Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Psychological effects of nurses and midwives due to COVID-19 outbreak: The case of Turkey

Yasemin Erkal Aksoy[a,*], Vesile Koçak[b]

[a] Department of Midwifery, Health Sciences Faculty of Selcuk University, Konya, Turkey
[b] Department of Obstetrics and Gynecology Nursing, Nursing Faculty of Necmettin Erbakan University, Konya, Turkey

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ABSTRACT

Purpose: The study was carried out to determine the psychological impact levels of nurses and midwives due to the COVID-19 outbreak.

Methods: The research is planned in a descriptive type. Nurses and midwives working in any health institution in Turkey constituted the population of the research. The questionnaire form of the study was shared on social media tools between 01 and 14 April 2020 and a total of 758 nurses and midwives were included in the study sample. Personal Information Form, State-Trait Anxiety Inventory and Intolerance of Uncertainty Scale were used as data collection tools.

Results: Participants who attended the study were 56.9% of nurses and 43.1% of midwives. Approximately half of the nurses and midwives (48.8%) participating in our study contacted the patient with suspected COVID-19, and 29.8% provided care to the patient diagnosed with COVID-19. Nurses and midwives were scored 52.75 ± 9.80 for State Anxiety, 44.87 ± 7.92 for Trait Anxiety Inventory and 35.16 ± 9.42 for Intolerance of Uncertainty Scale. It has been determined that 54.5% of nurses and midwives have been making their lives worse since the outbreak started, 62.4% had difficulties in dealing with the uncertain situation in the outbreak, 42.6% wanted psychological support and 11.8% had alienated from their profession. It was determined that there was a difference between scale scores and difficulties in work, family and private life due to COVID-19.

Conclusion: As a result, it is seen that the midwives and nurses in our country have high psychological effects due to the COVID-19 outbreak.

Introduction

COVID-19 is an infectious Corona virus disease caused by a newly discovered virus. COVID-19 was first reported on December 12, 2019 in Wuhan (Wang, Tang, & Wei, 2020; Zhou et al., 2020a). COVID-19 has been shown to be a clone of beta-corona viruses associated with human Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS) (Wu et al., 2020; Zhu et al., 2020; Zhu et al., 2020). Most people infected with the COVID-19 virus experience mild or moderate respiratory disease and recover without special treatment. The disease is severe in individuals with elderly and chronic diseases (cardiovascular diseases, diabetes, chronic respiratory disease, cancer) (Perlman, 2020; WHO, 2020). Since COVID-19 has fast spreading feature, it causes difficulties in the health systems of societies (NMBA, 2020). More than 150 countries are now infected due to the virus outbreak, and the outbreak of this virus has become a global emergency (Al-Mohaissen, 2017; Jiang et al., 2020). Like SARS and Ebola, COVID-19 has a serious impact on mental health as well as causing physical damage (Lehmann et al., 2015; Lin et al., 2007; Wang et al., 2020; Zhou et al., 2020b). COVID-19 is a worldwide life-threatening concern.

Nurses and midwives who care for individuals in the health system continue to work at the forefront to ensure public safety. Nurses and midwives are in close contact with individuals during the care process (WHO, 2019). Despite the use of protective equipment and precautions, COVID-19 may be contaminated (OSHA, 2020). In our country, the case of COVID-19 first appeared on March 10, 2020 (Republic of Turkey Ministry of Health, 2020). There are a large number of health professionals in the World and Turkey who were infected with the virus and thus, died (Choi, Skrine Jeffers, & Cynthia Logsdon, 2020; Republic of Turkey Ministry of Health, 2020). Healthcare workers may face social isolation and social discrimination. Therefore, healthcare professionals appear as a sensitive group against complex emotional reactions and psychological distress (Kang et al., 2020). In a study conducted by Zhu,

* Corresponding author.
E-mail address: ebeyaseminerkal@hotmail.com (Y.E. Aksoy).

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Xu, et al. (2020) and Zhu, Zhang, et al. (2020), women with more than 10 years of work, concomitant chronic illnesses, a history of mental disorders, and family members or relatives who have been confirmed or suspected are susceptible to stress, depression and anxiety during the COVID-19 outbreak (Zhu, Xu, et al., 2020).

Anxiety is defined as a sense of concern that is felt against a non-objective danger (Swift, Cyhlarova, Goldie, & O'Sullivan, 2014). Anxiety is divided into state and trait anxiety. State anxiety is the anxiety that occurs when a dangerous, undesirable situation is encountered. Trait anxiety is the long-term and severe anxiety that exists when there is no objective reason (Alavi & Omrani, 2019). Uncertainty may arise due to a new, complex or contradictory, unsolvable situation (Alavi & Omrani, 2019; Tovilovic, Novovic, Mihic, & Jovanovic, 2009). Uncertainties about the vaccine, treatment and transmission rate of COVID-19 virus can affect the level of anxiety of nurses and midwives (Geçgin & Sahranç, 2017). In addition, it is possible for nurses and midwives working in the epidemic to experience problems in their family and social life due to the fear of infecting. Uncertainty about when the outbreak will end raises negative emotions. An individual's level of intolerance to uncertainty and anxiety and concern levels were found to be related (Anderson et al., 2012; Dugas, Schwartz, & Francis, 2004). It is thought that the increase in the level of anxiety and intolerance of uncertainty during the epidemic may lead to many psychological problems in nurses and midwives. The aim of this study is to determine the psychological impact levels of nurses and midwives due to the COVID-19 outbreak.

Methods

Design

The research is planned in a descriptive type. Research question: What are the psychological effect levels of nurses and midwives due to the COVID-19 outbreak?

Participants

It has created the population of the research who nurses and midwives working in any health care provider in Turkey. The sample calculation was made with known average scores of State and Trait Anxiety Inventory and Intolerance of Uncertainty Scale. After calculations, the known average score of the scale which is calculated the highest number of samples was taken as a reference. The sample size of the study was determined as 726 nurses and midwives with 90% power within one point deviation with the known score (41.9 ± 8.3) using G* Power 3.1.7 program (Yılmaz, Timur, & Ege, 2005). A questionnaire form was shared from social media tools for two weeks to collect data. At the end of two weeks, it is determined that 773 nurses and midwives completed the questionnaire. The data were examined; the faulty and incomplete ones were removed. The study was concluded with a total of 758 nurses and midwives.

Data collection

Questionnaire forms of the data were collected online on the web, using Google Forms (URL: https://forms.gle/jiviv5fxie4KSUQo8). Nurses and midwives were included in the study between 01 and 14 April 2020 by using convenience sampling method. Personal Information Form, State and Trait Anxiety Inventory and Intolerance of Uncertainty Scale were used as data collection tools. An online questionnaire link was shared through social media tools (such as Whatsapp, Instagram, Facebook), information was provided about the research, and nurses and midwives were invited to fill in the questionnaire. The questionnaire link was sent to online profession groups to which nurses and midwives are joined. The data of the research were collected based on self-report. While creating the online form, standardizations have been made for the nurses and midwives to respond once; only one response for each participant. Only one response was provided to the surveyed nurses and midwives. The collected questionnaires were checked daily and quality control was made. Social media research can present various challenges or opportunities in terms of research validity and reliability. While social media researches have difficulties for users not to have organic (real) accounts, it is easy to access major data when it is difficult to collect face-to-face data such as COVID-19 outbreak. Social media users do not represent the entire population. However, it can turn into an opportunity when it is made with a special group such as nurses and midwives (Ruths & Pfeffer, 2014; Social Media Research Group, 2016).

Measures

Personal information form

it consists of 22 question statements that question personal such as age, gender, marital status, profession, educational background, etc. of nurses and midwives and COVID-19 related features (Huang & Zhao, 2020; Nemati, Ebrahimi, & Nemati, 2020; Wang et al., 2020; Zhu, Xu, et al., 2020; Zhu, Zhang, et al., 2020).

State-Trait Anxiety Inventory (STAI)

STAI was used to measure the level of anxiety of nurses and midwives. STAI was developed by Spielberger, Gorsuch, and Lushene (1970) and was translated into Turkish by Öner and Le Compte and its validity and reliability was made in different groups (Öner & LeCompte, 1983). The scale contains 40 expressions that individuals can use to express their feelings. Depending on how the person feels and the severity of his feelings, s/he should select one of the options “almost never (1), sometimes (2), often (3), almost always (4)”. The state anxiety scale determines how the individual feels at a certain moment and under certain conditions, and the continuous anxiety scale determines how the individual feels independently of the situation and conditions. The State-Trait Anxiety Scale is consisting of direct and reversed expressions. In this study, the Cronbach alpha coefficient of the state anxiety scale was found to be 0.91 and of the trait anxiety scale was 0.85. Total score of reverse expressions is subtracted from the total score of direct expressions. It is added 50 point to the state anxiety scale and 35 point for the trait anxiety scale on previously determined total score. The most recently obtained value gives the individual anxiety score. Big score indicates high anxiety level, small score indicates low anxiety level (Öner & LeCompte, 1983).

Intolerance of Uncertainty Scale (IUS-12)

It was developed by Carleton, Norton, and Asmundson (2007) and Turkish validity reliability was performed by Sariçam, Erguvan, Akin, and Akça (2014). Each item was rated on a Likert scale from 1 (not at all characteristic of me) to 5 (entirely characteristic of me). The scale consists of 12 items and two subscales. Rising scores indicate high levels of intolerance of uncertainty. The prospective anxiety subscale of the scale consists of 1–7. items, and inhibitory anxiety subscale consists of 8–12 items. While the minimum score to be obtained from the scale is 12, the maximum score is 60. Scoring of the scale is performed by adding the number values corresponding to the marking made. Cronbach alpha coefficient is found to be 0.88 for the whole scale; 0.84 for prospective anxiety subscale and 0.77 for inhibitory anxiety subscale (Sariçam et al., 2014). In this study, Cronbach alpha coefficient is determined to be 0.92 for scale whole; 0.86 for prospective anxiety subscale and 0.90 for inhibitory anxiety subscale.

Ethical considerations

Nurses and midwives who voluntarily agreed to participate in the study were accepted. Before starting the questionnaire form, it was made mandatory to read and approve the informed consent form explaining the purpose of the study. The questionnaire does not include

questions containing the contact information or any special information of the participants. Ethical permission was not obtained from any institution because the research was not interventional as the data was collected using social media tools.

Data analysis

Data analysis was carried out using Statistical Package for the Social Science (SPSS) 20.0 package program (SPSS Inc., Chicago, IL, USA). The Kolmogorov Smirnow test was used to determine whether the data were normally distributed. In data analysis, number and percentage mean and standard deviation analysis were used, and *t*-test, ANOVA analysis was used in independent groups. Statistical significance of the data was evaluated at $p < 0.05$ level.

Results

Descriptive statistics

Participants who attended the study was 56.9% of nurses and 43.1% of midwives. The average age of the nurses and midwives participating in the study was determined as 30.51 ± 7.24 (Min = 20.00, Max = 56.00) and the year of work in the profession was 8.69 ± 7.82 (Min = 1.00, Max = 35.00). In Turkey there are seven geographic regions. Forty-seven point 2% of the participants in the study live in Central Anatolia, 19.5% in Marmara, 9.9% in Eastern Anatolia, 7.7% in Aegean, 6.2% in Mediterranean, 5.9% in Black Sea and 3.6% in Southeast Anatolia. In our study, it was determined that 92.7% of the nurses and midwives were women, 55.1% were married and 74.1% were of Bachelor's Degree. It was determined that 80.6% of nurses and midwives worked in secondary and tertiary health institutions and 23.1% had chronic disease (Thyroid, Respiratory Diseases, Diabetes, etc.) (Table 1).

Effect of COVID-19 outbreak on participants

Approximately half of the nurses and midwives (48.8%) participating in our study contacted the patient with suspected COVID-19, and 29.8% provided care to the patient diagnosed with COVID-19. Participants feel respectively, intense emotions such as anxiety (36.3%), uneasiness (31.3%) and fear (19.4%) due to COVID-19.

Table 1
Descriptive features of nurses and midwives.

Variables	n	%
Gender		
Female	703	92.7
Male	55	7.3
Marital status		
Single	340	44.9
Married	418	55.1
Occupation		
Midwife	327	43.1
Nurse	431	56.9
Educational background		
High school	73	9.6
Associate degree	66	8.7
Bachelor's degree	562	74.1
Graduate (master, doctorate)	57	7.5
Institution where s/he is working		
Primary health care institutions (family health center, community health center, health house)	147	19.4
Secondary and tertiary health institutions (education research hospital, university hospital, etc.)	611	80.6
Chronic disease status		
None	583	76.9
Existed (thyroid, respiratory diseases, diabetes, etc.)	175	23.1

Table 2
Nurses and midwives' qualities related to COVID-19.

Variables	n	%
Contact of a suspected patient with COVID-19		
Yes	370	48.8
No	388	51.2
Care of the patient diagnosed with COVID-19		
Yes	226	29.8
No	532	70.2
The most intense emotion feeling due to COVID-19		
Fear	147	19.4
Anxiety	275	36.3
Uneasiness	237	31.3
Other (sadness, astonishment, despair, unhappiness, fatigue etc.)	99	13.1
Feeling remorse due to profession		
Never	310	40.9
Sometimes	377	49.7
Very often	71	9.4
Experiencing change in relationship with colleagues		
No change	309	40.8
Close and sharing	302	39.8
Distant and selfish	147	19.4
Experiencing difficulty in family and private life due to COVID-19		
No	39	5.1
Yes	719	94.9
Difficulties in family and private life due to COVID-19 (n = 719)		
Fear of infecting her family	517	71.9
Not meeting with her family	51	7.1
Missing her family	151	21.0
Experiencing difficulty in social life due to COVID-19		
No	449	59.2
Yes	309	40.8
Difficulties in social life due to covid-19 (n = 309)		
Child's caregiver quits work	26	8.4
Neighbors do not want to enter the apartment	52	16.8
Other (not meeting with friends, not going anywhere other than work and home, not shopping, etc.)	231	74.8
Experiencing difficulty in social life due to COVID-19		
No	222	29.3
Yes	536	70.7
Difficulties in business life due to covid-19 (n = 536)		
Decreased work efficiency due to fear of transmission	407	75.9
Reduced care of patients due to fear of transmission	49	9.1
Tiring and inadequate working with protective equipment	27	5.0
Other (increased workload, being assigned to different services, decreasing time in patient room, etc.)	53	9.9

Depending on the outbreak, 49.7% of nurses and midwives sometimes experienced regret for their profession and 19.4% stated that the relationship with their colleagues was distant and selfish. When the causes of those who have difficulties in family and private life (94.9%) due to COVID-19 are examined, it was determined that 68.2% had a fear of infecting their family and 21% missed their family. When the causes of those who have difficulties in the social life of nurses and midwives (40.8%) are examined, it has been determined that 74.8% of them had difficulties such as not meeting with friends, not going anywhere outside of work and home, shopping, etc. Participants (70.7%) who have are experienced of difficulties in professional life when the reasons are examined; it was found that 75.9% of them decreased working efficiency due to fear of transmission (Table 2).

When the answers given by the nurses and midwives to some statements made about the COVID-19 outbreak, it has been determined that 54.5% of their lives have become worse since the outbreak started, 62.4% had difficulties in dealing with the uncertain situation in the outbreak, 42.6% wanted psychological support, and 11.8% alienated from their profession. In the epidemic period, 59.4% of nurses and midwives stated that they felt valuable while caring for the patients, realized the purpose of their profession and 76% of them stated that

Table 3
Answers of nurses and midwives to some statements regarding the COVID-19 outbreak.

Statements	I agree	Undecided	I disagree
	n (%)	n (%)	n (%)
My life has got worse since the COVID-19 outbreak started	413 (54.5)	227 (29.9)	118 (15.6)
I had difficulty coping with the ambiguous situation in the COVID-19 outbreak	473 (62.4)	169 (22.3)	116 (15.3)
It would make me better to get psychological support during the epidemic.	323 (42.6)	257 (33.9)	178 (23.5)
Giving care to patients during the epidemic was a goal for me to feel valuable and realize the importance of my profession.	450 (59.4)	215 (28.4)	93 (12.3)
Being a healthcare worker made me proud	580 (76.5)	130 (17.2)	48 (6.3)
I was alienated from my job because of the COVID-19 outbreak	88 (11.8)	192 (25.3)	478 (63.1)

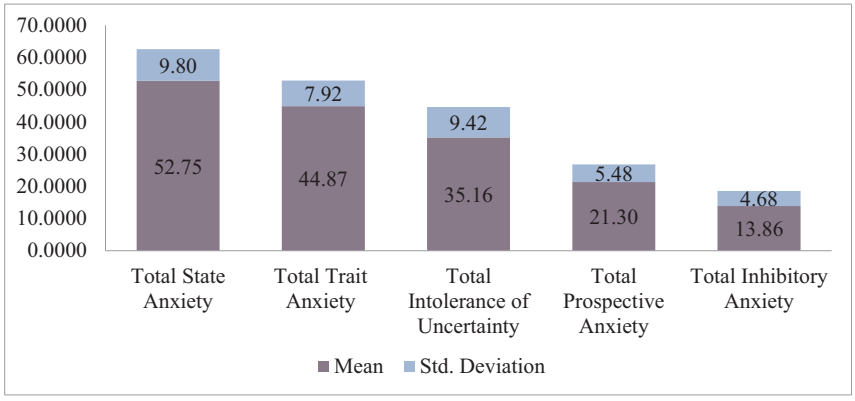

Fig. 1. Average and standard deviation values of scale scores of nurses and midwives.

they were proud to be health workers (Table 3).

Participants' scale scores

Nurses and midwives got 52.75 ± 9.80 (Min = 23, Max = 78) points from State Anxiety and 44.87 ± 7.92 (Min = 25, Max = 76) from the Continuity Anxiety Inventory, and 35.16 ± 9.42 (Min = 12, Max = 60) from the Uncertainty Scale (Fig. 1).

Comparison of the scale scores of the participants with the variables

It was determined that there was a statistically significant difference between the State Anxiety Inventory scores of the nurses and midwives participating in our study with the state of chronic disease, the most intense emotion felt due to COVID-19, experiencing remorse due to their occupation, and difficulties in social, profession, family and private life due to COVID-19. It was determined that there was a statistically significant difference between the Trait Anxiety Inventory scores with the most intense emotion felt due to COVID-19, experiencing remorse due to their profession, and difficulties in profession, family and private life due to COVID-19.

It was found that there was a difference between the total score of the Intolerance of Uncertainty Scale with remorse due to their occupation and difficulties in profession, family and private life due to COVID-19. It was determined that there was a statistically significant difference between prospective anxiety subscale score of Intolerance of the Uncertainty Scale with gender variable and chronic disease status. It was determined that there was a difference between the inhibitory anxiety subscale score of the Intolerance of Uncertainty Scale with having remorse due to their profession and having difficulties in profession, family and private life due to COVID-19 (Table 4).

Discussion

COVID-19 pandemic that created a shock effect in the whole world has also affected Turkey in a profound way. While all healthcare workers, nurses and midwives are performing their duties in the best way in our country, they may face some inevitable problems as well. Approximately half of the nurses and midwives participating in our study contacted the patient with suspected COVID-19, and 29.8% provided care to the patient diagnosed with COVID-19. Participants feel intense emotions such as anxiety (36.3%), uneasiness (31.3%) and fear (19.4%), respectively, due to COVID-19. There is a significant difference between the intense feelings felt and state anxiety and trait anxiety. Similarly, in a study conducted during the COVID-19 outbreak in China, Huang and Zhao stated that healthcare professionals are experiencing a high level of anxiety compared to the majority of the population (Huang & Zhao, 2020). In the study of Lai et al., there were symptoms of depression, anxiety, insomnia and distress among doctors and nurses who care for patients with COVID-19 (Lai et al., 2020). Health professionals (including nurses, doctors, and assistant staff) have been found to be highly anxious during previous pandemics. During the SARS outbreak in previous years, psychological health problems have been observed in both healthcare workers and SARS victims (Lu, Shu, Chang, & Lung, 2006; Mak, Chu, Pan, Yiu, & Chan, 2009; McAlonan et al., 2007). Similar results were reported in the MERS case (Lee, Kang, Cho, Kim, & Park, 2018). In addition, post-traumatic stress disorder and depressive disorders have been identified as the most common psychological effects (Mak et al., 2009). Nurses feel a high level of anxiety, sadness, fear and tension (Chua et al., 2004). In addition, increased suspect or diagnosed COVID-19 cases and predictable material deficits, as in the SARS outbreak, may contribute to healthcare workers' fears and anxiety (Chan-Yeung, 2004; Chua et al., 2004). Stressful work, sleep disorders, inability to be free, heavy responsibility and environmental factors cause physical and psychological problems (Chan-Yeung, 2004). Health professionals have more concern than the general public about virus transmission during a pandemic (Wu et al., 2009). In healthcare workers who are at risk of being infected with COVID-19 or who are in regular and direct contact with COVID-19 patients are likely to experience understandable anxiety about the virus, the health of their loved ones, and colleagues. In our study, it was determined that the participants had the fear of transmitting the virus to their family

Table 4
Comparison of nurses and midwives with scale scores average.

Scales	State anxiety mean ± SD	Trait anxiety mean ± SD	Intolerance of uncertainty mean ± SD	Prospective anxiety mean ± SD	Inhibitory anxiety mean ± SD
Gender					
Female	52.86 ± 9.85	44.98 ± 8:01	35.32 ± 9:43	21:41 ± 5:47	13.90 ± 4.71
Male	51.38 ± 9.21	43.43 ± 6.55	33.07 ± 9:16	19.83 ± 5:56	13:23 ± 4:29
p*	0.282	0.162	0087	0.039	0.305
Occupation					
Midwife	53.23 ± 10:39	45.09 ± 8:15	35.10 ± 9:53	21:40 ± 5:58	13.70 ± 4.68
Nurse	52.38 ± 9:33	44.70 ± 7.75	35.20 ± 9:35	21:22 ± 5:41	13.97 ± 4.68
p*	0.236	0.506	0.883	0.666	0422
Chronic disease status					
None	52.25 ± 9.92	44.64 ± 7.77	34.84 ± 9.21	21:06 ± 5.35	13.78 ± 4.60
Exists	54.40 ± 9.24	45.65 ± 8:39	36.23 ± 10:06	22:10 ± 5.86	14:12 ± 4.92
p*	0.011	0.139	0087	0.027	0.393
Contact of a suspected patient with COVID-19					
Yes	53.31 ± 9.95	44.47 ± 7.80	35.41 ± 9:55	21:50 ± 5:55	13.91 ± 4.77
No	52.22 ± 9.65	45.25 ± 8:03	34.92 ± 9:30	21:11 ± 5.42	13.80 ± 4:59
p*	0.127	0.173	0.474	0.333	0.760
Care of the patient diagnosed with COVID-19					
Yes	52.83 ± 10.21	44.50 ± 7.67	35.63 ± 8.94	21:52 ± 5.12	14:11 ± 4:58
No	52.71 ± 9.64	45.03 ± 8:03	34.96 ± 9.62	21:21 ± 5.64	13.75 ± 4.72
p*	0.879	0.402	0.369	0.478	0.329
The most intense emotion feeling due to COVID-19					
Fear[a]	56.82 ± 9.12	47.82 ± 8:49	35.72 ± 9.57	21:29 ± 5.62	14:42 ± 4:51
Concern[b]	53.13 ± 9:30	44.54 ± 7:35	35.04 ± 9:20	21:15 ± 5:37	13.89 ± 4:55
Uneasiness[c]	51.48 ± 9.65	44.37 ± 7.71	35.68 ± 9:52	21.85 ± 3.61	13.83 ± 4.76
Other[d]	48.68 ± 10:35	42.6 ± 7.99	33.41 ± 9:49	20:41 ± 5.24	13:00 ± 5:00
p**	< 0.001[a > b, c, d]	< 0.001[a > b, c, d]	0.195	0.157	0.137
Experiencing remorse due to profession					
Never[a]	49.22 ± 9:34	42.44 ± 7:25	34.07 ± 8.87	20.88 ± 5.17	13:19 ± 4:57
Sometimes[b]	54.28 ± 9:20	46.21 ± 7.61	35.68 ± 9.83	21:55 ± 5.75	12.14 ± 4.71
Very often[c]	60.02 ± 8.88	48.35 ± 9:36	37.10 ± 9.07,	21.81 ± 5:30	15:35 ± 4:56
p**	< 0.001[c > b > a]	< 0.001[ab,c]	0.014[c > a]	0.196	0001 [a < b, c]
Experiencing difficulty in family and private life due to COVID-19					
No	45.38 ± 9:54	41.71 ± 8.78	31.56 ± 7.94	19.71 ± 4.87	11.84 ± 3.99
Yes	53.15 ± 9.67	45.04 ± 7.84	35.36 ± 9:46	21:39 ± 5:51	13.96 ± 4.69
p*	< 0.001	0.011	0.014	0.064	0.006
Experiencing difficulty in social life due to COVID-19					
No	51.22 ± 9.60	44.42 ± 7.73	34.89 ± 9:56	21:14 ± 5:56	13.74 ± 4.69
Yes	54.98 ± 9.68	45.52 ± 8:17	35.55 ± 9:22	21:53 ± 5:37	14:02 ± 4.66
p*	< 0.001	0.063	0.343	0.347	0.419
Experiencing difficulty in profession life due to COVID-19					
No	46.50 ± 8:31	42.04 ± 7.05	33.36 ± 9:01	20.75 ± 5:38	12.60 ± 4:46
Yes	55.33 ± 9:20	46.04 ± 7.97	35.91 ± 9:50	21:53 ± 5:51	14:38 ± 4.67
p*	< 0.001	< 0.001	0.001	0.077	< 0.001

* Independent groups *t*-test.
** Variance (ANOVA) analysis Post Hoc Tukey Test.

due to COVID-19 and had trouble and difficulties in isolation-related life. It was determined that there was a statistically significant difference between State, Trait Anxiety and Uncertainty, and difficulties in social, work, family and private life during COVID-19 pandemic. The psychological response of healthcare workers to the epidemic of infectious diseases is complex (Lai et al., 2020). The same situation was observed in the SARS outbreak, and the source of stress in nurses was determined to be the loss of control/vulnerability, fear of self-health, and fear of spreading the virus (Wong et al., 2005). Possible cause of psychological problems may be anxiety about infection and fear of controlling the outbreak (Furer, Walker, Chartier, & Stein, 1997; Huang & Zhao, 2020). In addition, the shortage of medical facilities across the country can be effective (Nemati et al., 2020).

In our study, it was found out that most of the participants had difficulty in dealing with the uncertainty in the outbreak and that there was a statistically significant difference between intolerance of uncertainty prospective anxiety subscale score and gender and chronic disease status. Similarly, in the study of Huang and Zhao, it is seen that the psychological impact seen in one out of every five participants is caused by the uncertainty in the progress of the epidemic and this situation will cause more psychological impact (Huang & Zhao, 2020). The concept of uncertainty brings with it the concept of concern, anxiety and fear in general (Sari & Dağ, 2009). Individuals who are intolerant of high levels of uncertainty find uncertain and challenging situations in daily life events worrying and challenging and have an intense threat perception and this may be related to depression symptoms (Carleton, 2012). People who are more intolerant of uncertainty may experience a higher adaptation difficulty (Boelen, Reijntjes, & Smid, 2016).

It was determined that there was a statistically significant difference between prospective anxiety subscale score of the Intolerance of Uncertainty Scale and gender variable and chronic disease status in our study. COVID-19's being transmittable from person to person, associated with high morbidity and potentially fatal may intensify personal perception of danger (Li et al., 2020; Rothe et al., 2020; Wang et al., 2020). In a previous study during an acute SARS outbreak, 89% of

healthcare workers in high-risk situations reported psychological symptoms (Chua et al., 2004). Based on this result, it would be correct to say that this already dangerous pandemic causes more uncertainty and anxiety among high-risk healthcare workers.

Health professionals have close contact with infected patients and have a decisive role in infection control (Kharma, Amer, Tarakji, Aws, & Alalwani, 2015). During this period, nurses and midwives in Turkey fulfilling their roles in the best way feel themselves valued, become more aware of the importance of the profession and are proud to be health care workers while providing healthcare to the patients. However, despite all these results, most of the participants stated that they sometimes feel remorse due to their profession and that the relationship with their colleagues became distant and selfish. S/he even stated that due to the fear of transmission, her/his work efficiency decreased. It was determined that there was a significant difference between the inhibitory anxiety subscale score of the Intolerance of Uncertainty Scale with experiencing remorse due to the profession. Based on the research findings, it can be said that the psychological effects of the nurses and midwives who are in direct contact with the patients during the COVID-19 outbreak are intense and experience professional wear.

Conclusion

According to the results of the study, it can be said that midwives and nurses in our country have intense psychological effects and sometimes have difficulty in coping due to the ambiguous COVID-19 pandemic that causes anxiety all over the world. It is necessary to protect health workers, to take infection protection measures against the COVID-19 epidemic, and to implement special interventions immediately, especially for those in the risk group. A secure fast information network, ready and appropriate continuing education, easy access to protective equipment and psychological support can help reduce negative psychological effects on nurses and midwives. In addition to these practical measures, it may be useful to establish an ongoing mental health monitoring program for health professionals.

Limitations

The measurements obtained in the research are limited with the scale tools used and the self-reports of the participants. Nurses and midwives who did not use social media tools could not be reached because the study was conducted on the web.

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Author contributions

YEA and VK designed the study. YEA was analyzed data collection. VK drafted the manuscript. YEA and VK revised the manuscript for intellectual content. All authors read and approved the final version.

Declaration of competing interest

No conflict of interest has been declared by the author (s).

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