Araştırma Makalesi/ Research Article

Factors Affecting the Coronavirus Fear Levels of Nurses

Hemşirelerin Koronavirüs Korku Düzeylerini Etkileyen Faktörler

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ABSTRACT
Objective: This study was conducted to examine the coronavirus fear levels of nurses and the factors affecting them during the COVID-19 outbreak.
Method: Research was carried out with nurses working in two public hospitals located in Turkey's Eastern Anatolia region between 1-30 June 2020. In this study, all nurses were tried to be reached and a sample from the population was not chosen. The research sample was calculated as 420 nurses at 95% confidence interval, and it was completed with 421 nurses. "Personal Information Form" and "Coronavirus Phobia Scale (C19P-S)" were used in data collection. After obtaining the approval of the ethics committee for the research, data were collected online voluntarily basis. Frequency, percentage calculation, independent groups t-test and one-way ANOVA test were used in the evaluation of the data.
Findings: The total coronavirus fear levels of the nurses (53.09 ± 13.62) and social fear levels (14.36 ± 4.13) were found to be moderate. Psychological fear levels (19.14 ± 4.91) were determined to be above average. Somatic (10.56 ± 3.84) and economic (9.01 ± 2.85) coronavirus fear levels were found to be below average. A statistically significant difference was found between the nurses' gender, educational status, income levels, their employment in risky units, their belief that the coronavirus would end soon, and their coronavirus fear levels ($p < 0.05$).
Conclusion: It was found in this study that women, those with low income, and nurses working in COVID-19 units were found to have higher coronavirus fears. It is recommended that the working conditions of the nurses would be improved and the nurses would be involved in in-service trainings regarding how to cope with outbreaks and crises.
Keywords: COVID-19, coronavirus, fear, nurse

ÖZ
Amaç: Bu çalışma, COVID-19 salgını süresi içinde hemşirelerin koronavirüs korku düzeylerini ve bu düzeyi etkileyen faktörlerin incelenmesi amacıyla yapılmıştır.
Gereç ve Yöntem: Araştırma, 1-30 Haziran 2020 tarihleri arasında Türkiye'nin Doğu Anadolu Bölgesinde yer alan iki devlet hastanesinde çalışan hemşireler ile yürütülmüştür. Bu çalışmada evrenden örneklem seçimine gidilmeyerek tüm hemşirelere ulaşılmaya çalışılmıştır. Araştırma örneklemini %95 güven aralığında 420 hemşire olarak hesaplanmış, 421 hemşire ile tamamlanmıştır. Veriler Google Formlar ile toplanmış, hemşireler ile link paylaşılmıştır. hazırlanarak hemşirelere gönderilen bağlantı adresi ile toplanmıştır. Veri toplamada "Sosyo demografik Bilgi Formu " ve ''Koronavirüs Korku Ölçegi (C19P-S)'' kullanılmıştır. Araştırma için etik kurul onayı alındıktan sonra veriler toplanmıştır. Verilerin değerlendirmesinde frekans, yüzdelik hesaplama, bağımsız gruplarda t testi ve one way Anova testi kullanılmıştır.
Bulgular: Hemşirelerin toplam koronavirüs korku düzeyleri (53.09 ± 13.62) ile sosyal korku düzeyleri (14.36 ± 4.13) orta seviyededir. Psikolojik korku düzeylerinin (19.14 ± 4.91) ortalamanın üstünde olduğu belirlenmiştir. Somatik (10.56 ± 3.84) ve ekonomik (9.01 ± 2.85) koronavirüs korku düzeylerinin ortalamanın altında olduğu saptanmıştır. Hemşirelerin cinsiyet, eğitim durumları, gelir durumları, riskli birimlerde görev alma durumları, koronavirüsün kısa sürede biteceğine inançları ile koronavirüs korku düzeyleri arasında istatistiksel olarak anlamlı bir fark bulunmuştur ($p < 0.05$).
Sonuç: Sonuç olarak bu çalışmada kadınların, gelir düzeyi düşük olanların ve COVID-19 birimlerinde çalışan hemşirelerin koronavirüs korkularının daha yüksek olduğu tespit edildi. Hemşirelerin çalışma koşullarının iyileştirilmesi ve hemşirelere yönelik salgın ve krizlere yönelik baş etme eğitimlerine daha fazla yer verilmesi önerilmektedir.
Anahtar kelimeler: Covid-19, koronavirüs, korku, hemşire

Introduction

Coronavirus (COVID-19), a new type of virus, first started in Wuhan, China in late December 2019 and continues all over the world with a continuous viral pneumonia epidemic (Guan et al., 2020; Paules et al., 2020). COVID-19 is a new and serious problem, and limited information is available about risk factors. COVID-19 poses a higher risk for individuals over 65 with chronic diseases such as hypertension, diabetes, obesity and immunosuppressive problems (Ueda et al., 2020).

COVID-19 is an acute and fatal disease, plus the average case fatality rate is 2% (Xu et al., 2020). COVID-19 causes severe respiratory diseases associated with mechanical ventilation and high mortality (Huang, 2020). The most common symptoms of COVID-19 are noted to be fever, chills, cough, weakness, and shortness of breath (Guan et al., 2020; Xu et al., 2020; Huang et al., 2020).

It is emphasized that fear is a characteristic nature of infectious diseases compared to other conditions. Fear is directly related to the transmission rate, environment, morbidity and mortality of the disease. This also leads to other psychosocial difficulties such as stigmatization, discrimination, and loss (Pappas et al., 2009).

The infection caused by COVID-19 and the high mortality rate and the thought of contacting people diagnosed with COVID-19 cause an increase in the levels of fear and anxiety of individuals (Lin,2020). The fear of COVID-19 causes an increase in physiological and psychological problems in individuals. It was stated that the COVID-19 outbreak can cause psychological disturbances such as post-traumatic stress disorder, acute stress disorder, depression, and suicidal behaviors. Also, the emergence and pandemic nature of COVID-19 is stated to increase the fear of stigmatization in individuals (Guan et al., 2020; Huang et al., 2020; Lin, 2020).

Nurses, who are at the forefront of this global critical care crisis and the unique health emergency, are the largest health professions that provide and continue to provide essential care (Pappas et al., 2009; Li et al., 2003). Nursing, which is based on a scientific and theoretical basis, is a health discipline that deals with the health of individuals, families and the society in general, and includes practical skills, has a vital importance for sick individuals in terms of the services it provides (Akça, 2010). The services provided by nurses are services that cannot be met by sick people or any member of the society (Öz, 2015). The physiological and mental state of nurses, who are healthcare practitioners and professionals, are also very important and affect both their social life and fulfilling the responsibilities imposed by the profession (Muşlu et al., 2012; Khamisa et al., 2013; Kızılırmak and Demir, 2016).

Therefore, more research is needed to clarify nurses' coping strategies and emotional response during a major infectious disease such as COVID-19.

Methods

Study Design

This study was planned as a cross-sectional and descriptive design to examine the coronavirus fear levels of nurses and the factors affecting them during the COVID-19 outbreak.

Setting and Sampling

The research was carried out with nurses working in two public hospitals located in Turkey's Eastern Anatolia region between 1-30 June 2020. Nurses actively working in two public hospitals that are in Turkey's Eastern Anatolia region constituted the universe of the study. A sample was not chosen for the study, 640 actively working nurses during the specified dates were reached and 421 nurses who agreed to participate in the study constituted the sample of the study.

A total of 987 nurses work in the two state hospitals that were included in the study. The research sample was calculated as 420 nurses at a 95% confidence interval and completed with 421 nurses (Cohen et al., 2013).

Ethical Considerations

Permission of conducting the study was granted by the Institutional Review Board (IRB) of the university with the date:29/05/2020 and number:10879717-050.01.04. After the researchers interviewed the nurses face-to-face and gave information about the study, they sent the link of the study to the nurses who agreed to participate in the study. Nurses were informed verbally about the study, taking into account social distance. Verbal consent to participate in the research was obtained from the individuals by giving information about the purpose of the research, the method, the time they would spare for the research, and by declaring that participating in the research would not do any harm and that the participation was completely voluntary.

Measurements
Personal Information Form

This form was prepared by the researchers to determine the participants' characteristics, which included seven questions in total regarding their gender, age, marital status, educational status, economic status, and working status in coronavirus units (Baksi et al., 2020; Çankaya and Eriş, 2020; Durmuş et al., 2017; Korkmazer et al., 2020; Köse and Sis Çelik, 2020).

The Coronavirus Phobia Scale (C19P-S)

The Coronavirus Phobia Scale (C19P-S) is a 5-grade Likert-type self-assessment scale developed to measure the phobia that can develop against the coronavirus. Scale items are evaluated between 1 "Strongly Disagree" and 5 "Strongly Agree". Items 1, 5, 9, 13, 17 and 20 measure Psychological Sub-Dimension. Items 2, 6, 10, 14 and 18 measure Somatic Sub-Dimension. Items 3, 7, 11, 15 and 19 measure Social Sub-Dimension. Items 4, 8, 12 and 16 measure the Economic Sub-Dimension. Sub-dimension scores are obtained by the total score of the answers given to the items of that sub-dimension. The total C19P-S score is obtained by the sum of the sub-dimension scores and ranges from 20 to 100 points. Higher scores indicate severeness in sub-dimensions and overall coronaphobia (Arpacı et al., 2020).

Data Analysis

The SPSS 24.0 software package was used to analyze the data collected in this study. Frequency, percentage calculation, t-test, and one-way ANOVA test were used in the analysis of the data. The conformity of the data to the normal distribution was assessed using the Kolmogorov-Smirnov Test; the test to be applied was selected based on the results of this test. The statistical significance level for all data was assumed to be $p < 0.05$.

Results

When the distribution of the introductory characteristics of the participating nurses was examined (Table 1), it was found that 36.1% were 30 years old and above, 60.3% were female, 69.8% were holding bachelor's degree, 61.8% were single, 50.4% of the individuals had equal income to their expenses, and 52% of them had work experience in the range of 0-4 years. Besides, 55.6% of the nurses lived with their families, 86.9% did not have any chronic diseases, 65.3% worked in coronavirus units, 81% had sufficient information about the coronavirus, 83.1% did not believe that the coronavirus would end in a short time. Also, it was determined that 61.8% believed that the coronavirus was produced in a laboratory environment, and 67.5% reported that no one was diagnosed with COVID-19 in their immediate surroundings.

The comparison of the mean scores of the nurses according to their descriptive characteristics is shown in Table 2.

It was determined that the mean scores of the CP19-S sub-dimension of the nurses were 19.14 ± 4.91 in psychology, 10.56 ± 3.84 in somatic, 14.36 ± 4.13 in social, 9.01 ± 2.85 in economics, and 53.09 ± 13.62 in total in CP19-S (Table 2).

The comparison of the mean CP19-S score according to sociodemographic characteristics of the nurses was shown in Table 3.

When the average scores according to gender are compared, Coronavirus fear levels of female nurses were higher than male nurses, and while no statistically significant difference was found in the economic sub-dimension by gender ($p > 0.05$), there was a significant difference between the sub-dimensions and averages of the total score ($p < 0.05$).

When the scale score averages of the nurses are compared according to their education level, there was a statistically significant difference between educational status and somatic and social sub-dimensions ($p < 0.05$). Statistically significant difference was found between the sub-dimensions and averages of the total score ($p < 0.05$).

The fear levels of the nurses with higher income were lower than other income groups and a statistically significant difference was found between the sub-dimensions and averages of the total score ($p < 0.05$).

Statistically significant difference was found between the nurses' employment status in the coronavirus units and the somatic sub-dimension ($p < 0.05$), while no statistically significant difference was found between the sub-dimensions and averages of the total score ($p > 0.05$).

Statistically significant difference between the nurses' beliefs that the coronavirus will end in a short time and the somatic, psychological, and social sub-dimensions and averages of the total score ($p < 0.05$) was found.

No statistically significant difference was found between the nurses' introductory characteristics, such as age and marital status, and CP19-S sub-dimensions and averages of total scores ($p > 0.05$) (Table 3).

Table 1. Introductory characteristics of nurses (n: 411)

Characteristics		n	%
Age	18-24 years	120	28.5
	25-29 years	149	35.4
	30 years and above	152	36.1
Gender	Female	254	60.3
	Male	167	39.7
Educational level	High school	45	10.7
	Associate	46	10.9
	Bachelor	294	69.8
	Graduate school	36	8.6
Marital status	Married	161	38.2
	Single	260	61.8
Income	Less income than expenses	92	21.8
	Equal income and expenses	212	50.4
	More income than expenses	117	27.8
Work experience	0-4 years	219	52.0
	5-9 years	117	27.8
	10 years and above	85	20.2
Living with the family	Yes	234	55.6
	No	187	44.4
Chronic illness	Yes	55	13.1
	No	366	86.9
Working status in coronavirus units	Yes	275	65.3
	No	146	34.7
Having enough information about coronavirus	Yes	341	81.0
	No	80	19.0
Believing that the coronavirus will end soon	Yes	71	16.9
	No	350	83.1
Believing that the coronavirus is a virus produced in a laboratory environment	Yes	260	61.8
	No	161	38.2
Has anyone caught coronavirus from your immediate environment?	Yes	137	32.5
	No	284	67.5

Table 2. Distribution of nurses' lowest and highest points and average scores from CP19-S

Scale-Sub Dimensions	Lowest	Highest	Average Score
Psychological	6.00	30.00	19.14±4.91
Somatic	5.00	25.00	10.56±3.84
Social	5.00	25.00	14.36±4.13
Economic	4.00	20.00	9.01±2.85
Total Score	21.00	100.00	53.09±13.62

Table 3. Comparison of CP19-S score average according to nurses' introductory characteristics

		Psychological $\bar{X}\pm SS$	Somatic $\bar{X}\pm SS$	Social $\bar{X}\pm SS$	Economic $\bar{X}\pm SS$	**Total Score** $\bar{X}\pm SS$
Gender	Male	17.68±4.94	10.05±3.80	13.92±4.31	8.97±2.95	50.64±13.87
	Female	20.10±4.65	10.90±3.84	14.65±3.99	9.03±2.78	54.70±13.23
	Test and p value	t=-5.07,**p=0.00**	t=-2.20,**p=0.02**	t=-1.77,**p=0.07**	t=0.24,p=0.80	t=-3.01,**p=.003**
Age	18-24	19.83±4.54	10.73±3.91	14.30±4.14	9.19±2.99	54.05±13.45
	25-29	18.52±4.79	10.19±3.54	14.16±4.03	8.96±2.98	51.85±13.21
	30 and above yrs	19.40±5.34	10.96±4.19	14.74±4.27	8.89±2.47	54.01±14.34
	Test and p value	F=2.83, p=.060	F=1.59, p=0.204	F=.738, p=0.479	F=.353, p=.703	F=1.33, p=.265
Educational level	High school	19.13±4.99	10.48±3.84	12.97±4.00	8.33±2.79	50.93±13.79
	Associate	20.13±5.57	11.84±5.24	14.95±4.89	9.15±2.89	56.08±17.34
	Bachelor	19.13±6.92	10.45±3.58	14.59±3.98	9.10±2.84	53.29±12.91
	Graduate school	19.13±4.75	9.91±3.68	13.47±4.11	8.91±2.94	50.27±13.41
	Test and p value	F=1.30, p=0.27	F=2.14, **p=0.09**	F=2.91, **p=0.03**	F=1.00, p=0.39	F=1.66, p=0.17
Marital status	Married	19.13±5.12	10.73±4.10	14.77±4.24	39.87±8.03	53.65±14.03
	Single	19.15±4.78	10.46±3.68	14.11±4.05	41.31±7.94	52.74±13.37
	Test and p value	t=0.47,p=0.96	t=0.69,p=0.48	t=1.57,p=0.11	t=1.55,p=0.12	t=0.66,p=0.50
Income vs expenses	Less income	20.20±5.82	11.66±4.97	14.54±5.27	9.55±3.37	55.96±17.68
	Equal	19.48±4.23	10.79±3.53	14.66±3.52	9.00±2.65	53.94±11.59
	More income	17.69±4.98	9.29±2.94	13.70±4.09	8.60±2.69	49.29±12.63
	Test and p value	F=8.03,**p=0.00**	F=11.05,**p=0.00**	F=2.14,**p=0.00**	F=2.87,**p=0.00**	F=7.22,**p=0.00**
Working status in coronavirus units	Yes	19.20±5.00	10.90±3.97	14.27±4.21	9.04±2.85	53.42±14.02
	No	19.02±4.74	9.93±3.51	14.54±3.98	8.95±2.84	52.47±12.86
	Test and p value	t=0.35,p=0.72	t=2.46,**p=0.01**	t=0.65,p=0.516	t=0.278,p=0.781	t=0.68,p=0.49
Believing that the coronavirus will end soon	Yes	17.35±4.05	9.74±2.72	12.88±3.35	8.73±2.33	48.71±10.34
	No	19.50±4.99	10.73±4.01	14.66±4.21	9.06±2.94	53.98±14.04
	Test and p value	t=3.46,**p=0.00**	t=1.97,**p=0.01**	t=3.80,**p=0.00**	t=1.05,p=0.29	t=2.99,**p=0.00**

Discussion

This study was conducted to examine the coronavirus fear levels of nurses and the variables affecting them during the COVID-19 outbreak.

The risk of being diagnosed with COVID-19 significantly affects society (Ueda et al., 2020). The nurses working actively in the field are very disturbed by the fear of infection, death and the thought that their loved ones can be infected with coronavirus (Kang et al., 2020; Chua, 2004). When faced with a large-scale public health event such as COVID-19, the physical and psychological pressure on nurses should not be overlooked (Wu et al., 2009). In some studies in the literature, it is emphasized that individuals' health and well-being are affected in times of contagious epidemic crisis (Duncan et al., 2009 ; Pappas et al., 2009).

During the COVID-19 outbreak in China, it is stated that the main concerns of nurses are an increase in fear levels due to taking the virus to their homes and families (Chen et al., 2020). In this study, while nurses' fear of COVID-19 was found to be moderate, women's coronavirus fear levels were higher than men. Being a nurse during the pandemic process carries a high risk in terms of fear, anxiety and other mental problems (Lai et al., 2020). In the study conducted by Gao et al., it is stated that women generally have higher levels of fear than men. This is thought to be related to gender characteristics. Women attach more importance to their inner experiences and their self-perceptions

and emotions are more fragile and sensitive than men. In addition, women are more vulnerable to depression, fear, anxiety, and loneliness (Gao et al., 2003; Shih et al., 2007). The result of this study is similar to the previous study results. The findings of the study revealed there was a statistically significant difference between educational status and fear of coronavirus. It is thought that this difference is due to the nurses' evaluation of the fears about their bodies due to the insufficient knowledge of the nurses about their bodies. A significant relationship was found between the nurses' economic status and COVID-19 fear levels. In our country and in the international literature, it is stated that variables such as gender, education and economy affect the level of fear of individuals (Çelik and Edipoğlu, 2018; Koivula et al., 2020; Ruhaiyem et al., 2016). In this study, it can be said that nurses' having a good economic income reduces the fear of coronavirus that may occur in nurses. The fear level of the nurses whose income is more than the expenses was found to be lower. It is thought that having a good income gives the nurses confidence, better living standards, and the thought that they will not have any problems in getting all kinds of health services.

In this study, the somatic fear levels of the nurses working in the coronavirus units were found to be higher than the other units. The fact that COVID-19 can be transmitted from person to person can increase the fear levels of nurses who care for patients (Li et al., 2020; Rothe et al.,2020). In the study conducted by Kang et al., it is stated that the fear levels of nurses who care for COVID-19 patients have increased (Kang et al., 2020). In the study conducted by Lai et al., it was stated that half of the nurses caring for COVID-19 infected patients are experiencing mental problems such as depression and anxiety (Lai et al., 2020). It is stated that nurses struggling at the forefront are in close contact with these patients, especially when they are caring. Contamination, high risk of infection and burnout are associated with fear and anxiety (Kang et al., 2020; Bao et al., 2020). Nurses make up the largest part of the healthcare workforce in epidemics and take on most of the workload in combating infectious diseases (Said et al., 2020; Usher et al., 2009). It is stated that the field nurses who cared for patients during the SARS epidemic have had a lot of physical and mental difficulties while continuing to provide qualified nursing care for patients (Shih et al., 2007; Chan et al., 2003; Mok et al., 2005; Tzeng, 2003). The result of the research is similar to the results of the studies in the literature. The reasons for the higher somatic fear level of nurses working in COVID-19 units compared to nurses in other units are thought to be due to nurses' direct contact with patients, fear of getting sick, the service environment being more stressful and tense than other units, sleepless and intense working pace. In this study, a significant difference was found between nurses' belief that COVID-19 will end in a short time and coronavirus fear levels. In this study, the fear levels of nurses who do not believe that COVID-19 will end in a short time were found to be higher. The psychological response of healthcare professionals to the infectious disease epidemic seems to be quite difficult. Among these difficulties are feelings of vulnerability or loss of control, self-health, spread of the virus, family health, changes in the workplace, and concerns about isolation (Wong et al., 2005; Chan, 2004). It is thought that nurses' low belief in the end of the epidemic is due to an uncertainty about the future of the disease in nurses, the lack of a clear treatment solution for the coronavirus, the society's failure to comply with effective prevention rules for the epidemic, and ambiguous statements made by official institutions. It seems that epidemiological data on the mental health of nurses caring for COVID-19 patients and related factors are still limited.

Conclusion

The results obtained from the study are as follows:

The nurses generally had moderate levels of COVID-19 fear,

The female nurses' fear of COVID-19 was higher than the male nurses,

The nurses with good income level had lower COVID-19 fear levels,

It has been found that the nurses working in COVID-19 units had higher COVID-19 fears.

In line with these results, it may be suggested to include the issue of "coping with fear in outbreaks" more in in-service training programs and improve the income status of nurses. In addition, it is thought that conducting qualitative studies on the fear of COVID-19 will contribute to the solution of the problem.

Limitation

Failure to reach nurses working in other provinces in Turkey's Eastern Anatolia is the limitation of this study.

What did the study add to the literature?

- As a result of this study, it was determined that the COVID-19 fear levels of nurses working actively in healthcare institutions were at a moderate level.

- In addition, it was determined that there was a significant difference between nurses' COVID-19 fear levels and their gender, education status, income status, their employment status in risky units, and their belief that COVID-19 would end soon.

Kaynaklar

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