurse	228 (93.1)
	Nurse manager	17 (6.9)
Working arrangement	Always daytime	38 (15.5)
	Shift (night/day)	194 (79.2)
	Always night	13 (5.3)
Average weekly working hours	≤ 40 hours	87 (35.5)
	> 40 hours	158 (64.5)
Intention to leave the profession	Yes	60 (24.5)
	No	185 (75.5)
Do you have a chronic illness problem?	Yes	44 (18)
	No	201 (82)
Have you cared for COVID-19 patients?	Yes	200 (81.6)
	No	45 (18.4)
Have you had a COVID-19 infection?	Yes	102 (41.6)
	No	143 (58.4)
Have you had training on COVID-19?	Yes	179 (73.1)
	No	66 (26.9)
Have you had psychological support because of COVID-19?	Yes	6 (2.4)
	No	239 (97.6)
Have you had training on patient safety?	Yes	219 (89.4)
	No	26 (10.6)
Have you had any problems with patient safety?	Yes	71 (29)
	No	174 (71)
If you had a patient safety problem, did you report it?	Yes	32 (45.1)
	No	39 (54.9)
Fear of COVID-19 Scale score	(7–35)	16.67 ± 6.88 (min.7–max.35)
Patient Safety Attitude Questionnaire total score	(46–230)	141.70 ± 27.78 (min.69–max.225)
Work Satisfaction (11–55)		29.42 ± 9.75 (min.11–max.55)
Teamwork climate (12–60)		39.84 ± 8.94 (min.15–max.59)
Safety climate (5–25)		16.68 ± 4.54 (min.5–max.25)
Perceptions of management (7–35)		22.82 ± 6.53 (min.7–max.25)
Stress recognition (5–25)		22.82 ± 6.53 (min.7–max.25)
Working conditions (6–30)		15.28 ± 4.88 (min.5–max.25)
		18.69 ± 3.94 (min.8–max.30)

Table 2. Factors affecting nurses' coronavirus fear levels^a

		M \pm SD	p
Age	21-25 years	14.2 \pm 5.75	
	26-30 years	17.53 \pm 7.37	0.01*
	31 years or more	16.31 \pm 5.7	
Intention to leave the profession	Yes	19.4 \pm 8.61	
	No	15.79 \pm 5.99	<0.001
Chronic health problem	Yes	18.72 \pm 7.21	
	No	16.22 \pm 6.74	0.02*
COVID-19 training	Yes	15.88 \pm 6.33	
	No	18.82 \pm 7.85	0.003*

^a Significant difference at $p < 0.05$; value in bold: significant; ANOVA, Students t test

Table 3. Factors affecting nurses' attitudes to patient safety^a

	Patient Safety Attitude Questionnaire														
	Work Satisfaction		Teamwork climate		Safety climate		Perceptions of management		Stress recognition		Work conditions		Total		
	M±SD	p	M±SD	p	M±SD	p	M±SD	p	M±SD	p	M±SD	p	M±SD	p	
Age	21-25 years	30.24±10.11		40.60±9.72		16.33±5.13		22.22±7.52		14.18±4.68		18.13±4.39		141.64±28.39	
	26-30 years	27.51±9.34		38.60±8.93		16.18±4.56		22.22±20.39		15.18±4.91		18.18±3.52		136.24±26.01	
	31 years or more	34.57±8.88	<0.001	42.98±7.40	0.009*	18.51±3.38	0.006*	25.20±5.51	0.53	16.61±4.76	0.04*	20.77±4.15	<0.001	158.59±26.19	<0.001
Total professional experience	1-5 years	27.40±9.41		38.22±8.99		15.75±4.69		21.75±19.85		15.19±4.88		18.15±3.55		134.93±25.94	
	6-10 years	31.00±8.65		41.90±7.84		18.00±3.52		25.51±5.54		14.73±4.14		18.61±4.14		147.75±23.72	
Living alone Yes	11 years or more	37.09±8.90	<0.001	44.79±7.92	<0.001	19.30±3.65	<0.001	27.06±4.24	0.23	16.54±5.26	0.23	21.45±4.42	<0.001	166.15±27.00	<0.001
	No. With family	29.82±9.52		39.48±8.44		16.91±4.54		24.55±26.78		15.53±4.71		18.35±3.24		141.88±24.47	
No. With friend	No. With family	30.26±9.92	0.03*	40.72±8.98	0.017	16.89±4.51	0.19	22.61±6.56	0.31	15.38±4.64	0.46	19.18±4.13	0.10	145.15±28.21	0.01*
	No. With friend	25.70±9.07		37.67±9.66		15.43±4.58		19.62±7.28		14.38±5.98		17.78±4.56		129.65±30.59	
Marital status	Married	32.15±9.16		41.52±8.75		17.70±3.76		23.88±5.71		16.19±4.71		19.60±4.35		151.05±27.49	
	Single	27.97±9.78	0.001*	38.95±8.93	0.03*	16.13±4.83	0.01*	22.25±20.03	0.46	14.80±4.92	0.03*	18.21±3.63	0.008*	136.74±26.72	<0.001
Place of work	Ward	31.53±10.01		41.38±10.53		17.12±5.44		23.78±7.15		14.94±4.69		19.59±3.86		148.01±28.42	
	ICU	27.32±9.34		38.47±7.99		16.10±4.19		21.80±21.17		14.91±4.91		17.92±3.52		134.76±25.30	
	Operating theater	35.44±10.68	0.001*	45.87±6.91	0.004*	19.06±3.19	0.06	27.00±5.82	0.61	17.94±5.36	0.03*	21.97±5.93	0.001*	167.75±31.98	<0.001
Other	Other	31.94±6.23		38.70±7.66		17.23±3.27		23.06±2.77		17.29±4.04		18.59±3.79		146.82±18.69	
	Clinician/Ward nurse	28.78±9.38		39.39±8.85		16.41±4.50		22.49±17.06		15.17±4.84		18.52±3.94		139.57±26.64	
Nurse manager	Nurse manager	38.06±10.84	<0.001	45.88±8.00	0.004*	20.29±3.51	0.001*	27.18±4.05	0.26	16.82±5.39	0.17	21.00±3.26	0.01*	170.23±27.83	<0.001
	Working arrangement														
Always day	Always day	34.34±10.70		43.16±8.55		18.95±3.49		24.16±6.32		16.05±4.80		19.92±4.38		156.50±27.79	
	Shift (night/day)	28.30±9.22	0.001*	39.16±8.77	0.004*	16.27±4.59	0.003*	22.58±18.26	0.86	15.08±4.92	0.44	18.44±3.78	0.10	138.55±26.54	0.001*
Always night	Always night	31.77±10.61		40.31±10.96		16.08±4.99		22.46±7.90		16.08±4.63		18.85±4.58		145.54±33.33	
	Weekly average working hours														
≤ 40 hours	≤ 40 hours	31.92±10.18	0.003*	42.46±8.56	0.001*	18.23±4.04	<0.001	26.17±26.01	0.01*	16.00±4.94	0.08	19.16±4.42	0.16	151.45±27.77	<0.001
	> 40 hours	28.05±9.26		38.40±8.84		15.82±4.59		20.97±6.67		14.89±4.82		18.43±3.64		136.33±26.37	
Intention to leave the profession	Yes	25.95±9.78	0.001*	37.40±9.02	0.01*	16.55±4.80	0.80	18.88±7.40	0.06*	13.78±5.32	0.006*	17.05±3.85	<0.001	129.28±26.83	<0.001
	No	30.55±9.50		40.63±8.79		16.72±4.71	0.80	24.09±18.39	0.03*	15.77±4.64	0.13	19.22±3.84		145.73±26.95	<0.001
Caring for COVID-19 patients	Yes	28.07±9.49	<0.001	39.35±8.74	0.07	16.34±4.59	0.01*	22.27±18.06	0.28	15.06±4.89	0.13	18.32±3.56		138.18±25.92	<0.001
	No	35.44±8.65		42.00±9.56		18.18±4.02	0.01*	21.22±5.69	0.28	16.27±4.78	0.13	20.31±5.07	0.002*	157.35±30.56	<0.001
COVID-19 training	Yes	30.68±9.71		40.67±9.10		16.95±4.73		24.11±18.82		15.43±4.71		18.98±3.95		145.42±27.90	
	No	26.01±9.11	0.001*	37.59±8.11	0.01*	15.94±3.93	0.12	19.30±6.22	0.04*	14.86±5.33	0.41	17.91±3.85	0.06	131.62±24.99	<0.001
Patient safety training	Yes	30.05±9.48		40.26±8.94		16.77±4.49		23.47±17.19		15.45±4.68		18.83±3.93		143.68±27.18	
	No	24.15±10.64	0.003*	36.31±8.24	0.03*	15.88±5.01	0.34	17.31±7.40	0.07	13.88±6.26	0.12	17.50±3.89	0.10	125.04±27.70	0.001*

^aSignificant difference at p<0.05; value in bold: significant; ANOVA; Students t test

Table 4. Correlation between nurses' COVID-19 fear levels and attitudes to patient safety^a

Fear of COVID-19	Patient Safety Attitude Questionnaire													
	Work Satisfaction		Teamwork climate		Safety climate		Perceptions of management		Stress recognition		Work conditions		Total	
	r	p	r	p	r	p	r	p	r	p	r	p	r	p
	0.02	0.78	-0.10	0.10	0.04	0.60	-0.04	0.58	-0.18	0.005	-0.23	<0.001	-0.07	0.27

^a r: correlation coefficient; using Pearson's correlation analyses

≥11 years ($p=0.000$), those who were married ($p=0.001$), those who were nurse managers ($p<0.001$), those whose mean weekly working hours were ≤ 40 ($p<0.001$), those who did not plan to leave the profession ($p<0.001$), those who were not caring for COVID-19 patients ($p<0.001$), those who had had training on COVID-19 ($p<0.001$), and those who had had training on patient safety ($p=0.001$). Also, mean scores on patient safety attitudes were higher in those who lived with their families compared with those living with friends ($p=0.01$), in those working in the operating theater compared with those working on the ward or in the intensive care unit (ICU) ($p=0.000$), and in those permanently working in the daytime compared with those doing shift work ($p=0.001$) (Table 3).

There was respectively a very weak and a weak negative correlation between the nurses' patient safety attitudes sub-dimensions of stress recognition ($r=-0.18$) and working conditions ($r=-0.23$) and their level of fear of coronavirus (Table 4).

Discussion

Nurses have an important role in ensuring patient safety, because they provide care directly to patients.⁶ During the pandemic, feelings such as stress, anxiety, depression, fear and exhaustion threatened the maintenance of patient safety practices.^{11,24} No studies were found in the literature examining the relation between patient safety attitudes and COVID-19 fear levels in nurses. In this study, nurses' COVID-19 fears and patient safety attitudes during the pandemic were examined. In the literature, it is known that nurses' attitudes to patient safety are positive.²⁵⁻²⁸ The results of this study are similar to the literature. However, it is noticeable that the nurses' attitudes to patient safety were not at a high level. A positive patient safety attitude is important to prevent unwanted events from occurring.²⁹ Health professionals' training on patient safety is an important factor affecting patient safety.³⁰ Ünver and Yeniğün reported that the attitudes to patient safety of nurses who stated that they had received patient safety training were higher.²⁸ This study reached similar conclusions.

The study found that the most positive attitude regarding patient safety pertained to teamwork climate and that the most negative attitude pertained to stress recognition. Similar conclusions have been reached in different studies.^{27,28,31} Teamwork among health workers is necessary not only to ensure patient safety but

also to improve work satisfaction and the stress levels of personnel.^{32,33} It is also reported in different studies examining the attitudes of nurses to patient safety that the lowest score was obtained on the sub-dimension of stress recognition.^{31,34} Stress recognition is related to the recognition of the effect on work performance of stress factors relating to nurses' work.²¹ In this study, it can be said that nurses who were aged 31 or above, were married, worked in the operating theater, and did not intend to leave the profession had better mechanisms to recognize stress in the workplace, and thought that their daily work performance was affected in stressful situations.

Work satisfaction is defined as a person's positivity in relation to their work experience.²¹ In this study, work satisfaction had the second highest score in nurses. Labrague et al. found that the coronavirus fear levels of nurses in the Philippines were 19.92 ± 6.15 , and that higher COVID-19 fear levels were correlated with increasing psychological stress, lower work satisfaction, decreasing health perceptions and an increasing intention to leave the profession.⁶ Baysal et al. found that during the pandemic, the COVID-19 fears of nurses in Turkey, Brazil, Spain and Italy were above average, and that they had a negative effect on the quality of their professional life.³⁵ Factors such as inadequate personnel and resources, lack of administrative support and teamwork, low job satisfaction and an excessive workload have a negative effect on patient safety.³³ It has been reported in previous studies that nurses working excessive hours had lower scores on patient safety than those working fewer hours.^{32,36,37} Similar conclusions were reached in this study.

Hu et al. found that nurses working in China in the city of Wuhan during the COVID-19 outbreak reported a high level of fear (30.41 ± 7.60).¹¹ In other studies, mean scores of the level of fear of coronavirus in nurses have been found to be 20.23 ± 5.87 and 25.09 ± 7.29 .^{14,15} Similarly, coronavirus fear levels in health workers have been found to be high.^{16,38} In contrast to these findings, the coronavirus fear level of nurses in this study was low (16.67 ± 6.88). Gaining knowledge and experience on the patient group which they encountered during the pandemic may have helped nurses to cope with stress. It is reported in the literature that COVID-19 fear increased in nurses who had not taken part in training on COVID-19.^{6,15} Having better information and knowledge to be able to cope in emergency situations can minimize nurses' COVID-19 fears.³⁹ In this study also,

coronavirus fear levels were high in nurses who had not had training in COVID-19. In addition, coronavirus fear levels were low and the total score of patient safety attitude and the scores on all sub-dimensions except security climate were found to be high in nurses who did not intend to leave the profession compared with ones who did. Nurses who were not content with their work have a greater tendency to make medical errors.³⁶ Identifying and reporting medical errors is one of the most significant steps toward the adoption of measures to increase patient safety.⁴⁰ For this reason, not reporting or under-reporting negative events obstructs measures to ensure patient safety. In the study, a significant proportion of the nurses who had experienced a problem relating to patient safety stated that they had given a false report or had not reported it. In other studies, the proportion of nurses giving false reports was found to be low.^{29,30,41}

Study limitations

A limitation of this study is that selection was biased because of the use of a questionnaire. The fact that this study was conducted at a single center was another limitation. Apart from these, the cross-sectional nature of the current study precludes the causal effects. The results obtained did not express the exact causal relationships between the variables.

Conclusion

It was found in this study that the nurses' fear of coronavirus was low and their attitudes to patient safety were positive, but that the correlation between them was not significant. The proportion of nurses who had experienced a problem concerning patient safety and had nevertheless reported it was not at the desired level. It is thought that there is a need for studies to improve the conditions whereby unwanted incidents occur which are a risk to patient safety but which are not reported. Adaptation of nurses working in COVID-19 wards must be ensured, and the necessary training should take place regularly with the benefit of up-to-date information. Nurses' experiencing of physical, social and psychological problems relating to the COVID-19 pandemic should be followed up in the long term. In addition, an assessment should be made of the reflection in health care service of these problems which may occur. Nurses' working hours should be adjusted, taking these problems into account.

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Declarations

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Author contributions

Conceptualization, S.E., S.T. and E.D.; Methodology, S.E., S.T. and E.D.; Software, S.E. and S.T.; Validation, S.E. and S.T.; Formal Analysis, S.E. and S.T.; Investigation, S.E., S.T. and E.D.; Resources, S.E., S.T. and E.D.; Data Curation, S.E., S.T. and E.D.; Writing Original Draft Preparation, S.E. and S.T.; Writing – Review & Editing, S.E., S.T. and E.D.; Visualization, S.E., S.T. and E.D.; Supervision, S.E. and S.T.; Project Administration, S.E. and S.T.

Conflicts of interest

All authors declare that they have no conflicts of interest.

Data availability

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

Ethical approval

In this study, all procedures were performed in accordance with the ethical standards, and by the Helsinki Declaration. This study was approved by Ç University's institutional review body (Approval No. 2021-YÖNP-0378). The researcher explained to each nurse participant what the study was about as well as their rights and roles as study participants. Participation was voluntary, anonymous, and did not involve any compensation. Informed consent was obtained from all participants.

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