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Determination of anxiety levels and perspectives on the nursing profession among candidate nurses with relation to the COVID-19 pandemic

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Abstract

Purpose: This study aimed to determine the anxiety level of candidate nurses and capture their perspective on the nursing profession in light of the coronavirus disease 2019 (COVID-19) pandemic.

Design and Methods: This descriptive study consisted of 322 nursing students in Turkey after the pandemic announcement of the World Health Organization. A web-based survey was used and anxiety levels was determined via State Anxiety Scale and Beck Anxiety Inventory.

Findings: Positive perspectives (63.4%) on the nursing profession before the pandemic decreased to 50.6%, whereas the negative (26.7%), and the undecided (9.9%) perspectives increased to 32.3% and 17.1%, of the total respectively. A significant increase was found in the anxiety scores with negative perspectives combined with an unwillingness to practice their profession in the future ($P < .05$).

Practice Implications: Pregraduate training should be provided to candidate nurses about pandemic nursing and professional difficulties they may possibly encounter in infection epidemics.

KEYWORDS
anxiety, candidate, coronavirus, Nurses, pandemic

1 | INTRODUCTION

The coronavirus disease 2019 (COVID-19) outbreak, one of the biggest public health crises to date, occurred in Wuhan, China in December 2019[1,2] and was declared as a pandemic on 11 March 2020.[3-5] The rate of spread of this virus was found to be between 3.6 and 4.0, and infected more than 3 million individuals worldwide in a period of 4 months.[6] In Turkey, the first case was confirmed on 11 March 2020, and it has infected more than 124 000 individuals in about 2 months.[7] In the outbreak of COVID-19, which has become a global problem, symptoms such as fever, cough, dyspnea, pneumonia, acute respiratory failure syndrome, sepsis, and intravascular coagulation, have been reported in individuals.[8,9] In fact, the fatality rate was 3.4%.[10] Up until today, nearly 220 000 people worldwide and 3000 in Turkey have died due to this pandemic.[6] The pandemic has

caused an increase in the rate of admission to inpatient treatment institutions.[2,5] A study in China found that about 15% of the patients developed severe pneumonia, and about 6% needed noninvasive or invasive ventilation. This revealed the need to increase the number of intensive care beds in pandemic hospitals.[5] High positive case rates, the increased need for intensive care of some infected individuals, and the implementation of tight isolation measures to prevent transmission increased the burden on healthcare professionals, especially nurses working in the frontlines.[5,11] In addition to these problems, constant contact with infected individuals increased the risk of transmission of the disease to health professionals.[11,12] In the report of the Chinese National Health Commission on 16 to 24 February 2020, it was reported that 2055 healthcare workers from 476 hospitals were diagnosed with COVID-19.[13] Similarly, in Turkey, 7.428 health workers were diagnosed with COVID-19.[14]

Pandemic infections affect health workers and society negatively with regard to their psychology.[15,16] This situation may psychologically affect candidate nurses and demotivate them to practice the profession in the future. It is known that in the choice and the practice of a profession, environmental conditions together with the individual characteristics and quality of the profession are important.[17]

To our knowledge, this study is the first in Turkey which aims to determine anxiety levels and the views of the nursing profession in candidate nurses, due to the global epidemic COVID-19.

2 | MATERIALS AND METHODS

This descriptive study was carried out between March and April 2020 in a nursing department of a health sciences faculty in Turkey. The population of the study consisted of 461 students training in the nursing department. The minimum sample size was determined to be 210 students by 0.05 power analysis. The study was completed with 322 students after excluding those who did not volunteer. The response rate was 69.8%. To collect data, a web-based survey was used due to the "stay at home" policy instituted in light of COVID-19. In the survey form, questions regarding the candidate's sociodemographic characteristics, perspectives on the nursing profession before and during the pandemic, and the desire to practice the profession in the future were included. Participants' perspectives on the profession before the pandemic were evaluated at the time of the emergence of the pandemic with the announcement of the World Health Organization. In addition, it also featured salient questions with respect to the impact of the pandemic on the mental health of the candidate, concerns of being infected by the disease, state of anxiety which candidates faced due to the pandemic, and further questions in the Beck Anxiety Inventory. The participants were called by phone and were informed about the purpose of the study. It was questioned whether they could participate in this study through online survey. After the verbal consents of the participants were obtained, written informed consents were sent to them by e-mail. Data were collected when participants filled out online questionnaire.

2.1 | Information form

A form includes the sociodemographic characteristics (age, gender, classroom level) and the perspective of the candidate on the profession before and during the pandemic. The candidate's perspective on the profession was captured with help of two survey questions: first, "What was your perspective on the nursing profession before and during the COVID-19 pandemic?", to which the answer choices were "positive," "negative," and "undecided." The second question asked, "Are you willing to practice your profession in the future?" and the answer choices were "yes" and "no." Self-assessments of the influence of the pandemic on mental health and the fear with regard to the risk of contagion were also captured with questions with the answers "yes and no."

2.2 | State anxiety scale (STAI-I)

The State Anxiety Scale was developed by Spielberger in 1970, and the Turkish version and its corresponding validity-reliability study was adapted by Oner and Le Compte in 1983.[18,19] In the Turkish version of the scale, consistency and reliability were found to be between 0.94 and 0.96. The scale consists of 20 items and answers range from 1 to 4 (1: never, 2: some, 3: very, 4: completely). The total score value obtained from the scale is between 20 and 80. High scores indicate high anxiety levels.[18,19] Although the scale does not have a cutoff point, it is generally accepted that the cutoff point is 39 to 40 points.[20] In this study, Cronbach's α coefficient of the scale was determined to be .72.

2.3 | Beck anxiety scale

The scale was developed by Beck et al in 1988. It was adapted to Turkish by Ulusoy et al in 1998. The reliability of the scale was found to be 0.75. The scale evaluates the frequency of anxiety symptoms experienced by individuals. The scale consists of 21 items, and items are evaluated as "0" (none), "1" (mild), "2" (moderately), and "3" (severely). The total score obtained from the scale varies between 0 and 63, and high scores are representative of high anxiety levels.[21,22] In this study, Cronbach's α coefficient of the scale was determined to be 0.92.

2.4 | Ethical approval

This study was planned according to the Helsinki Principles, and ethical approval was obtained from the Hitit University Non-Interventional Research Ethic Committee.

2.5 | Statistical analysis

Data were analyzed using the SPSS 17 program with percentages, mean, independent t test, and a one-way analysis of variance (post-hoc Tukey). In the analysis, $P < .05$ value considered statistically significant.

3 | RESULTS

Of the study group, 72% were between 18 and 21 age groups with mean age of 20.8 years. A total of 76.4% of those who were surveyed were female, and 31.1% were training in the second grade.

Table 1 shows the distribution of anxiety scores.

TABLE 1 Distribution of anxiety scores

Scales	Min-max	$\chi \pm$ SD
Beck anxiety	0-63	15.2 ± 8.4
State anxiety	28-53	40.3 ± 4.9
Beck anxiety	n	%
<16	158	49.1
≥16	164	50.9
State anxiety		
<40	155	48.1
>40	167	51.9

Changes in the perspectives on nursing profession

FIGURE 1 Changes in the perspectives on nursing profession [Color figure can be viewed at http://wileyonlinelibrary.com]

As seen in Table 1, students' Beck Anxiety scores ranged from 0 to 63 with an average of 15.2 ± 8.4 points. It was determined that 50.9% of the participants scored 16 and above. It was determined that the state anxiety level of the participants was at the full limit (40.3 ± 4.9) and the state anxiety score was 40 and above in 51.9% of the cases.

The changes in students' perspectives on the nursing profession due to the COVID-19 pandemic are shown in Figure 1.
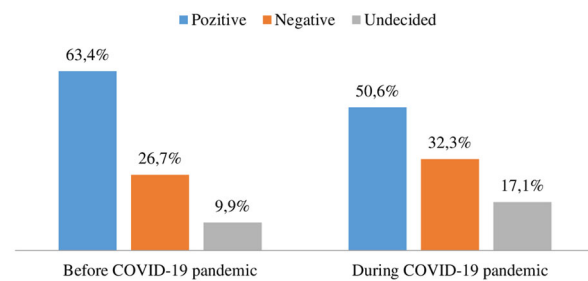
It was observed that the positive views of the participants toward the nursing profession, stood at 63.4% before the pandemic, but decreased to 50.6% during the pandemic. On the other hand, negative and undecided views of the profession were held by 26.7% and 9.9% of those who were surveyed before the pandemic, and increased to 32.3% and 17.1%, respectively.

In Table 2, the distribution of anxiety scores according to the perspectives on nursing profession is given.

As seen in Table 2, while the anxiety scores did not differ significantly according to the perspectives on the nursing profession

TABLE 2 Distribution of anxiety scores according to the perspectives on nursing profession

Perspectives on nursing profession	Anxiety scores	
	Beck anxiety $\chi \pm$ SD	State anxiety $\chi \pm$ SD
Before COVID-19 pandemic		
Pozitive	7.41 ± 7.94	40.86 ± 4.84
Negative	9.82 ± 8.82	39.54 ± 4.82
Undecided	8.62 ± 9.98	39.03 ± 5.51
Statistic	F: 2.547, P: .054	F: 3.438, P: .092
After COVID-19 pandemic		
Pozitive	7.50 ± 9.07	40.74 ± 2.04
Negative	28.64 ± 8.36	44.26 ± 4.73
Undecided	7.40 ± 6.09	39.21 ± 4.93
Statistic	F: 2.342, P: .018	F: 1.992, P: .033
Desire to practice profession in the future		
Willing	7.79 ± 7.66	40.32 ± 4.89
Unwilling	18.71 ± 5.07	43.47 ± 8.79
Statistic	t: 0.148, P: .037	t: 0.946, P: .018

before the COVID-19 pandemic (P > .05), a significant increase in anxiety scores was found in those with a negative perspective of the profession during the pandemic (P < .05). Anxiety scores were found to be significantly higher for those with the unwillingness to practice the profession in the future (P < .05).

The distribution of anxiety scores according to mental influence due to pandemic and fear of being infected with COVID-19 is given in Table 3. Anxiety scores were found to be significantly higher among those with mental influence and afraid of being infected (P < .05).

4 | DISCUSSION

In the present study, anxiety levels of candidate nurses were determined to be wide ranging due to the COVID-19 pandemic. Anxiety and state anxiety were found in more than half of the participants (Table 1). Facing large-scale infectious disease threats may increase the psychological pressure on individuals.[23] Epidemics may also trigger psychological problems among health workers who work in the front line.

A recent community-based study in China reported that approximately one-third of the participants had moderate to severe anxiety and more than half of the participants had moderate to severe psychological effects, as a result of the pandemic.[24] Whereas the psychological

TABLE 3 The distribution of anxiety scores according to mental influence due to pandemic and afraid of being infected with COVID-19

		Anxiety scores	
	n	Beck anxiety X ± SD	State anxiety X ± SD
Mental influence due to pandemic			
Yes	197	24.66 ± 9.12	40.22 ± 4.82
No	125	4.35 ± 6.15	42.60 ± 4.42
Statistic		t: 0.126, P: .000	t: 0.187, P: 0.006
Afraid of being infected with COVID-19			
Yes	203	21.22 ± 8.95	43.32 ± 4.86
No	119	4.31 ± 4.49	40.34 ± 5.26
Statistic		t: 9.173, P: .000	t: 4.645, P: .021

pressure caused by pandemics affects the general public, its effect on health care providers working in the frontline is markedly greater. Experiences of healthcare professionals in the current COVID-19 epidemic, underlined the psychological pressure on healthcare professionals who find themselves at the forefront of attempts to suppress the outbreak.[23,25] In another study conducted in China, it was demonstrated that the incidence of anxiety and stress disorder was high among healthcare workers working in the frontline due to COVID-19 and the incidence was comparatively higher among nurses than doctors.[16] Rapid decision making for suspected cases, careful isolation of patients, determining the specific departments to work, and using the limited resources effectively are instrumental in the management of the pandemic. In addition to timely action, the challenges of successful isolation, diagnostic and therapeutic pressure, and the need to share their efforts with the media may affect healthcare professionals mentally. Additionally, health personnel working in the frontlines have an increased risk of exposure to the virus and in turn, risk infecting others with the virus. Due to the pandemic, all health workers, especially nurses, are afraid of the risk of carrying the virus to their homes and infecting their families (spouses, children, elderly people at home, other immunosuppressive relatives). The candidate nurses have been away from their homes and families for many months due to the spread of the virus. Witnessing all these developments may affect the mental health of candidate nurses.

The perception of risk, and the confidence in professional skills among health workers were factors that facilitate the willingness to work.[26] When the participants' perspectives on the profession before and during the pandemic were compared, it was determined that there was a clear change in their perspectives on the negative and undecided responses toward the profession (Figure 1). Anxiety and state anxiety scores were found to be significantly higher among those with a negative perspective regarding their profession as a result of the pandemic and they were unwilling to practice their job in the future (Table 2). In the context of the fight against coronavirus in Turkey, all hospitals have been declared pandemic hospitals. Intensive care services were increased in hospitals, and elective health services postponed. In the event of an infectious disease threat, changes in workplace conditions, increased workload, and the exposure to risk may affect candidate nurses perceptions of the profession.

Anxiety scores were quite high among those who were mentally affected due to pandemic and had a fear of being infected (Table 3). It is recommended to develop psychological support for health workers working in the frontlines and provide adequate interventions so as to assist them to endure the increased psychological pressure as a result of the pandemic.[25,27] In light of past epidemic experiences, protective strategy should be planned for all healthcare professionals, especially nurses and candidate nurses.

5 | CONCLUSION

In summary, in our study, it was found that anxiety levels increased due to the COVID-19 pandemic, and perspectives on the profession showed a negative trend due to the pandemic among candidate nurses.

5.1 | Implications for nursing practice

Nursing is a life-saving profession and addresses reflecting every aspect of treatment and care in health services. Global health threats such as pandemics may bring unprecedented demands on most nurses' knowledge, skill and moral resolve and anxiety management. Pregraduate training should be provided to candidate nurses about pandemic nursing and professional difficulties they may encounter in infection epidemics. Anxiety may decrease willingness and ability of candidate nurses to profession during a pandemic. To minimize these problems, education plans should be made to keep candidate nurses more active in community health services. In the pandemic phase, more studies should be planned to determine the mental health problems of the candidate nurses, and psychological counseling, guidance, and mental health services should be provided for those at risk.

CONFLICT OF INTERESTS
The authors declare that there are no conflict of interests.

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