

ORIGINAL ARTICLE

Death Anxiety of Nursing Students Returning to Clinical Practice During the COVID-19 Pandemic Period

COVID-19 Pandemi Döneminde Klinik Uygulamaya Dönen Hemşirelik Öğrencilerinin Ölüm Kaygısı

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ABSTRACT

Aim: Diseases with high mortality rates, such as COVID-19, increase death anxiety. This pandemic has impacted the mental health of nursing students in terms of emotions and cognition, such as fear of death and anxiety. This present study aimed to determine the death anxiety level among nursing students returning to clinical practice during the COVID-19 pandemic.

Method: This descriptive and cross-sectional study was carried out with the students enrolled nursing department of a university between March and July 2021 during the COVID-19 pandemic in Turkey (n= 337). The data were collected using the students' information form and the Death Anxiety Scale through an online survey.

Results: The students had a low level of death anxiety. Nursing students' age, gender, previous education about death, the state of being infected with SARS-CoV-2, fear of being infected with SARS-CoV-2, and fear of caregiving for patients with COVID-19 were found to be factors related to death anxiety.

Conclusion: This study highlights that COVID-19 affected the death anxiety of nursing students and students need support and preventive strategies to care for dying patients during the COVID-19 pandemic.

Keywords: Death, anxiety, COVID-19, clinical practice, nursing students.

Öz

Amaç: COVID-19 gibi ölüm oranlarının yüksek olduğu hastalıklar ölüm kaygısını artırmaktadır. Bu pandemi süreci, hemşirelik öğrencilerinin ruh sağlığını ölüm korkusu ve kaygı gibi duygu ve biliş açısından etkilemiştir. Bu çalışma, COVID-19 pandemisi sırasında klinik uygulamaya dönen hemşirelik öğrencilerinin ölüm kaygısı düzeyini belirlemeyi amaçlamıştır.

Yöntemler: Tanımlayıcı ve kesitsel tipteki bu çalışma, Türkiye'de COVID-19 pandemisi sırasında Mart-Temmuz 2021 tarihleri arasında bir üniversitenin hemşirelik bölümüne kayıtlı öğrencilerle (n= 337) gerçekleştirildi. Veriler, öğrenci bilgi formu ve Ölüm Kaygısı Ölçeği kullanılarak çevrimiçi bir anket aracılığıyla toplandı.

Bulgular: Öğrencilerin ölüm kaygısı düşük düzeydeydi. Hemşirelik öğrencilerinin yaşı, cinsiyeti, ölümle ilgili önceki eğitimi, SARS-CoV-2 ile enfekte olma durumu, SARS-CoV-2 ile enfekte olma korkusu ve COVID-19'lu hastalara bakım verme korkusu öğrencilerin ölüm kaygısı ile ilişkili faktörlerdi.

Sonuç: Bu çalışma, COVID-19'un hemşirelik öğrencilerinin ölüm kaygısını etkilediğini ve öğrencilerin COVID-19 pandemisi sırasında ölmekte olan hastaların bakımı için desteğe ve önleyici stratejilere ihtiyaç duyduğunu vurgulamaktadır.

Anahtar Kelimeler: Ölüm, kaygı, COVID-19, klinik uygulama, hemşirelik öğrencileri.

Introduction

Death is an uncertain phenomenon in terms of time and place that can cause distress and anxiety in healthcare professionals, especially nurses, who are at the forefront of patient care (1). Nurses frequently encounter death, which is the inevitable moment of life, throughout their profession. In this process, nurses, the patient, and the patient's family experience this emotional and stressful process together. If the death process is not managed well, nurses may develop negative attitudes and behaviors toward this process (2).

Coronavirus disease 2019 (COVID-19), included in the scope of Public Health Emergency of International

Concern by the World Health Organization (WHO), was declared a pandemic that caused this century's most severe health crisis. Many cases and deaths have been reported during this pandemic so far (3). Hospitals were transformed into pandemic units to respond to growing healthcare needs and control the spread of the virüs. Therefore, there was a crisis of medical collapse dramatically (4). Faced with this critical situation and fighting against the pandemic, nurses directly involved in the care of patients with COVID-19 and risked their lives while maintaining the care of infected patients during long working hours, and some of were infected with the virus and lost their lives (5). Nurses witnessed the suffering and death of the patients they cared for (6), and their

inability to help the patients experiencing respiratory distress negatively affected their psychology (7). All factors caused nurses to experience depression, anxiety, fear, professional burnout (8), and death anxiety(9).

Death anxiety is a feeling that people experience all their lives and is an emotional disturbance caused by existential anxieties triggered by awareness and contemplation of one's or others' mortality (10). Individual emotion, the experience of death, developmental and sociocultural shaping, stressful environments, and unpredictable circumstances affect death anxiety (11). Also, death anxiety more pronounced in salient situations related to death is tended to increase in situations such as chronic or life-threatening illnesses with a high mortality rate (12). Diseases that cause mass deaths, such as COVID-19, affect societies psychologically and can reveal death anxiety in individuals (13).

Nursing students like nurses also take the responsibility of sustaining the survival of the patient they care for during their clinical practice. This responsibility causes students to have different feelings and thoughts about life and death (14). In this process, students fulfill the role of helping patients and their families accept death and providing end-of-life care, which is among the roles and responsibilities of nurses (15). These students who encounter the reality of death have difficulties coping with it by experiencing emotions such as sadness, hopelessness, anxiety, and fear during their clinical practice (16). Students experienced these difficulties more prominently when participating in the nurse workforce during the pandemic periods. Also, they were worried about being infected with the SARS-CoV-2, passing the virus on to their families and friends, and experienced fear and anxiety of death that developed due to events resulting in death (17). Tülüce and Serin (2022) reported that COVID-19 caused uncertainty and anxiety in nursing students because it caused deaths (18). A study reported that the pandemic increased the death anxiety levels of nursing students (19).

It is required to determine the death anxiety of nursing students who will be healthcare professionals in the future and will provide the necessary support and care to patients with diseases such as COVID-19 that spread rapidly and have a high mortality rate. It is assumed that COVID-19 is a lethal virus that may increase death anxiety in nursing students who are in close contact with patients during the care process in clinical practice. Therefore, it was aimed to determine death anxiety levels and their affected factors on nursing students during clinical practice during the COVID-19 pandemic process in this study.

Research Questions

- Are the death anxiety levels of nursing students in clinical practice affected by the COVID-19 pandemic process?

- What are the effects of students' sociodemographic and disease-related characteristics on death anxiety?

Methods

Study design and sample

The descriptive and cross-sectional study was carried out with the second, third, and fourth grades of the nursing department of the faculty of health sciences at a university in Türkiye through an online survey distributed over five months (between March and July 2021) during the COVID-19 pandemic. The study was conducted following the STROBE cross-sectional reporting guidelines. The data were collected using a free online form creator (Google forms), which allows the rapid and effective distribution of an online questionnaire to students. We planned to reach the universe without choosing a sample for the study (N= 566). Inclusion criteria involved: be aged 18 years or older, willed to participate in this study, filled out complete questionnaire forms, and in clinical practice. According to the inclusion criteria, 337 students were included in the study (participation rate 71.24%). Prior to the administration of the questionnaire, we selected several students for a preliminary study of the wording and intelligibility of the questionnaire and interviewed them face-to-face. The questionnaire was revised according to the opinions received from the students.

In the courses coexisting the theoretical training and clinical practice at the university where the research was carried out, the theoretical sections were conducted online synchronously, and the clinical practices were carried out face-to-face by dividing the students into small groups. Personal protective equipment was provided to the students in their clinical practices, and the vaccination for COVID-19 process was initiated, starting with the senior nursing students. It was ensured that a student's clinical practice was completed in a single time within the specified time during the semester. Within the scope of COVID-19 measures, 4-5 students were given to each clinic, and each class was rotated to be in the clinics at different times. The practices were arranged five days a week between 8.00-20.00.

Data collection tool

The data were collected using the "students' information form" prepared by the researchers and the "Death Anxiety Scale (TDAS)".

Students' information form was prepared by the researchers based on the literature (17,20,21).

It consisted of questions, such as age, gender, education about death, whether the participants had a chronic disease, were COVID-19 positive, had relatives who were COVID-19 positive, were worried about meeting a patient with a diagnosis of COVID-19, and whether they were worried about caring for patients with COVID-19.

Death Anxiety Scale

The Death Anxiety Scale (TDAS) was developed by Sarkaya and Baloğlu (2016). The scale is a 5-point Likert-type (0 = never to 4 = always) and consists of 20 items. It has three sub-dimensions: 'Ambiguity of death,' 'Thinking and witnessing death,' and 'Pain.' The range of scores that can be obtained from the scale is 0 to 80. High scores indicate high death anxiety. In the study of Sarkaya and Baloğlu reliability study (22), Cronbach's alpha value of the scale was found as $\alpha = 0.95$, and it was found as $\alpha = 0.96$ in our study.

Data analysis

The data were evaluated using the IBM SPSS 22.0 (Statistical Package for Social Sciences 22.0) package program. First, the fit of the data to a normal distribution was examined by the one-sample Kolmogorov-Smirnov test. The number and percentage distribution were used to evaluate categorical data, and mean-standard deviation was used to evaluate continuous data. Then, multiple linear regression analysis was used to define descriptive variables in the TDAS. Before performing regression analysis, a strong linear dependence among the independent variables was checked for multicollinearity by using the Variance Inflation Factor (VIF). Giacalone et al. (2018) reported that VIF should be under 10 (23). In the current study, VIF was 1.090-1.518, indicating no multicollinearity problem. $p < 0.05$ was considered significant in this study.

Ethical Approval

Ethical approval of this study was received by a university's Scientific Research Ethics Committee "Protocol code: TÜTF-BAEK 2021/246, Approval no: 11/30". The purpose and procedure of the study were explained to students who voluntarily participated in the study. Their informed consent was obtained by using the Informed Consent Form.

Results

Socio-Demographic and Disease-Related Characteristic of Participants

In the study, nursing students had a mean age of 20.75 years ($SD=1.71$). Among the participants, 82.8% were female, 33.8% were fourth -grade students and 54.3% lived with their friends. Most (91.4%) participants did not have a chronic disease. A total of 75.1% did not have previous education in death. 80.7% reported that they had not been infected with SARS-CoV-2, and 70.9% reported that a relative had been infected with SARS-CoV-2. 62.6% of the students stated that they were afraid of being infected with SARS-CoV-2, 18.4% of the students stated that a relative passed away due to COVID-19 and 68.8% stated that they were afraid of caregiving for patients with COVID-19. 84.3% of the students were concerned that healthcare workers could be carriers of SARS-CoV-2 (Table 1).

TDAS Total Score and Sub-dimension Score Averages

In the study, the average score of students obtained from the sub-dimension of the ambiguity of death was 18.21 ± 10.41 , the sub-dimension of the thinking and witnessing death was 10.11 ± 7.32 , and the sub-dimension of the pain was found as 6.11 ± 3.22 . The mean total score of TDAS was 28.47 ± 16.53 (Table 2)

Table 1. Socio-Demographic Characteristics of the Participants (n: 337)

Variables	n	%
Age (years)		
Mean \pm SD= 20.75 \pm 1.71	-	-
Gender		
Female	279	82.8
Male	58	17.2
College status		
Second grade	113	33.5
Third grade	110	32.6
Fourth grade	114	33.8
Presence of chronic disease		
Yes	29	8.6
No	308	91.4
Living conditions		
Living with parents	154	45.7
Living with friends	183	54.3
Previous death education		
Yes	84	24.9
No	253	75.1
Status of infected with SARS-CoV-2		
Yes	65	19.3
No	272	80.7
Status of a relative infected with SARS-CoV-2		
Yes	239	70.9
No	98	29.1
Status of a relative died of COVID-19?		
Yes	62	18.4
No	275	81.6
Afraid to be infected with SARS-CoV-2		
Yes	211	62.6
No	126	37.4
Afraid to care for patients with COVID-19		
Yes	232	68.8
No	105	31.2
Concerned that healthcare workers may be carriers of SARS-CoV-2		
Yes	284	84.3
No	53	15.7

Table 2. Mean Total Score and Sub-Dimension Scores of the TDAS (n= 337)

	X±SS	Min-Max
Ambiguity of death	18.21±10.41	0-40
Thinking and witnessing death	10.11±7.32	0-28
Pain	6.11±3.22	0-12
TDAS (total)	28.47±16.53	0-68

Table 3. Regression model of death anxiety (n= 337)

Predictor variables	Unstandardized Coefficients		Standardized Coefficients		P	95.0% Confidence Interval for B	
	B	Std. Error	Beta	t		Lower Bound	Upper Bound
Age	.967	.463	.100	2.087	.038	.056	1.879
Gender	9.145	2.121	.209	4.312	.000	4.973	13.316
Presence of chronic disease	5.074	2.728	.086	1.860	.064	-.293	10.440
Previous death education	6.036	2.957	.103	2.041	.042	.219	11.852
Status of infected with SARS-CoV-2	6.936	1.939	.166	3.576	.000	3.121	10.751
Afraid to be infected with SARS-CoV-2	8.846	1.871	.259	4.728	.000	5.165	12.526
Afraid to care for patients with COVID-19	7.304	2.020	.205	3.616	.000	3.330	11.278

Backward multiple regression analysis*

Adjusted R2= 0.290

Note: dummy-coded: gender (female = 1, male = 0); presence of chronic disease (Yes= 1, No= 0), previous death education, status of infecting with COVID-19 (Yes= 1, No= 0), afraid to be infected with COVID-19 (Yes= 1, No= 0), afraid to care for COVID-19 patients (Yes= 1, No= 0).

Abbreviation: B= coefficient B; beta= standardised beta coefficient; R2= R-square (the coefficient of determination); Std= standard

Predictors: Age, gender, chronic disease, previous death education, status of infecting with COVID-19, afraid to be infected with COVID-19, afraid to care for COVID-19 patients.

The Effects of Socio-Demographic and Disease-Related Characteristics on Death Anxiety

When we examined the effects of the students' socio-demographic and disease-related characteristics on death anxiety, among characteristic variables age (p< .05; B: 0.967), gender (p< .001; B: 9.145), previous education about death (p< .05; B: 6.036), the state of being infected with SARS-CoV-2 (p< .001; B: 6.936), the state of afraid of being infected with SARS-CoV-2 (p<.001; B: 8.846), and the afraid of caregiving for patients with COVID-19 (p< .001; B:7.304) were found as the factors affecting death anxiety. According to these results, students' age, gender, previous education about death, the state of being infected with SARS-CoV-2, the state of afraid of being infected with SARS-CoV-2, and the fear of caregiving for patients with COVID-19 were independent contributors to the death anxiety. The nursing students who were older, female, had previous education about death, infected with SARS-CoV-2, afraid to be infected with SARS-CoV-2, and were afraid of caregiving for patients

with COVID-19 had higher TDAS scores than the other students. The adjusted R2 values were 29% (Table 3).

Discussion

Helping patients and their families acknowledge death and practicing end-of-life care are among the roles of nurses. However, the psychology of nurses can be affected while caring for dying patients (24). Especially in a situation threatening human life, such as a pandemic, emotions and thoughts about death and death anxiety can become more evident (13). Nursing students experience different emotions and thoughts, such as anxiety when they cannot prevent the death of the patient they care for in their clinical practice (25). Hence, it is crucial to determine the death perception and anxiety of nursing students who continue their clinical practice during the COVID-19 pandemic. In this study, we examined the death anxiety level and its affecting factors on nursing students in clinical practice during the COVID-19 pandemic.

The death anxiety levels of nursing students in clinical practice during the COVID-19 pandemic process;

Death anxiety is perceived and emerges as an abnormal experience in the case of living with diseases with a high mortality rate, such as COVID-19 (9). In the study of Canet-V'elez et al. (2021), in which they examined the training and professional development of nursing students during the COVID-19 process, it was determined that the students working as health professionals had negative emotions such as fear, worry, and nervousness due to the death of many patients (26). The study by Cheng et al. (2021), which aimed to determine nursing students' hope, death anxiety, and coping style during the COVID-19 period, reported that the death anxiety of students was above the moderate level (27). In Yıldırım et al.'s study (2021), nursing students' death anxiety levels were quite high during the COVID-19 pandemic (19). In this study, the participants' average score on the death anxiety scale was 28.47±16.53. Considering that the lowest score that can be obtained from the TDAS is 0 and the highest score is 80, it is seen that the students have a low level of death anxiety. This result may be correlated with the uncertainty of the mortality and prognosis of COVID-19, the lower mortality rates among young people, the fact that students have personal protective equipment during their clinical practice, and they are immunized with the COVID-19 vaccine (28).

The effects of socio-demographic and disease-related characteristic on death anxiety;

As individuals grow older, their acceptance of death also increases (29). However, it is found that there are different results in relations between age and death anxiety in the literature. According to Russac et al. (2007) and Harrawood et al. (2009), older adults experience lower death anxiety than younger people (30,31). In contrast, DePaola et al. (2003) reported a

positive relationship between age and death anxiety (32). According to studies examining death anxiety in nursing students before the pandemic, it was determined in the study of Limonero et al. (2010), that younger students had higher levels of death anxiety, while McClatchey and King's (2015) study reported that nursing students' age was not a predictor of death anxiety (33,34). In this current study, it was determined that the age of the nursing students was a predictor of their death anxiety, and those who were older had higher TDAS scores than the younger. It can be said that with increased age, the risk of being infected virus and dying associated with COVID-19 disease increases (28), increasing the death anxiety of older students.

Death is an existential threat to almost everyone, regardless of gender (35). However, when the literature is examined, it is reported that death anxiety differs between the genders, and women tend to report higher levels of death anxiety than men (36). McClatchey and King's (2015) study reported that female students had higher levels of death anxiety than male students (34). In the studies of Limonero et al. (2010), Shin (2011), and Şahin et al. (2015) also determined that female nursing students had higher levels of death anxiety than male students (33,36,37). The result of this study is compatible with the literature, and gender was a predictor of the level of nursing students' death anxiety, and female nursing students had higher levels of death anxiety than male students. This result can be attributed to the fact that females are more open to admitting disturbing emotions such as death anxiety (34).

When the literature is examined, it is emphasized that death education is effective on death anxiety. It is vital to provide death education to students in higher education to reduce death anxiety and fear of them (38). Considering that nursing students will encounter death in their clinical practice, providing education about death will enable them to accept the phenomenon of death, care for dying patients, and to support their families, and will be able to approach it more positively (39). Shin (2011) reported that death education was an effective nursing education for decreasing death anxiety (37). In the study conducted by McClatchey and King (2015), their findings showed that the death anxiety of the students who participated in death education was low compared to those who did not (34). In this study, the death education status of nursing students was a predictor of death anxiety, and the death anxiety of the students who received education about death before was higher than those who did not. This result suggested that the education about death and the good death process that the students received before created awareness of death in them; however, they were worried about the fatality of COVID-19 and their lives, as they witnessed the bad death process from the news, social media, and in their clinical practice during the pandemic.

While COVID-19 caused physical problems such as fever, cough, and shortness of breath, it also affected the psychology of individuals. Huang and Zhao (2020) reported that anxiety disorder reached very high levels during the COVID-19 epidemic (40). There was an increase in death anxiety levels due to the development of negative emotions in patients infected with SARS-CoV-2 during the pandemic process (20). In this study, the status of being infected with SARS-CoV-2 it was determined that was a predictor of death anxiety, and the death anxiety of the students infected with SARS-CoV-2 was higher than those who did not. In line with this result, it was thought that the problems experienced by the students in their vital functions, such as respiratory distress, and the fact that they were alone by staying away from their families and friends during this period caused an increase in their death anxiety.

The literature related to the COVID-19 pandemic suggested that nursing students described clinics as high-risk, did not feel safe, and were concerned about becoming infected when working with infected patients (41). Cervera-Gasch et al. (2020) reported that 38.9% of the students were afraid of being infected (21). Cici and Yilmazel reported that the anxiety scores of the nursing students who were afraid of being infected were higher than those who did not (42). In this study, being afraid to be infected with SARS-CoV-2 and being afraid to care for patients with COVID-19 were determined as predictors of death anxiety. Death anxiety of the students who were afraid to care for patients with COVID-19 and afraid to be infected with the virus was determined to be higher than those who did not feel afraid. In line with these results, it can be said that the nursing students constantly thought about the high transmission rate of COVID-19, and because they were in close contact while caring for patients during clinical practice, they were worried about being infected with SARS-CoV-2, and these factors were increased death anxiety of the students.

Use of Results in Practice

Nursing students face all the problems and risks that nurses face in the clinic. During the pandemic, they were affected by factors such as being infected with the SARS-CoV-2, fear of infecting their families, inability to communicate with their families, fatigue, poor sleep quality, fear of death, and anxiety, and this affected their health physically and psychologically. Nurse educators should play an active role in improving the students' well-being during this period. It is recommended to develop preparation education related to the protection from COVID-19 and the COVID-19 death process in the nursing curriculum. Also, the students must be supported in caring for dying patients, thus decreasing their death anxiety.

Limitations

There were some limitations to this study. The first limitation is that the study was conducted with students

enrolled in the nursing department in a single institution. The second limitation, the clinical experiences of nursing students are not the same for all grades. 4th-grade nursing students are more experienced than other grades in the clinic. However, this study was conducted with nursing students who were educated in the second, third, and fourth grades of the nursing department of the faculty of health sciences. The third limitation is that the students were in only one hospital in their clinical practice, and data were obtained cross-sectionally. Therefore, the study results cannot be generalized to all nursing students.

Conclusion

Death phenomenon is a crucial part of clinical practice. Nursing students' attitudes towards death, who will be the nursing force of the future, change their perspectives on life. Therefore, it is essential to determine students' anxiety toward death. In this study examining the death anxiety level and the predictors of the nursing students in clinical practice during the COVID-19 pandemic process, it was determined that the students had a low level of death anxiety. Age, gender, previous education about death, the status of being infected with SARS-CoV-2, the status of being afraid to be infected with SARS-CoV-2, and the fear of caring for patients with COVID-19 were found to affect the death anxiety of the nursing students. The findings of this study suggest that nursing educators play a critical role in reducing the death anxiety levels of students and that the death anxiety of students can be reduced with prepared education and resources on the death phenomenon and care for the terminal patient during the pandemic process by educators.

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