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Research Article

THE RELATIONS BETWEEN FEAR OF COVID-19, ANXIETY OF DEATH, AND MEANING OF LIFE AMONG NURSING STUDENTS

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Abstract: *Aim of the study was to determine the effects of socio-demographic factors on fear of COVID-19, death anxiety, and meaning of life among nursing students, and to explain the relations between fear of COVID-19, death anxiety, and meaning of life. The study was conducted with 262 students on 7-27 October 2020 in a descriptive-correlational and cross-sectional design. According to the correlation analysis, a moderate and positive relationship was detected between the Fear of COVID-19 Scale (CFS) and Turkish Death Anxiety Scale (TDAS) total score and subscale scores. The mean age of the students who participated in the study was found to be 20.63±2.31, 64.1% were female. It was found that 29% of the students had sleep problems during this period, 7.6% were diagnosed with COVID-19, and 85.9% of them had their close friends and relatives diagnosed with COVID-19. The majority of the students (n=16) who were diagnosed with COVID-19 passed this process under quarantine at home without treatment, 59.2% of them stated that someone in their close circle had a positive COVID-19 test, and 31.7% lost a relative due to COVID-19. The model that was created in the multiple linear regression analysis which was made to determine the effects of TDAS and the Meaning of Life Questionnaire (MLQ) on CFS was found to be statistically significant (F:54.91, p<0.001). In this respect, it was also found that death anxiety and meaning of life were statistically significant (R^2=0.29) as the determinants of fear of COVID-19 (explanatory power). It was determined in the study that, as the fear of COVID-19 increased, death anxiety also increased. However, it was also found that the meaning attached to life did not change, and the meaning of life and death anxiety were significant determinants of the fear of COVID-19.*

Keywords: *Fear of Covid-19, death anxiety, the meaning of life, nursing students*

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1. Introduction

The Coronavirus Disease (COVID-19), which originated in the city of Wuhan in China, is considered to be the biggest public health crisis that appeared so far[1,2]. The disease spread to many countries within a short time period, and turned into a global epidemic; therefore, the WHO declared it a pandemic on March 11, 2020[3]. The first COVID-19 case was confirmed on March 11, 2020, in Turkey, followed by a rapid increase in the number of cases and deaths. Some restrictions have been introduced since then, as is the case in many other countries. One of these was the closure of all schools, including universities, for 3 weeks. With the rapid spread of the pandemic, this period was later extended. The distance education system was started with the closure of schools. Although a decreased number of cases and deaths were detected in the summer months, an increase was observed again as of September, which continued to increase. In this way, education continued online at universities[4]. The

increased case count and deaths affected all healthcare workers, especially nurses because nurses are exposed to a heavy workload because of providing care to hospitalized patients, and also, the risk of being infected by the disease increases. With its deadly and highly contagious effects, COVID-19 has caused many psychological problems such as fear and death anxiety in the whole society, especially among healthcare workers[2,5-7].

Death anxiety is among the inherent human feelings. The uncertainty of death has always aroused fear in human beings [8,9]. Although death anxiety is a feeling that affects people under normal conditions, it can be argued that this effect is more than ever causing fear under the current pandemic conditions [10]. Fear is an adaptive feeling enabling those actions are taken to deal with a potential threat condition. Too much or too little fear can harm both individuals and society [11]. It was reported in a previous study that fear of COVID-19 has a positive relation with death anxiety [12]. It was determined in another study that the perceived risk of COVID-19 increased death anxiety [13].In another study that was conducted with security forces, it was emphasized that such individuals experienced high death anxiety during the COVID-19 pandemic[14]. Although COVID-19 has mortal effects on older adults, younger people are also affected negatively. A positive relation was found between perceived stress and death anxiety during the COVID-19 pandemic in a study that was conducted with young people [7].

Another variable that was associated with death anxiety and fear is the meaning of life, which is defined as the understanding and adaptation of an individual to himself and the outside world, namely, the ability to understand life [15]. It was reported in a study that investigated the relations between the meaning of life and fear of COVID-19 that there were negative relations between these two variables [16]. In another study, it was shown that high meaning of life levels in individuals was associated with lower COVID-19 stress [17]. A negative relation was reported in a study that was conducted with young individuals between death anxiety and meaning in life[18]. However, some sociodemographic factors were also reported to be associated with fear of COVID-19, death anxiety, and the meaning of life[19-21].In light of all these data, no study was detected in the literature investigating the triple relation of fear of COVID-19 with death anxiety and the meaning of life. It is already known that the COVID-19 pandemic has had many psychological effects on nursing students[22-24]. Nursing students may face fear and death anxiety because they were confined to their homes and were disconnected from social life with the distance online classes and because they were the nurses of the future. The fact that the pandemic is continuing and its uncertainty might have affected future nurse candidates negatively in this respect. For this reason, the purpose of the study was to determine the effects of socio-demographic factors on the fear of COVID-19, death anxiety, and the meaning of life of nursing students, and to explain the relations among fear of COVID-19, death anxiety, and the meaning of life.

2. Materials and Methods

2.1. Participants

The descriptive-correlational and cross-sectional study design was used in the present study. The study was conducted with the students of Dicle University Ataturk Faculty of Health Sciences Nursing Department between 7 and 27 October 2020. The alpha value was 0.05 and the sample size was calculated as 134 to obtain 95% power with an effect size of 0.3 by using the G*Power Program version 3.1.9.7 [26]. The Convenience Sampling Method was used to determine the sampling. The data of the study were collected online with the help of a web-based (Google Forms) questionnaire that was prepared by the researchers. The online questionnaire that was prepared for all students was sent to social networks (WhatsApp, Facebook, etc.) to increase the representation power of the universe, and they were asked to fill them out. A total of 262 out of 464 students enrolled in the high school completed the questionnaire. Informed consent was obtained from the students by making necessary explanations

about the study in the introduction part of the online questionnaire. The students participated in the study by confirming the sentence "I agree to participate in the study". The response time took an average of 15-20 minutes.

2.2. Inclusion Criteria;

The students of Dicle University, Atatürk High School of Health Nursing Department who volunteered to participate in the study were included in the study. Those who did not want to participate in the study were excluded.

2.3. Instruments

The Personal Information Form, Fear of COVID-19 Scale(CFS), Turkish Death Anxiety Scale (TDAS), and Meaning of Life Questionnaire(MLQ) were used to collect the data.

Personal Information Form: This form was created by the researchers by scanning the literature [27-29]. The form included essential individual characteristics such as age, gender, class, marital status, economic status of the individuals, information on illness/health status, smoking and alcohol use status, illness, family history of chronic illness as well as questions that contain information on COVID-19, such as catching COVID-19, receiving treatment, the status of relatives catching COVID-19, and the presence of close acquaintances who died due to COVID-19.

Fear of COVID-19 Scale(CFS): The Turkish adaptation, validity, and reliability study of the scale that was developed by Ahorsu et al. was conducted by Satici et al. (2020). The applicable age range of the scale is wide and can be used for university students and adults. All items on the scale that consists of 7 questions are scored positively. The questions were scored between 1 and 5 (1- I strongly disagree…5- I strongly agree) by using a 5-point Likert-type scaling. There is no reverse-scored item on the scale. A score between 7 and 35 is received on the scale. A high score indicates a "high" level of fear of the COVID-19 pandemic. The Cronbach Alpha value was found to be α=.82in the Turkish validity and reliability study of the scale [30, 31]. The Cronbach Alpha value of the scale was found to beα=.87 in this study.

Turkish Death Anxiety Scale (TDAS): It is a 20-item scale that was developed by Sarıkaya and Baloğlu (2016), and has three sub-dimensions as Ambiguity of Death, Exposure to Death, and Agony of Death. TDAS items were prepared in a 5-point Likert form. Each item is given zero points for the answer "never", 1 for the answer "rarely", 2 for the answer "sometimes", 3 for the answer "often", and 4 for the answer "always". The scale is scored between 0 and 80, and high scores indicate high death anxiety. Scores between 0 and 29 indicate low death anxiety, scores between 30-59 indicate moderate death anxiety and scores between 60-80 indicate high death anxiety. The Cronbach Alpha Internal Consistency Coefficient was calculated to determine the reliability of the scale, and the Cronbach's Alpha value for the 'uncertainty of death factor' was found to be 0.94, 0.92 for the 'thinking about death and witnessing factor', and 0.76 for the 'pain factor' [32]. The total Cronbach Alpha value of the scale was determined to be α=.96 in this study.

Meaning of Life Questionnaire(MLQ): The scale was developed by Steger et al. (2006), and its adaptation into the Turkish language was conducted by Akın and Taş (2015). MLQ consists of 10 items. The scale provides a 7-point Likert-type measurement (1=It is completely accurate for me, and 7=It is not true at all). Item 9 is reverse-coded. The scale consists of two sub-dimensions, present meaning and searched meaning. The internal consistency reliability coefficients of the MLQ were found to be 0.77 for the present meaning subscale and 0.83 for the searched meaning subscale. The test-retest reliability coefficients obtained with an interval of four weeks were found as 0.89 for the present meaning subscale, and 0.92 for the searched meaning subscale [33,34]. A low score indicates a higher meaning of life. The Cronbach Alpha Value of the scale was determined to be α=.76 in the present study.

2.4. Data Analysis

The study data were analyzed with the SPSS 25.0 Program (SPSS Inc., Chicago, IL, USA). The mean, standard deviation, minimum, maximum, numbers, and percentages were used in the analyses of the descriptive data. It was examined whether the scales had a normal distribution in each group by calculating the mean total scores. The Kurtosis, Skewness, and Shapiro-Wilk were used in normality tests, and it was found that the scale scores had a normal distribution. The Students test and ANOVA test were used to analyze the sociodemographic variables. Pearson Correlation was used in examining the relations between the scales, Spearman Correlation was used in studying the relations between non-normally distributed numerical variables, and linear Regression Analysis was used to examine the effects of the scales on the dependent variable. Also, Cronbach's Alpha Coefficient was calculated in the internal consistency analysis of the scales. All findings were evaluated at a $p<0.05$ significance level.

3. Results

The sociodemographic characteristics of the students who participated in the study are given in Table 1. The mean age of the students who participated in the study was found to be 20.63±2.31, 64.1% were female, 32.4% were in the first year, 32.1% were in the second year, and 97.7% were single. It was also found that 73.7% of them had nuclear families. It was determined that 93.9% of them were not working, 69.1% perceived their economic status as moderate, the average number of people living at home was 6.49±2.30, and 17.6% of the students had family members over the age of 65 at home. When their sociodemographic characteristics were compared with the total score averages of the scale, a significant difference was found between the groups in terms of gender, grade, and working status according to the total score averages of CFS and TDAS. It was determined in the Student's t-test that the total mean scores of CFS and TDAS of the women were statistically higher than those of men. When the differences between the groups were examined in terms of the grades they studied with the SchefeTest, it was seen that the mean scores of CFS of the students in the 2nd and 3rd grades were higher than those of the 1st-grade students, and the students in the 4th grade had a significantly higher TDAS total score than those in the 1st grade. It was seen that the students who did not work in any job had higher CFS total scores than those who worked. A positive and very weak relation was detected between the ages of the students and the total scores of CFS and TDAS, and a negative and very weak relationship between the number of people living at home and the total CFS scores (Table-1).

Table 1. The Comparison of the Sociodemographic and Sociodemographic Data of the Students with Total Score Average of CFS, TDAS, and MLQ

Characteristics	$\bar{X}$ ± SD	Min-Max	CFS	TDAS	MLQ
Age	20.63±2.31	18-39	r: 0.13[a] p:0.02*	r: 0.17[a] p:0.04*	r: -0.68[a] p:0.27
Gender	n	%			
Female[1]	168	64.1	t: 3.82	t: 3.9	t: 0.88
Male[2]	94	35.9	p< 0.001** 1>2[c]	p:0.000** 1>2[c]	p: 0.37
Grade					
Grade[1]	85	32.4	F: 6.27	F: 4.04	F: 0.88
Grade[2]	84	32.1	p:0.000**	p:0.008**	p:0.45
Grade[3]	44	16.8	2>1[c]	4 >1[c]	
Grade [4]	49	18.7	3>1[c]		
Marital status			t: 0.17	t: 1.32	t: -0.37
Married	6	2.3	p: 0.86	p: 0.18	p: 0.70
Single	256	97.7			

Table 1. Continued

Characteristics	X̄ ± SD	Min-Max	CFS	TDAS	MLQ
Family type				F: 0.40	
Nuclear family	193	73.7	F: 0.17	p:0.66	F: 0.54
Extended family	56	21.4	p:0.83		p:0.58
Separated family	13	5			
Economic status					
Good	12	4.6	F: 1.32	F: 2.48	F: 2.23
Moderate	181	69.1	p:0.26	p:0.08	p:0.10
Poor	69	26.3			
Working status			t: -3.93	t: -0.76	t: -1.68
Working[1]	16	6.1	p:0.000**	p: 0.44	p: 0.09
Not Working [2]	246	93.9	2>1[c]		
Number of people living at home	6.49±2.30	2-15	r: -0.17[b] p:0.005**	r: -0.57 p: 0.35	r: -0.41 p:0.50
Presence of people over the age of 65 at home					
Yes	46	17.6	t: 0.58	t: 1.05	t: 1.57
No	216	82.4	p:0.56	p:0.29	p:0.11

[a]Spearman Correlation; [b]Pearson Correlation ; [c]Scheffe Test ; *p<0.05; **p<0.01

The health status and health-related variables of the students who participated in the present study in the pandemic period are given in Table 2. Although 92% of the students did not have any chronic diseases, it was found that 56.9% had chronic diseases in a family member living in the same house. The medical diagnoses of asthma, bronchitis, diabetes and Mediterranean Fever were detected in the students, respectively. It was also found that 2.3% of them had a psychological disorder, and when the diagnoses of these psychological disorders were examined, almost all of them were diagnosed with anxiety disorder. It was found that 29% of the students had sleep problems during this period, 7.6% were diagnosed with COVID-19, and 85.9% of them had their close friends and relatives diagnosed with COVID-19. The majority of the students (n=16) who were diagnosed with COVID-19 passed this process under quarantine at home without treatment, 59.2% of them stated that someone in their close circle had a positive COVID-19 test, and 31.7% lost a relative due to COVID-19. It was determined that 85.1% of them did not smoke, and the majority of the smokers stated that their smoking did not change in the pandemic period. When the alcohol use of the students during the pandemic period was evaluated, it was found that 96.6% did not use alcohol, 1.5% quit, and 1.1% reduced its amount. Also, 42.7% of the students were affected by the epidemic psychologically, and 69.8% of them found their health status the same as before the pandemic period.

Significant differences were detected between the groups in terms of total mean scores of CFS in the analysis of variance made according to the change in perception of the students who participated in the study with the diagnosis of COVID-19 in terms of being psychologically affected by the pandemic, and the perception of the health status before the pandemic. It was determined that the CFS total scores of the students who were not diagnosed with COVID-19 had higher CFS scores compared to those who were diagnosed with COVID-19, and those who stated that they were psychologically affected much by the pandemic had higher CFS scores compared to those who stated that they were not affected at all or were partially affected, and those who found their current health status worse compared to the pre-pandemic period had higher CFS scores than those who perceived it the same ($p<0.05$). Significant differences were detected between the groups in terms of total CFS score averages according to the presence of chronic disease in family members who lived in the same house, presence of an individual diagnosed with COVID-19 in the family or close circle, alcohol use during the pandemic, being affected psychologically by the pandemic, and the change in perception of the health status before the pandemic. It was determined that those who perceived their current health status as worse had significantly higher TDAS scores than those who perceived the same, and those who had a chronic

disease in their family members who lived in the same house had significantly higher TDAS scores than those with relatives who did not have a chronic disease, the students who had close relatives with the diagnosis of COVID-19 had significantly higher TDAS scores than those who had friends with the diagnosis of COVID-19, those who did not drink alcohol during the pandemic had higher TDAS scores than those who reduced alcohol use, those who were psychologically affected much during the pandemic period had higher TDAS scores than those who were affected partially or not at all compared to the pre-pandemic period ($p<0.05$). No relations were detected between the groups between the mean scores of the students' sociodemographic - health variables, numerical variables, and MLQ total scores ($p>0.05$, Table 2).

Table 2. The Comparison of the Health Variables of the Students during the Pandemic Period and their CFS, TDAS, and MLQ Total Scores According to These Variables

Characteristics	N	%	CFS	TDAS	MLQ
Presence of chronic diseases					
Yes	21	8	t: 1.29	t: 0.03	t: 0.48
No	241	92	p: 0.19	p: 0.97	p: 0.96
Presence of chronic diseases in people living in the same house					
Yes[1]	149	56.9	t: 1.91	t: 2.68	t: 1.46
No[2]	113	43.1	p: 0.057	p: 0.008** 1>2	p: 0.14
Presence of psychological disease					
Yes	6	2.3	t: 0.64	t: 1.77	t: -0.48
No	256	97.7	p: 0.51	p: 0.07	p: 0.96
Sleep problems					
Yes	76	29	t: 0.88	t: 0.92	t: 1.48
No	189	71	p: 0.37	p: 0.35	p: 0.13
COVID-19 diagnosis status					
Yes[1]	20	7.6	t: -3.35	t: -0.17	t: - 0.38
No[2]	242	92.4	p: 0.002** 2>1	p: 0.86	p: 0.69
COVID-19 diagnosis status of family or relatives					
No[1]	37	14.1	F: 2.08	F: 2.99	F: 0.36
Yes. there were people who had the diagnosis[2]	45	17.2	p:0.10	p: 0.032* 3>4	p:0.7
There were people who had the diagnosis in relatives[3]	155	59.2			
there were people who had the diagnosis in friends[4]	25	9.5			
Loss due to COVID-19					
Yes	83	31.7	t: 1.89	t: 1.28	t: 0.11
No	179	68.3	p: 0.06	p: 0.20	p: 0.90
Smoking during the pandemic					
I am a non-smoker	223	85.1			
I quit	8	3.1	F:1.27	F: 2.30	F: 1.04
I increased smoking	2	0.8	p: 0.27	p: 0.059	p: 0.38
No change	20	7.6			
I decreased smoking	9	3.4			
Alcohol use during the pandemic					
I am not using[1]	253	96.6	F: 0.99	F: 3.12	F: 2.34
I quit[2]	4	1.5	p:0.39	p:0.02* 1>4	p:0.07
No change[3]	2	0.8			
I reduced it[4]	3	1.1			

Table 2. Continued

Characteristics	N	%	CFS	TDAS	MLQ
Being psychologically affected by the pandemic					
Very much[1]	112	42.7	F: 19.39	F14.44	F: 1.01
Partly[2]	138	52.7	P:0.000**	P:0.000**	p:0.13
None[3]	12	4.6	1>2	1>2	
			1>3	1>3	
Present health status compared to pre-pandemic health status					
Better[1]	6	2.3	F: 5.19	F: 5.61	F: 0.51
The same[2]	183	69.8	p: 0.002**	p: 0.000**	p:0.66
Worse[3]	71	27.1	3>2	3>2	
Much worse[4]	2	0.8			

*:p<0.05; **:p<0.01

The total scale and subscale mean scores of the CFS, TDAS, and MLQ, which were used in this study, and the relations between the scales are given in Table 3.

Table 3. The Total and Subscale Mean Scores and Relationships between the Scales

The Scales	$\bar{X}$ ± SD	Min-Max	CFS	TDAS	MLQ
CFS	18.06±6.09	7-35	-	r: 0.54 p:0.000**	r: 0.37 p:0.55
TDAS	34.32±19.36	0-80	r: 0.54 p:0.000**	-	r: 0.70 p:0.25
Ambiguity of Death	17.45±10.39	0-40	r: 0.50 p:0.000**	r: 0.94 p:0.000**	r: 0.09 p:0.11
Exposure to Death	10.77±7.62	0-28	r: 0.49 p:0.000**	r: 0.88 p:0.000**	r: 0.02 p:0.75
Agony of Death	4.00±2.33	0-8	r: 0.47 p:0.000**	r: 0.81* p:0.000**	r: 0.04 p:0.44
MLQ	27.72±8.39	12-70	r: 0.37 p:0.55	r: 0.70 p:0.25	-
Present Meaning	15.53±4.76	6-35	r: 0.78 p:0.20	r: 0.11 p:0.06	r: 0.80 p:0.000**
Searched Meaning	12.19±5.36	5-35	r: -0.12 p:0.85	r: 0.07 p:0.90	r: 0.85 p:0.000**

r:Pearson correlation coefficient; *p<0.05; **p<0.01

According to the Pearson Correlation Analysis, a moderate and positive relationship was detected between CFS and TDAS total score and the subscales; however, no significant relations were found between CFS and MLQ, and TDAS and MLQ. It was found that the model established in the Multiple Linear Regression Analysis, which was made to determine the effects of TDAS and MLQ on CFS, was statistically significant (F:54.91, p<0.001). In this respect, it was also found that the death anxiety and meaning of life were statistically significant (R^2=0.29) as the determinants of fear of COVID-19 (explanatory power). In this model, it was found that death anxiety explained 29% of the fear of COVID-19 (Adjusted R Square = 0.292) (Table-4).

Tablo 4. The effect of TDAS and MLQ on CFS

Dependent Variable	Independent Variable	B	ß	t	p	F	Model (p)	R^2
CFS	Constant	12.187		10.966	0.000**	54.91	0.00	0.29
	TDAS	.172	.546	10.45	0.000**			
	MLQ	-.001	-.001	-.015	0.98			

**p<0.01

4. Discussion

The findings of the present study, which was conducted to determine the effects of socio-demographic factors on the fear of COVID-19, death anxiety, and the meaning of life of nursing students, and also to explain the relations between fear of COVID-19, death anxiety, and the meaning of life, were discussed in the light of the literature data.

It was found that 2.3% of the students who participated in the present study had a psychological disorder, almost all of them were diagnosed with anxiety disorder, and more than half of them had chronic diseases in a family member living in the same house. It was also found that the relatives and/or friends of the majority of the students were diagnosed with COVID-19, one-third of the students lost one of their relatives because of COVID-19, they were affected psychologically by the pandemic, and approximately one-third of them had sleep problems in this period. Fear and anxiety against material-spiritual losses were seen in all individuals as a reaction to the pandemic process [35,36], insomnia, anger, illness, fear of death, inability to be alone, crying, desire to follow the same order, excessive boredom, daintiness, lack of order and attention were increased[12,37], post-traumatic stress disorder was more frequent, especially in individuals who lost a loved one and grieving symptoms were high [38]. The death of a relative, the feeling of loneliness, and the interruption of social support might cause death anxiety in individuals [39]. Briefly; it can be argued that the pandemic process has triggered intense death and loss/loneliness anxiety in individuals.

It was found that the total mean scores in CFS and TDAS were higher in women than in men. It was reported in the literature that the fear of COVID-19[40,41], anxiety[335,36, 42], and death anxiety rates were higher in women [43-46]. Albeit rare, some studies reported that the death anxiety levels of men were higher than those of women [47]. Another study reported that male and female students experienced similar negative emotions because of the pandemic[48]. In previous studies that were conducted during pandemic periods, women were found to perceive the disease as more contagious and mortal, were more protective of their beloved ones [43], worried more about the death of others[46]; and therefore, had higher anxiety levels[49]. Individuals are more interested in the environment in adolescence and make plans for their future such as establishing emotional relations, having a profession, and having an important status in society about their lives. However, the pandemic, closed schools, curfews, reduced job opportunities, and restricted social relations have affected these dreams negatively for adolescents causing them to become more anxious individuals. When the sampling of the study was considered, the reason for their experience more fear of COVID-19 and death anxiety may be related to the fact that they had unfinished jobs to do.

It was found that the mean total CFS score of 2nd and 3rd-grade students who participated in the study was higher than that of the 1st-grade students, the total TDAS score of the 4th graders was higher than that of 1st graders, and the students who did not work in any job had higher CFS total score than the working students. It was reported in previous studies that the COVID-19 fear and death anxiety scores of students were affected by the grade variable[44,50]. De Los Santos *et al.* (2021) reported that the fear of COVID-19 was mostly in the 1st grades, unlike our study. In the same study, they also reported that students were afraid of being ready for clinical practice, being able to provide care to a COVID-19 patient, and finding equipment in the clinic [49].In nursing education, clinical practices were performed in hospitals before the pandemic, and the students who participated in the study estimated that although the clinical practice was performed online at the time when the study was conducted, the senior students guessed that they were more likely to start working after graduation in clinics and intensive care units where the cases were very intense. The students whose graduation was approaching were already worried about the future even before the pandemic, the lack of clinical practices, the students not feeling completely ready for the clinic, and the rate of spread of the pandemic in the city

where the study was conducted was high, the uncertainty of the progression of the pandemic, and the high rates of real death tolls increased as the graduation approached may be argued to have increased the rates of fear of COVID-19 and death anxiety. In the first year, nursing students did not participate in the practice in the hospital because of the pandemic, they did not know the risks of the profession, or they thought that there was a long time for face-to-face practice; therefore, their fear level may be less. Another result of the study was that the students who did not work had more fear of COVID-19 than working students, which can be considered that all their psychological energies related to the disease were invested in anxiety [51]. Because students who work and/or have to work spend their energies on their schools, work, and families, and may be less focused on their fears. On the other hand, they may have faced pandemic conditions and coped with the anxiety of obscurity because they work or have to work.

It was determined in this study that as the age of the students increased, the total scores received in CFS and TDAS increased, and as the number of people living at home increased, the total score received in CFS decreased. It was reported in the literature that the highest level of anxiety is between the ages of 18-24 [12, 49], especially in students who have high anxiety and depression levels [27] and experience high COVID-19 anxiety levels [36]. The fact that the students lived with their families during the distance education process might have triggered the feeling of trust indirectly eliminating the uncertainty because people knew that their families would support them. Also, living lonesome provides an opportunity for the individual to perform spiritual values and rituals and socialize[44]. For this reason, the individual may feel safer as the number of people in the house increases. As can be understood from the number of individuals in the house and the family type of the students who participated in the study, the number of households is usually crowded in the region they live in.

It was determined that the CFS total scores of the students who were not diagnosed with COVID-19 had higher CFS scores compared to those who were diagnosed with COVID-19, and those who stated that they were psychologically affected much by the pandemic had higher CFS scores compared to those who stated that they were not affected at all or were partially affected, and those who found their current health status worse compared to the pre-pandemic period had higher CFS scores than those who perceived it the same ($p<0.05$). Current studies report that the uncertainty of COVID-19 and feelings of fear, unhappiness, hopelessness, and helplessness, which are all caused by the anxiety of illness, cause intense strain on the psychological processes of individuals, and staying at home even increases the feeling of depression, health anxiety, financial anxiety, and loneliness [52,53]. Similarly, it was reported that the increased number of cases causes individuals to perceive an increased level of fear, anxiety, and stress [54]. It was reported in the literature that the presence of COVID-19 in the individual or his/her family causes increased anxiety levels [35]. Especially the individual trying to cope with difficult physical symptoms e.g. shortness of breath and persistent fever, away from all beloved ones, might cause intense anxiety and deterioration of psychological health [55]. However, in this study, the reason why students who were diagnosed with COVID-19 experienced less fear of COVID-19 than those who did not may be associated with the fact that individuals considered they had antibodies against the disease, which were protecting themselves, or individuals who had COVID-19 knew the effects of the disease on themselves, or their anxiety levels might have decreased because they survived.

In the study, it was determined that the students who did not have chronic diseases in the family members living in the same house had higher TDAS scores at significant levels than those who did not have any family members with chronic diseases, those who had close relatives diagnosed with COVID-19 had higher TDAS scores than those whose friends were diagnosed with COVID-19, those who did not drink alcohol during the pandemic had higher TDAS scores than those who reduced alcohol use, those who were affected psychologically much during the pandemic period had higher TDAS scores than those who were affected partially or not at all, and those who perceived their current health status

as worse had significantly higher TDAS scores than those who perceived it to be the same compared to the pre-pandemic period. It was reported in the literature that individuals are concerned about the transmission of the virus to family members whom they particularly consider to be sensitive [49]. Because it is already known that COVID-19 infection is more frequent, has a more severe progression, and mortality rates are higher in individuals with chronic diseases [56,57]. It was also reported that anxiety levels are high in people living with people who had chronic diseases, and the risk of their loved ones is an important predictor of the fear of COVID-19 [11]. University years coincide with the adolescence period of many individuals. Adolescents have high mortality rates, and alcohol use is among the causes of mortality[58]. Individuals who face anxiety because of the COVID-19 pandemic may turn to alcohol as a way of coping [12]. For this reason, death anxiety may be higher in non-alcoholics.

It was also determined in the present study that as the fear of COVID-19 increased, death anxiety also increased. However, the meaning attributed to life did not change, and the meaning of life and death anxiety were significant as the determinants of the fear of COVID-19. In other words, it was found that the death anxiety levels and the meaning given to life explained the fear of COVID-19, which has affected the psychological and physical health of individuals negatively by causing material and moral losses in individuals [3]. The increasing death count, diseases, and sequelae because of COVID-19 have increased the insecurity, fear, uncertainty, and death anxiety in individuals[59,60]. Death anxiety is the feelings, fears, and thoughts about death. In other words, death anxiety is related to the perception of one's death, or the perception of annihilation and/or nihilism. It was reported previously that there are dimensions of death anxiety such as fear of punishment after death, loss of body, fear of loss of identity, anxiety about loss of control, fear of nihilism, fear of death of relatives, the anxiety of being alone in life, the anxiety of uncertainty, and anxiety of feeling pain; and it is affected by variables such as the frequency of facing death and near-death experiences. Although there are different results reported regarding these variables in the literature, it is already known that anxiety levels are high, especially in the members of the profession who face death frequently. The fact that death is an end is an unchangeable fact for people [60,61], and death anxiety plays important role in our lives by making its presence felt in the background continuously [61]. Because people know that they are going to die one day, they look for ways to cope with death anxiety in different ways throughout their lives. On the one hand, people try to establish meaningful relationships to cope with their fear of death, and being aware of death can cause a great sense of fear or meaninglessness in individuals on the other hand[29]. Pandemics can trigger the usual thoughts of death because it has been reported in the literature that fear of COVID-19 increases psychological illnesses such as stress, anxiety, and depression [62].In this respect, it is also known that the fear of death is at the root of these disorders [10]. For this reason, it can be argued that fear of COVID-19 and death anxiety are related to each other.

It was found in the study that as the fear of COVID-19 and death anxiety increased, the meaning attached to life did not change. There were long-term terrorist conflicts in 2016 in the city where the study was conducted, and people witnessed the death of their loved ones and/or relatives, the destruction of their homes, had to migrate to the city, experienced economic problems, and were exposed to stigmatization. Studies show that individuals exhibit intense anxiety and depressive symptoms [63,64].In this respect, the findings suggest that intense anxiety may have overshadowed the meaning of life in these individuals.

Limitations

The present study had several limitations. It was conducted with an online questionnaire using the Convenience Sampling Method. Only the university students that represented the educated population with such access opportunities were able to participate in the study. The lack of a structured face-to-face evaluation was also another limitation. The study was cross-sectional; therefore, the

participants could not be followed, and the change in the findings in the process could not be evaluated either.

5. Conclusion

It was determined in the study that, as the fear of COVID-19 increased, death anxiety also increased. However, it was also found that the meaning attached to life did not change, and the meaning of life and death anxiety were significant determinants of the fear of COVID-19. In other words, it was found that the level of death anxiety and the meaning attached to life explained the fear of COVID-19. The fear of COVID-19, meaning of life, and death anxiety are concepts that affect the life and quality of life of people from all age groups. Ignoring these concepts may mean that some factors that affect many psychological disorders are neglected. It was reported in previous studies that uncertainties are faced during university years regarding the future, and these uncertainties greatly affect fear, meaning of life, and death anxiety, which created a critical period in terms of psychological health development for the future[65]. For this reason, the awareness of students regarding the meaning of death and life can be increased so that they can adopt healthier attitudes towards life and death and evaluate these as a whole. In this way, contributions can be made to them to feel death anxiety at a healthier level and enrich their lives. There is a need for future studies to be conducted in multiple centers with larger samples, which will enable us to understand the level of fear of COVID-19, meaning of life, and death anxiety in many age and disease groups, and will examine the relations with diseases in detail, and will discuss the topic based on phenomenological and treatment approaches.

Ethical statement

The study adhered to the Declaration of Helsinki principles. Written approval was obtained from the R.T. Ministry of Health, General Directorate of Healthcare Services (11.06.2020/2020-06-05T22_29_23), the Non-Interventional Ethics Committee of a university (16.07.2020/255), and Dicle University, Atatürk School of Health Directorate (22.07.2020/70366). Online written consent was obtained from the participants who met the inclusion criteria and who agreed to participate in the study.

Conflict of interest

The authors have no conflict of interest.

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Authors' Contributions

All authors mentioned in the paper made a significant contribution to the research.

G. Y: Conceptualization, Methodology, Formal analysis, Writing - Original draft preparation (%60)

F. G: Conceptualization, Methodology, Resources, Investigation (%40).

All authors read and approved the final manuscript.

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