

# THE EFFECT OF COVID-19 PANDEMIC ON DEATH ANXIETY OF NURSING STUDENTS

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## SUMMARY

**Background:** It is required to determine death anxiety of nursing students so that they who will become healthcare professionals can cope with the fast-spreading and high-mortality diseases such as COVID-19 infection upon graduation, can communicate with infected and dying patients, and can provide patients with the necessary support and care. The purpose of this study is to determine the death anxiety experienced by nursing students due to COVID-19, the related factors.

**Subjects and methods:** This descriptive and correlational study was completed between June and September 2020. The data were collected by using the Socio-demographic and COVID-19 Pandemic Information Form and Death Anxiety Scale (DAS). The student nurses who agreed to participate in the study were asked to fill out an online questionnaire that was sent by the researchers. The study was conducted with 115 nursing students.

**Results:** The DAS mean scores of the nursing students were found to be  $8.01 \pm 1.96$ . When the correlation between DAS scores of the nursing students and their knowledge and attitudes regarding COVID-19 pandemic was examined, it was determined that as their anxiety levels about transmission of coronavirus increased, DAS scores also increased ( $p=0.037$ ). The scores of death anxiety scale decreased as the level of students' attention to events other than coronavirus, their level of comforting themselves and their belief mentioning that they would heal if they catch coronavirus increased ( $p<0.05$ ). No statistically significant correlation was found between DAS scores and other knowledge and attitudes of nursing students regarding COVID-19 pandemic ( $p<0.05$ ).

**Conclusion:** It would be an effective method to provide the training to nursing students, in order to change their negative attitudes and awareness towards COVID-19 related death anxiety and to improve their coping skills for death anxiety and help to reduce the burden of anxiety.

**Key words:** COVID-19 - death - anxiety - nursing students

\* \* \* \* \*

## INTRODUCTION

Since December 2019, the pandemic of coronavirus disease 2019 (COVID-19) has spread very rapidly in China and in the world. Until March 3, 2020, COVID-19 has led to 2.873 deaths in China with a mortality rate of 2%, which has surpassed the total number of SARS (774 deaths) and MERS death cases (858 deaths) (Fu et al. 2020).

The COVID-19 infection that has been declared as a pandemic by the World Health Organization has various symptoms but generally leads to respiratory symptoms, fever, cough and dyspnoea, pneumonia, severe acute respiratory infection, kidney failure ,and even death (WHO 2020). It has spread rapidly due to its transmission ability among people. Healthcare professionals who provide face-to-face care to these patients have started to become infected. Social isolation measures such as the curfew for those aged under 18 and over 65, interruption to face-to-face education and the necessity to use masks in public transportation and markets have still been continuing in many countries (Jin et al. 2020). Cases and mortality rates are provided daily by government agencies through mass media and have reached serious figures worldwide (Alsubaie et al. 2019). In the

fight against this disease, the entire society, especially healthcare professionals and nurses have been negatively affected in terms of psychosocial aspect (Dong & Bougney 2020). While entire society is affected, COVID-19's transmission from person to person (Li et al. 2020, Rothe et al. 2020) and its association with high morbidity rate and potentially death intensifies personal perception of danger in healthcare team and nurses who fight with the disease at the forefront and with face-to-face contract (Wang et al. 2020, Lazzari et al. 2020). The shortage of predictable protective equipment and health supplies, obscurity about the process, and increasing suspected/confirmed COVID-19 cases increase anxiety of healthcare professionals further (Lai et al. 2020, Adams & Walls 2020).

Death is a universal reality shared by all living organisms. Death anxiety, which constantly makes people nervous, results in inability to evaluate life well and failure about life (Menzies et al. 2018). Nowadays, death is perceived as a situation that must be struggled or a failure rather than being the natural end of life due to scientific developments and parallelly advances in medicine. Individuals working in health-related professions, especially nurses, are constantly encountering with death and dying patients (Şahin et al. 2016). Care

of dying patients and death are one of the most difficult aspects of nursing profession. Nurses experiencing the death phenomenon closely and working with dying patients both face the reality of their own death and have to provide care to the dying patients and their family (McKenzie & Brown 2017). Although nurses provide often care to dying patients and witness death, each patient and every death case is unique and grievous for nurses (Österlind et al. 2016, Henoch et al. 2017). It is possible only for nurses to give the necessary help to the dying patients and their families by initially knowing and controlling their emotions before graduating from nursing education programs (Nia et al. 2016). The nurses, who provide care to dying patients, should prepare physically, emotionally, intellectually, socially, and spiritually the nursing process, which is a tool for their professional activities (Nyatanga 2018). However, the nurse, who does not recognize the patients' condition and is unaware of her own feelings, may not be able to provide professional help and care to patients and their family, as she/he will feel desperate.

It is required to determine death anxiety of nursing students so that they who will become healthcare professionals can cope with the fast-spreading and high-mortality diseases such as COVID-19 infection upon graduation, can communicate with infected and dying patients, and can provide patients with the necessary support and care. Thus, it is considered that student nurses who are aware of death anxiety can recognize the situation of the dying and infected patients and enhance the quality of care provided to dying patients. In addition, it is highly significant to include methods in nursing curriculum that will make easier to identify COVID-19 related death anxiety of nursing students, to determine the influencing factors and to cope with such anxiety. Although it is such an important issue, there is no international study on this subject. In the light of all this information, this study was conducted to determine the death anxiety experienced by nursing students due to COVID-19 infection, the desire to provide care for the dying individuals, and the influencing factors.

## **SUBJECT AND METHODS**

### **Study design and participants**

This descriptive and correlational study was conducted to determine the death anxiety experienced by nursing students in XXX due to COVID-19, the desire to provide care to the dying individuals and the influencing factors. The study was completed between June and September 2020. The data were collected by using the Socio-demographic and COVID-19 Pandemic Information Form and Death Anxiety Scale (DAS). The student nurses who agreed to participate in the study were asked to fill out an online questionnaire that was sent by the researchers. After the students filled the questionnaire, they sent it back to the researchers.

The study was conducted with 115 nursing students. The sample size was determined as 82 participants according to the analysis performed in the G- power statistical software at the significance level of 0.05 and the power of 95% (G\*Power statistical software). The students who agreed to participate in the study and had internet access were included in the sample. Those who did not want to participate in the study and sent the incomplete questionnaire back were not included in the sample. The students who agreed to participate in the study were informed about the study and their consent was obtained. The questions were sent to e-mail addresses in the form of a questionnaire on the internet. After the students filled out the questionnaires, they sent them back to the researchers via e-mail. It took about 10 minutes to complete whole procedure.

### **Data collection**

In the study, "Socio-demographic and COVID-19 Pandemic Information Form" and "Death Anxiety Scale" (DAS) were used as data collection tools.

#### ***Socio-demographic and COVID-19 Pandemic Information Form***

The form prepared by the researchers upon the literature review includes a total of 19 questions about the socio-demographic characteristics of student nurses and their knowledge and attitudes about COVID-19 pandemic. The questions about COVID-19 pandemic are rated as "1, inadequate" and "10, good enough" on a 10-cm horizontal line. The students were asked to mark each question on the horizontal line by giving them a score ranging from 1 point to 10 points.

#### ***Death Anxiety Scale***

Templer (1970) developed the Death Anxiety Scale (DAS) and conducted its reliability and validity (Templer 1970). The scale consists of 15 items and is arranged as a dichotomous likert scale in the form of true-false. While correct answers get 1 point, wrong answers are not included in scoring. In this scale with a score interval of 0-15 points, higher scores signify that there is an increase in the death anxiety (Akça & Köse 2008).

### **Data Analysis**

SPSS 26.0 package program was used to evaluate the data. Descriptive data were given as number, percentage, and mean. Shapiro-Wilk test was used to analyse normality of the data. The correlation test was used to determine the correlation between COVID-19 Pandemic Information Form and their DAS scores. All results were considered significant at  $p < 0.05$  and confidence interval of 95%.

### **Ethical considerations**

Ethics committee approval (Date/No: 28/04/2020-E.1800) was obtained from Ethics Committee of the

XXX University in order to conduct the research. Permission was obtained from the Scientific Research Board of the Ministry of Health (2020-05-08T11\_27\_32). In addition, after the participants were informed, their consent was obtained. This study was conducted following the principles of the Declaration of Helsinki.

## RESULTS

When the socio-demographic characteristics of the students were examined, it was observed that their mean age was 20.61±1.90, most of them were female (n=92, 80%) and single (n=77, 66.9%). It was determined that most of the students lived with their family (n=96, 83.5%), their income was equal to their expenses (n=84, 73.1%), and they were unemployed (n=108, 93.9%) (Table 1).

When the knowledge and attitudes of the nursing students towards COVID-19 were examined, it was determined that they got the information about coronavirus from TV mostly (n=95, 82.6%). When it was asked how the coronavirus affected the economic status of your family between 1 and 10 points (1; never affected, 10; highly affected), it was observed that they got 5.14±2.61 points (Table 2). They obtained 7.34±1.23 points from information about coronavirus and 9.03±1.07 points from effective hand washing conditions to prevent coronavirus transmission. They were observed to be anxious about that their family members would be infected with coronavirus (8.47±2.12). They strongly believed that if they get infected with coronavirus, they would heal and the measurements would protect them,

and they stated that they knew sufficiently about where to apply when they get infected and symptoms of the disease (Table 2).

**Table 1.** Socio-demographic characteristics of the nursing students (N=115)

	Mean ± Sd	
Age	20.61±1.90	
	n	%
Gender		
Female	92	80.0
Male	23	20.0
Marital Status		
Married	38	33.1
Single	77	66.9
Grade		
1 <sup>st</sup> Year	33	28.7
2 <sup>nd</sup> Year	38	33.1
3 <sup>rd</sup> Year	27	23.4
4 <sup>th</sup> Year	17	14.8
Residence Place		
With family	96	83.5
In dormitory	7	6.1
At home alone	4	3.4
At home with my friend/relative	8	7.0
Economic Status		
Income equal to expense	84	73.1
Income higher than expense	25	21.7
Income lower than expense	6	5.2
Employment Status		
Employed ( <i>in a profession other than nursing</i> )	7	6.1
Unemployed	108	93.9

Note. Sd = standard deviation

**Table 2.** Nursing students' attitudes, knowledge towards covid-19 pandemic (N=115)

What are your information sources about coronavirus other than nursing education?*	n	%
TV	95	82.6
Healthcare professional	32	27.8
Scientific works (WHO, Ministry of Health)	82	71.3
Social Media	61	53.0
Posts from Whatsapp	37	32.1
	Mean±Sd	Min-Max**
How much has coronavirus affected your family's economic condition?	5.14±2.61	1-10
What is your level of knowledge about coronavirus?	7.34±1.23	5-10
What is your effective hand washing level to prevent coronavirus transmission?	9.03±1.07	4-10
What is your level of anxiety about the transmission of coronavirus?	6.67±1.83	1-10
What is your level of anxiety about the transmission of coronavirus to family members?	8.47±2.12	1-10
What is your level of attention to events other than coronavirus?	6.75±2.33	1-10
What is your comforting level?	6.57±2.08	1-10
What is your level of seeing yourself at risk about coronavirus?	5.59±2.21	1-10
Do you believe that you would heal if you catch coronavirus?	7.15±2.39	1-10
Do you believe that the suggested measures would protect from the disease?	7.62±1.57	1-10
What is your level of knowledge about where to apply if you get infected?	8.48±1.76	1-10
What is your level of knowledge about the symptoms of the disease?	8.93±1.25	5-10

Note. Sd = standard deviation; Min= minimum value, Max: maximum value; \*Multiple selected; \*\*1: None, 10: Very

**Table 3.** DAS mean scores of the student nurses (N=115)

	Min	Max	Mean±Sd
Death Anxiety Scale	1	12	8.01±1.96

Note. Sd = standard deviation

**Table 4.** The correlation between the student nurses' attitudes, knowledge towards covid-19 pandemic and their DAS Scores (N=115)

	DAS Score	
	r	p
How much has coronavirus affected your family's economic condition?	0.105	0.298
What is your level of knowledge about coronavirus?	0.049	0.623
What is your effective hand washing level to prevent coronavirus transmission?	-0.006	0.954
What is your level of anxiety about the transmission of coronavirus?	0.208	0.037
What is your level of anxiety about the transmission of coronavirus to family members?	-0.017	0.864
What is your level of attention to events other than coronavirus?	-0.237	0.017
What is your comforting level?	-0.270	0.006
What is your level of seeing yourself at risk about coronavirus?	0.133	0.183
Do you believe that you would heal if you catch coronavirus?	-0.231	0.020
Do you believe that the suggested measures would protect from the disease?	0.002	0.986
What is your level of knowledge about where to apply if you get infected?	0.087	0.392
What is your level of knowledge about the symptoms of the disease?	-0.042	0.679

Note. Correlation analysis (r) was used; \*p<0.05

The DAS mean scores of the nursing students were found to be 8.01±1.96 (Table 3). When the correlation between DAS scores of the nursing students and their knowledge and attitudes regarding COVID-19 pandemic was examined, it was determined that as their anxiety levels about transmission of coronavirus increased, DAS scores also increased ( $p=0.037$ ). The scores of death anxiety scale decreased as the level of students' attention to events other than coronavirus, their level of comforting themselves and their belief mentioning that they would heal if they catch coronavirus increased ( $p<0.05$ ). No statistically significant correlation was found between DAS scores and other knowledge and attitudes of nursing students regarding COVID-19 pandemic ( $p <0.05$ ) (Table 4).

## DISCUSSION

This study focused on determining the death anxiety in nursing students caused by COVID-19 infection, their desire to provide care to the dying individuals and the influencing factors.

It was determined that the students got information about coronavirus from TV and scientific publications mostly. Also, they reported high levels of knowledge about coronavirus and an effective hand washing to prevent coronavirus transmission. This can be interpreted as the fact that continuous warnings about emphasizing importance of hand washing and informing the public about protection from COVID-19 infection on TV and other media organs by WHO (World Health Organization), ICD (International Classification Diseases) and official institutions of all countries were effective.

The studies have suggested that public health emergencies such as COVID-19 pandemic can have several psychological effects such as anxiety, fear and worry on students (Cao et al. 2020). The emergence of common infectious diseases such as COVID-19 is associated with psychosocial distress and mental illness. Increasing number of confirmed and suspicious cases, as well as the increase in the number of provinces and countries affected by the pandemic, lead anxiety to increase and public to be anxious (Bao et al. 2020, Salopek-Žiha et al. 2020). In the study, it was observed that nursing students had high level of anxiety about transmission of coronavirus to themselves and to their family members. This was consistent with the data of the literature and society.

Another significant finding of the study is that death anxiety of the nursing students was quite high. Moreover, as the level of anxiety of students about the transmission of coronavirus increased, their death anxiety levels also increased ( $p=0.037$ ). It is suggested in the literature that experiencing the danger of death will expose the death anxiety and they will declare the fear of death more than those who do not experience such a danger (Özdelikara et al. 2015). In addition, the reasons for the high level of death anxiety in nursing students can be regarded as association with COVID-19 and death in their minds and witnessing deaths in the hospital settings. On the other hand, measures taken for COVID-19 infection on mass media, curfew, giving mortality rates continuously have led people to experience fear and have reminded nurses of death. The obscurity in the treatment of individuals infected with COVID-19, constant contact with this issue and

witnessing every stage in the course of the disease support the beliefs of the people and can constantly cause a desire to take precautions regarding their health, and COVID-19 is matched with death (Neto et al. 2020, Rajkumar 2020). This result is compatible with the literature. In addition, it is considered that when nursing students start their professional life, they will encounter with pandemic infectious diseases like COVID-19, and failure to know how to cope with these situations is likely to cause anxiety.

In this study, it was observed that their death anxiety decreased as the level of students' attention to events other than coronavirus, their level of comforting themselves and their belief mentioning that they would heal if they catch coronavirus increased ( $p < 0.05$ ).

As in this study, students can suppress their feelings and they try to continue to live by disregarding their feelings in the sense of coping with the negative emotions they felt. Education and practice provided in school of nursing can often be insufficient in reducing the fear of end-of-life care (Paul et al. 2019).

In studies, the trainings related to death, which is a complex situation with its physical, psychological, social, spiritual and cultural dimension, have been useful in controlling the students' negative attitudes towards death, changing them, increasing the awareness and getting knowledge, psychosocial skills and cultural sensitivity in creating positive attitudes (Lancaster et al. 2017, Alconero-Camarero et al. 2018, Testoni et al. 2018). In the study conducted by Wong & Lee (2000) on nurse students, they stated that nurses were not supported adequately to cope with their experiences about death and approach it during their education before graduation, therefore; death education programs have a crucial role in reducing death anxiety caused by clinical experiences related to the care of dying patient and feeling of personal incompetence. As a member of professional occupation, nurses should provide qualified care to patients infected with coronavirus. In doing so, primarily they must know their own attitude towards death and evaluate how negative attitudes affect the care they provide. It is considered that death education will be effective for nursing students to recognize their own death anxiety, realize the causes of this anxiety and develop positive attitudes by changing their negative attitudes towards death. Through this training, the nurse developing positive attitudes towards death with reduced anxiety will be able to provide qualified end-of-life care that dying patient and its family deserved. Accordingly, it is considered that the results of this study are significant in terms of addressing death education in a wider and concrete way in nursing education programs.

The limitation of the study is that it was conducted in single center. For this reason, it may not be generalizable to all nursing students.

## CONCLUSION

In the light of results of the study, it was found that most of the nursing students obtained information about COVID-19 pandemic from TV and scientific publications other than continuing online nursing education. The nursing students' death anxiety was quite high, and they could not cope with such anxiety sufficiently. Moreover, it was observed that students' death anxiety was affected by their level of anxiety about the transmission of coronavirus, their level of attention to events other than coronavirus, their level of comforting themselves, and their belief that they would recover if they caught a coronavirus.

In the line with these results, it is considered that it would be an effective method to provide the training to nursing students, who will become healthcare professionals, in order to change their negative attitudes and awareness towards COVID-19 related death anxiety and to improve their coping skills for death anxiety. Therefore, it may be suggested to provide COVID-19 related trainings in courses or scientific activities such as independent seminars and conferences, to encourage students to talk about their feelings and thoughts, to provide counselling services and to make this issue objectified with case discussions. Knowing the anxiety of death and related factors experienced by nursing students during an uncertain pandemic period such as covid 19 can help to take precautions to reduce their anxiety burden and to support the educational literature. In this respect, the study contributes to the training of professional members who will contribute to the nursing profession and society.

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### **Contribution of individual authors:**

Study conception and design: Dilek Yıldırım.

Data collection, data analysis, study supervision: Dilek Yıldırım, Özlem Akman.

Manuscript writing and critical revisions for important intellectual content: Dilek Yıldırım, Özlem Akman, Aklime Sarıkaya.

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