Experiences of Turkish Nurses With COVID-19 Infection in Pandemic and Post-Pandemic: A Qualitative Study

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In the most difficult times of epidemics, the importance of the role of nurses is greater than ever. In our study we aimed to determine the experiences of Turkish nurses with COVID-19 infection about the process in pandemic and post pandemic. The study was conducted in a qualitative research format with a semi-structured interview form including nurses who had COVID-19 infection and then returned to work. The post-pandemic interview was held approximately 2 years after the first interview. The first interview sample consisted of 21 nurses who recovered from COVID-19 infection and the data were collected between September and December 2020. In the second interview, 11 nurses were reached in January 2023. The first interview themes obtained at the end of the interview were: 1) fear and anxiety, 2) worthlessness, 3) questioning and regret, and 4) power. The second interview themes obtained at the end of the interview were: 1) health perception and 2) profession perception. The pandemic and post pandemic is a process that challenges nurses mentally and physically. Nurses have taken important roles in the pandemic period since the first stage. In order for nurses to fulfill their duties from now on, the difficulties experienced by the nurse staff should be aware of and arrangements should be made regarding the working area. Nurses and other health practitioners need support in challenging situations. Policies should be developed to support health care professionals who are fighting at the forefront in crisis situations such as pandemics.

Worldwide, as of January 6, 2021, the World Health Organization (WHO) reported 85,091,012 confirmed cases of COVID-19, including 1,861,005 deaths.[1] Among the total cases, 278 doctors worldwide died of COVID-19 infection by April 15, 2020.[2] In Germany, 2192 COVID-19 cases were confirmed in health and welfare workers.[3] In Turkey, the total number of cases of COVID-19 reported as of January 10, 2021 was 2,326,256.[4] The number of health care workers who lost their lives due to COVID-19 infection was 341, announced by the Turkish Medical Association.[5] Since the WHO declared COVID-19 a pandemic, health care professionals around the world have experienced unprecedented working conditions. Health care

KEY POINTS

- **Many studies have been carried out during the COVID-19 pandemic process. However, there are few studies on nurses who had COVID-19.**
- **Previous studies focused on the difficulties nurses experienced in the hospital during the COVID-19 process.**
- **This study provides information based on the experiences of nurses infected with COVID-19 disease.**
- **Unlike other studies, this study focused on nurses' professional and personal experiences rather than their general problems. This study is the first of its kind in Turkey with such a focus.**

professionals are among the high-risk groups working at the forefront of the pandemic. Therefore, well-being and emotional resilience of health care workers are key components to maintaining essential health care during the COVID-19 pandemic. Especially in the nursing profession, where patient contact is high and care periods are long, the pandemic is even more severe. Nurses' exposure to personal protective equipment use, psychological distress, fatigue, occupational burnout, and many other situations, including busy working hours, should be closely monitored and evaluated. As far as we know, a qualitative study about the experiences of nurses with COVID-19 infection was not yet published in the literature. It is necessary to gain insight into their experiences in order to effectively support nurses and identify the problems they experience. It should not be forgotten that the health and safety of nurses is very important, not only for continuous and safe patient care, but also for the control of any epidemic. This study was conducted to determine the pandemic and post-pandemic experiences of nurses infected with COVID-19, actively experiencing the disease process and returning to work.

MATERIALS AND METHODS

Study Design and Participants

After the first COVID-19 cases were seen in Turkey, employees in hospitals including nurses were infected with the disease and returned to work after recovery. Data were collected between September 2020 and December 2020. After the COVID-19 pandemic outbreak, the nurses who could be reached were interviewed again in January 2023. Interviews were conducted face-to-face while maintaining social distance. Interviews were conducted in qualitative phenomenological type research with a semi-structured method to determine the experiences of nurses who had COVID-19. Participants were reached with snowball sampling. Three nurses were known by one of the participants, 1 of the 2 interviewees. The remaining nurses were reached through snowball sampling. The sample size was determined according to data saturation, that is, at the point where no new themes emerged from the participants' experiences. Since recording was not permitted by the nurses and the institution, the interview was recorded in writing. Throughout this study, the Qualitative Research Reporting Standards guide was followed. A total of 21 nurses were reached in the first-onset interview. At the end of 2 years, a total of 11 nurses were interviewed again. Out of 10 nurses who could not be reached, 4 people resigned and left the nursing profession, 6 people left the hospital and started working in family health centers (*Figure* 1).

Procedures

Semi-structured, in-depth interviews were conducted at a convenient time for the participants when the nurses returned to work after COVID-19 infection. Permission was obtained from the participants to record the whole interview in writing. The subjects were first asked about age, marital status, presence of children, date of contracting COVID-19 infection, and how the infection was determined. In the research, open-ended questions like "What were your feelings when you learned that you were COVID-19 positive?" "What were your feelings about your job during the quarantine process?" and "Now, how do you feel about the pandemic and your profession after you started working again?" were included on a semi-structured questionnaire and no additional questions were needed during the study. In the interview 2 years later, the following questions were asked to the nurses: How would you describe your health status at the end of 2 years? and What is your perspective on the nursing profession at the end of 2 years? The data obtained were decoded by the researchers within 24 hours after the interviews. Interview notes and data analysis were completed in Turkish. During the data analysis, all authors participated in the analysis and highlighted quotations were selected. All quotations were translated into English and language editing was performed to avoid any shifts in meaning.

Data Analysis

Haase's adaptation of the Colaizzi method was used to analyze the texts.[6] Analysis included reading the text several times to understand the meanings conveyed and defining important sentences. The findings were then compared and discussed by the team until consensus on themes, theme clusters, and categories were obtained. This study is in line with the COREQ (Consolidated criteria for reporting qualitative research) checklist.

RESULTS

Of the participants, 81% were women and the average age of the nurses was 26.43 ± 4.61 years. Of the nurses, 66.7% were single and 85.7% had no children. Among the participants, 52.4% were working in COVID-19 intensive care and 47.6% were infected in September 2020. Of the nurses, 38.1% learned that they were COVID-19 positive with routine testing without symptoms (*Table 1*).

Through the extraction, induction, and analysis of transcriptional manuscripts, 4 main categories were defined in our study: fear and worry, worthlessness, questioning, regret, and power. We also defined 7 subcategories, as listed in Figure 2.

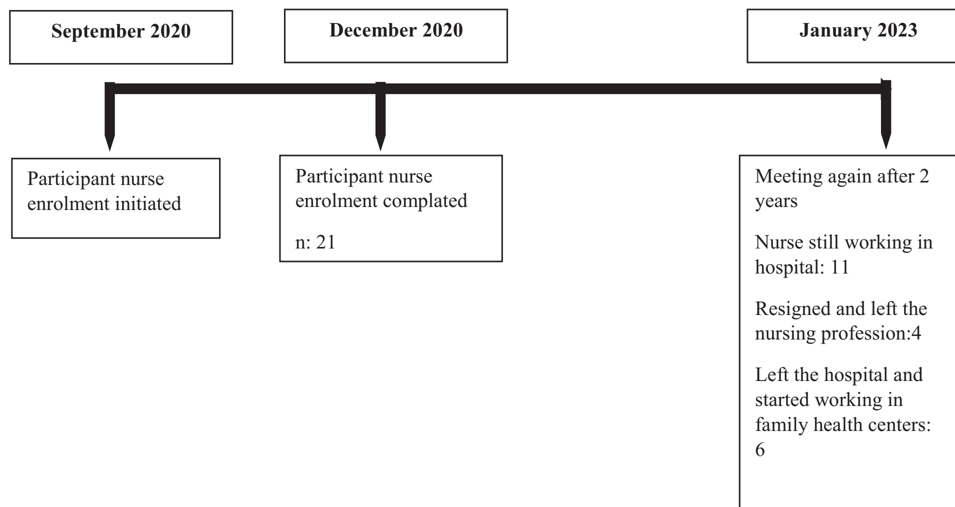

Figure 1. Timeline for Data Collection

THEME 1: FEAR AND WORRY

Fear of Death

> When I first learned, I thought I wonder am I going to die (H11).

> At first I thought I had a cold, I never thought I could be infected. I was upset (H18).

Fear of the Unknown

> I was surprised; I was very worried because I had no information about how the process would go because no one knew anything. I felt a lot of anxiety about the treatment process; when I asked my doctor, I did not get a satisfactory response. I felt very helpless (H1).

> I was afraid because of the unknown (H14).

> I was shocked; I felt I'd been psychologically whipped (H8).

Fear of Separation from Children

> I was very upset to have to leave my child (H13).

> I cried when I was admitted to hospital (H9).

Fear of Infecting Others

> I was very afraid about infecting my family (H5).

> I was surprised, I could not believe it, my family had come to stay with me, I was afraid that I might infect them (H10).

> I learned I was COVID positive in the supermarket, when I learned I began to feel remorse about whether I had infected innocent people (H17).

THEME 2: WORTHLESSNESS

> When I returned and they said I was assigned to the COVID intensive care, I thought that I should not do this job anymore and even thought about resigning. I felt very worthless, no one cared about us dying (H11).

> I felt embarrassed when my friends looked after me. I thought I'd given them trouble. I was in hospital for 8 days. On the ninth day they started me in work. I thought my profession has no value in the eyes of management (H10).

> Worthlessness (H12).

> After 10 days they started me in work, I regret that I'm in this profession (H21).

> I think we do not have any value (H14).

> I do not think we are appreciated enough for our patience and devotion (H15).

> I began work at the end of 14 days; I was expecting that my recovery would be longer as I had caught it from patients. But I was upset that I did not even have the right to that (H17).

Table 1. Socio-Demographic Characteristics of Nurses

Age (Average) (Min/Max: 21/40)	21	26.43 ± 4.61
	n	%
		Gender
Female	17	81.0
Male	4	19.0
		Marital status
Married	7	33.3
Single	14	66.7
		Child status
Yes	3	14.3
No	18	85.7
		Service worked
COVID-19 intensive care	11	52.4
General intensive care	8	38.1
Operating room	1	4.8
Coronary intensive care	1	4.8
		On what date did you have COVID-19?
April 2020	5	23.8
June 2020	1	4.8
August 2020	3	14.3
September 2020	10	47.6
October 2020	2	9.5
		Reason for COVID-19 test
Asymptomatic	8	38.1
Headache and sore throat, weakness	6	28.6
Joint pain, weakness	4	19.0
Back and chest pain complaints	2	9.5
Low back pain, loss of taste, and diarrhea	1	4.8

Min, Minimum; Max, Maximum.

I think our profession does not receive enough value (H19).

THEME 3: QUESTIONING, REGRET

I was very upset in terms of my profession that we work such intense hours and that the situation will always be like this (H5).

I said, if only I did not work in the hospital (H9).

I regret choosing this profession a lot (H21).

The need to be freed from this profession immediately (H14).

I thought maybe if I'd been doing a different job, I would not be at so much risk (H18).

I felt like a war veteran. I put myself in danger while dealing with people and it felt strange to catch this disease (H20).

I want to create new opportunities for myself. No matter how I love my job, I think I would not be able to do it in the years ahead, especially if the pandemic continues (H18).

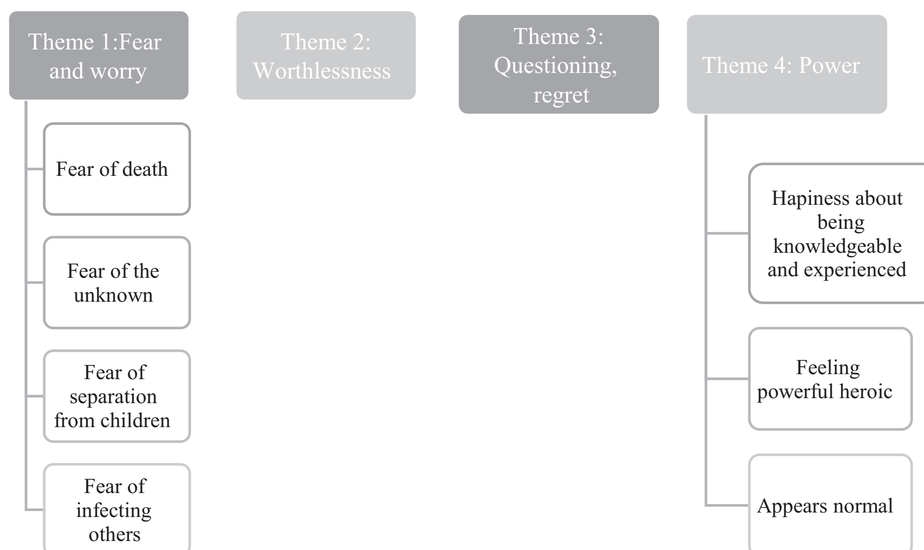

Figure 2. First-Onset Interview Themes and Quotes (n:21)

THEME 4: POWER

Happiness About Being Knowledgeable and Experienced

> At least because I'm a nurse I knew what I needed to do (H6).

Feeling Powerful, Heroic

> Due to the struggle during the quarantine, I think of my profession as fighters struggling in this biological war (H7).

> It's such a bad thing, this pandemic; I will try harder to do my job in the best way possible (H8).

> The pandemic led me to a different experience. I felt like I was a hero (H13).

Appears Normal

> I was not surprised; it was something expected (H16).

> It was an expected situation; I had prepared myself (H2).

> I met it as being normal (H3).

> I had no worries related to my profession; I may have been infected outside that (H1).

> I caught the disease on holidays, not from the hospital, perhaps if I'd been infected in the hospital, I may feel more negative emotions (H11).

At the end of 2 years, 11 nurses were still working in the hospital. Furthermore, 100% of the nurses were female and 100% of the nurses who resigned and left the nursing profession were male. Six nurses who could not be reached left the hospital to work in the family health center. Through the extraction, induction, and analysis of transcriptional manuscripts, 2 main categories were defined in our study: health perception, profession perception. We also defined 5 subcategories, as listed in Figure 3.

THEME 1: HEALTH PERCEPTION

Negative Perception

> As the first COVID-19 survivors, I think that it still has negative effects on our body. It definitely left a damage to our body (H17).

> I think that having COVID-19 causes my immunity to drop, I am getting more seriously ill than before (H8).

Positive Perception

> Afterwards, I did not have a problem with my health, after the first COVID-19 positive, I became positive 3 more times (H16).

> I had the infection standing up; I think my immunity got stronger (H3).

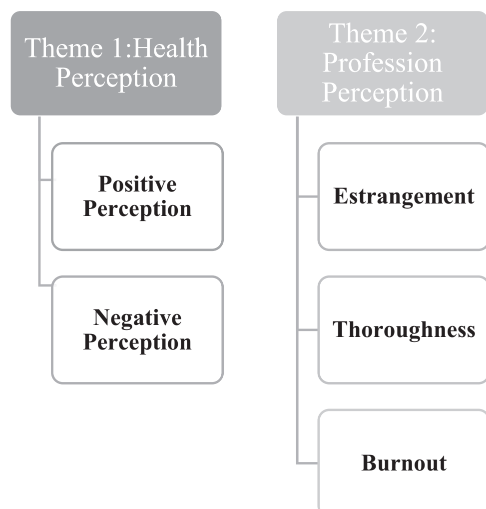

Figure 3. Second-Onset Interview Themes and Quotes

THEME 2: PROFESSION PERCEPTION

Estrangement

> The limitation in the pandemic process led me to work in my hometown. I'm trying to ask for my appointment at the first opportunity and go (H9).

> It has been very tiring to train new nurses, learn new information, and manage the process during the pandemic period; I do not want to do anything new when asked for it (H21).

> Our workload, which has increased during the pandemic period, still continues and I still feel professionally worthless. COVID-19 has shown us how lonely we are in the profession (H8).

> I feel alienated from my profession; we do not see any value from society or hospital management (H11).

Thoroughness

> I now pay more attention to protecting myself from all patients. I still prefer to wear a mask all the time (H16).

> After the pandemic, the mask did not go out of our lives; I even wear a mask when caring for patients we know to be negative. I feel more secure (H1).

Burnout

> My profession started to scare me with the pandemic, a possible pandemic process still scares me, and the pandemic has put me in a serious depression (H14).

> Although it's been a very short time since I started my profession, it's like years of work on me, fatigue, and burnout (H17).

> I do not know if the nurses in every country are as worn out as we are, but we lived 2 years like 10 years, as if a truck had passed over us (H2).

DISCUSSION

Statement of Principal Findings

In the literature, various articles have recently been published about the distress and experience of health care professionals who care for COVID-19 infected people.[7-11] However, as far as we know, our study is the first study evaluating the experiences of nurses with COVID-19 infection. In line with our study, our findings are summarized under 4 themes: 1) fear and worry, 2) worthlessness, 3) questioning, regret, and 4) power.

Experiences in the Pandemic

Fear and anxiety in the first period of the disease were similar to the emotions experienced during past pandemic experiences, such as H1N1 influenza, Severe Acute Respiratory Syndrome (SARS), and Middle East respiratory syndrome (MERS).[12] Studies conducted show that nurses' concerns about family members, especially those with elderly relatives and children, are consistent with our current study.[11,13] Garcia et al. in a study of novice nurses during the COVID-19 pandemic observed feelings of fear and anxiety with infection.[14] In our study, the sub-themes for fear and anxiety experienced by nurse participants were fear of death, fear of unknown, fear of separation from their child, and fear of infecting other people. Similarly, in studies, it was stated that health care workers mostly experienced fear and anxiety about their safety, the health of their families, child care, and getting sick from victims.[15,16] In a study by Almaghrabi et al., when health care workers were asked the reason for fear they experienced in their work during the COVID-19 pandemic, 57.5% expressed concern for the safety of their family members, 35.1% expressed concerns about the occupational safety of health care services, and 2.7% regarding childcare.[17]

There are studies showing that fear of infecting other people is felt intensely. Two infected Italian nurses committed suicide in Italy over a period of several days for fear of spreading COVID-19 to patients.[18] As the pandemic period extends, illness, infection, fear of death, and anxiety may increase to alarming levels in the whole society, especially among health personnel. The pandemic is undoubtedly

alarming for the whole society. Nurses, who are a part of society, are important members of the health care team working at the forefront of the pandemic struggle. However, nurses experience intense fear and anxiety because they are human beings, parents, partners, and children. The prolonged duration of this fear and anxiety may affect the psychological health of individuals as well as reduce work efficiency. In our study, there are participants who said that they wanted to quit their job and quit nursing. Mental health, which was adversely affected during the pandemic, can cause questions about the nursing profession, while nurses who are infected and enter the same intense work environment immediately afterward were revealed to have thoughts of intense worthlessness and worthless life. In a study, when participants were asked why they quit their jobs during the virus epidemic, 77.8% stated that they wanted to quit their jobs due to stress, workload, the perception that COVID-19 was fatal, and the impact of the pandemic on social relations.[17]

Quantitative studies show that frontline health care providers treating COVID-19 patients have greater risks for mental health problems such as anxiety, depression, insomnia, and stress.[19] In a study conducted in Egypt, 370 of participants (76.4%) had symptoms of anxiety, a significant portion of health care workers.[20] Similarly, in another study conducted in Oman, it was observed that the stress levels were high among health care workers.[7]

On the other hand, Lombardy, Italy showed the potential benefit of supporting vulnerable health care workers during major disease outbreaks with emergency-focused professional training addressing both positive mental health promotion and the prevention of post-traumatic stress disorder among health care workers during the COVID-19 outbreak.[21] In extraordinary situations such as epidemics, it will be very beneficial to support health care personnel, especially nurses who are in constant contact with patients at the front. In our study, nurses stated that during the pandemic, the hospital and nurse management did not value them and they felt that they were not understood. Similarly, Gao et al. found similar problems related to management which were experienced in a study conducted during the COVID-19 period and they stated that competence, expertise, workflow, workload, and preferences were not taken into consideration by nursing managers when organizing teams and shifts. In this context, strengthening communication between nurses and nursing managers was suggested in the study.[22] In our study, along with the studies in the literature, while themes such as fear, anxiety, and organizational difficulties are common, we see that the feeling of worthlessness is high among Turkish nurses, but social stigmatization anxiety is more dominant in others. In Iran, nurses stated that being hospital staff during the coronavirus epidemic meant being seen as a virus carrier, leading to special exclusionary behavior toward nurses in society. In the study, nurses stated that they and their families were exposed to social stigma.[8] We believe that the reason for the lack of stigma concerns in Turkey is due to being a nation of cultural health workers and solidarity with health personnel who are seen as a very devoted group of potential carriers. The only positive theme in our study is the "power" theme. Some nurses stated that they saw themselves as heroes because they participated in an extraordinary struggle. At the same time, they considered it normal for them to get COVID-19 infection and saw this as an occupational hazard. Similarly, Liu et al. in their study stated that treating patients and taking care of them was taking responsibility in an emergency and a duty, emphasizing strengths with the theme of "participating in the fight".[10]

Experiences in the Post- Pandemic

COVID-19 has shown how important it is to have experienced nurses to manage and organize complex and challenging processes. Therefore, it is necessary to support nurses in terms of negative attitudes toward the profession and solving the psychological difficulties they experience after the pandemic.[23] In the current study, under the theme of nurses' perception of profession, estrangement, and burnout sub-themes draw attention. During the pandemic, they felt like "heroes" when they helped people in need with their skills by responding to an acute problem. Over time, they experienced worthlessness and burnout, sacrificing their own personal health and family life.

In North America, nurses were asked to work longer hours and give up vacation time while their salary was limited.[24] Similarly, long working hours and no weekly vacation periods were experienced in Turkey. Nurses are faced with inadequate staffing rates, increasing attacks, and unsustainable working conditions.[25] Along with all these difficulties, the feeling of not being valued by the society and the managers supports burnout.

The challenging nature of the nursing profession, stressful work environment, physical labor, and due to the difficult shift work, many experienced specialist nurses developed negative perceptions of career results and accelerated their retirement plans during the pandemic process.[26] In the current study, it was observed that 4 nurses left the profession completely, and 6 nurses went to family health centers, which are relatively less dense. Thus, experienced nurses have decreased in larger centers where they are more needed.

In addition to all negative perceptions, for nurses who are new to the profession or who have less working years, it may be an opportunity for them to learn to

deal with a serious epidemic and be more meticulous in their profession.

Strengths and Limitations

The strongest aspect of this study is that it is the first study in Turkey to examine the experiences of nurses who have experienced COVID-19 infection. The limitation of the study is the fact that the nurses participating in the study had the infection at different months which may have affected their feelings and thoughts. In the first months of the year, COVID-19 infection was even more frightening. Another limitation of the study was that the 10 nurses could not be reached again.

Implications for Policy, Practice and Research

This study has some implications for nursing managers to understand the negative effects of emergency public health events on health care workers such as a pandemic. It is obvious that nurses need psychological reinforcement in crisis situations such as a pandemic. At the same time, it is important to make arrangements about the working places of the nurses who have had the disease when they start working again.

It is important to take leadership steps toward attracting and retaining experienced nurses and recognizing nursing professionals as talents, and help nurses feel appreciated by others for post pandemic.

CONCLUSION

Throughout the epidemic, nurses who are members of the health care team are at the forefront of the epidemic defense, but unfortunately they are negatively affected by this process. In addition to all the difficulties, COVID-19 infection also affects the mental health of individuals very badly. In order to overcome the pandemic, we need to ensure the welfare of all health care personnel, especially nurses. In this process, the safety of our workforce should be a high priority. To help nurses reduce uncertainty, fear, and other concerns, in addition to improving knowledge about infection prevention and control and personal protection skills; hospitals need to provide a safe working environment and adequate protective equipment and employ staff responsible for continuing education, monitoring, and supervision. In addition, it should not be forgotten that the negative COVID-19 test result of infected personnel represents only their physical well-being, but spiritual well-being is also needed. We recommend strengthening the mental resilience of nurses for this pandemic that we are currently experiencing and any extraordinary situations that we will experience in the future.

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