

COVID-19 Fear and Aggression Levels of Nursing Students During the Pandemic

Pandemi Sürecinde Hemşirelik Bölümü Öğrencilerinin COVID-19 Korkusu ve Saldırganlık Düzeyleri

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Abstract

During the pandemic, fear increases the anxiety and stress levels of healthy individuals and intensifies the symptoms of those with pre-existing psychiatric disorders. Recent studies have linked fear and aggression in humans. This study was conducted to determine the fear of COVID-19 in nursing students and to reveal its effect on aggression levels. The research was a descriptive cross-sectional study. The study was conducted with 183 students in the Black Sea region in May-July 2021. The data were collected using the sociodemographic information form, the Fear of Coronavirus Scale, and the Aggression Scale: Short Form. 69% of the students were female, and their average age was 21.22±2.05. 83.6% thought that not participating in the hospital practice during the pandemic affected their readiness for the profession, and 63.4% felt inadequate. Fear and aggression levels were found to be moderate. Fear of coronavirus was significantly higher in female students, health high school graduates, unemployed students, smokers, and alcohol users. In terms of Aggression Scale total and sub-dimensions, gender, class, employment status, place of residence, mother's education level, number of siblings, and sleep pattern were the factors that led to a significant. No significant relationship was found between the fear of coronavirus and aggression scale and its sub-dimensions. Students experienced moderate levels of fear and aggression. Delivering practice-based courses with distance education negatively affected the students' readiness for the profession.

Keywords: Aggression, Coronavirus, Fear of COVID-19, Student Nurse.

Öz

Pandemi döneminde korku, sağlıklı bireylerin kaygı ve stres düzeylerini artırırken, önceden psikiyatrik rahatsızlığı olanların semptomlarını yoğunlaştırmaktadır. Son çalışmalar insanlarda korku ve saldırganlık arasında bağlantı kurmuştur. Bu çalışma hemşirelik öğrencilerinde COVID-19 korkusunu belirlemek ve saldırganlık düzeylerine etkisini ortaya koymak amacıyla yapılmıştır. Araştırma tanımlayıcı tipte kesitsel bir çalışmadır. Araştırma, Mayıs-Temmuz 2021 tarihleri arasında Karadeniz bölgesinde 183 öğrenci ile gerçekleştirildi. Veriler, sosyodemografik bilgi formu, Koronavirüs Korkusu Ölçeği ve Saldırganlık Ölçeği: Kısa Form kullanılarak toplandı. Çalışmaya katılan öğrencilerin %69'u kadın, yaş ortalamaları 21,22±2,05'tir. Öğrencilerin %83,6'sı pandemi sürecinde hastane uygulamasına çıkılmamasının mesleğe hazır oluşlarını etkilediğini düşünmekte, %63,4'ü kendini yetersiz hissetmektedir. Öğrencilerde korku ve saldırganlık orta düzeyde saptandı. Koronavirüs korkusu kadın öğrencilerde, sağlık lisesi mezunlarında, çalışmayanlarda, sigara ve alkol kullananlarda anlamlı düzeyde yüksek bulundu. Saldırganlık Ölçeği toplam ve alt boyutları açısından cinsiyet, sınıf, çalışma durumu, yaşadığı yer, anne eğitim durumu, kardeş sayısı ve uyku düzeni anlamlı farklılık oluşturdu. Koronavirüs korkusu ile saldırganlık ölçeği ve alt boyutları arasından anlamlı bir ilişki saptanmadı. Öğrenciler orta düzeyde korku ve saldırganlık yaşamaktadır. Uygulama eğitimlerinin uzaktan yapılması mesleğe hazır oluşlarını olumsuz etkilemiştir.

Anahtar Kelimeler: Saldırganlık, Koronavirüs, COVID-19 Korkusu, Öğrenci Hemşire

1. Introduction

The new coronavirus (SARS-Cov2) has caused a global health emergency, jeopardized the physical, psychological, and emotional health of individuals and society, and affected people in many aspects financially and socially (Esterwood & Saeed, 2020; Pfefferbaum & North Carol S., 2020). During the pandemic, people lost their individuality and faced an impersonal risk of death in mass numbers (Lima et al., 2020). Many immediate and long-term psychological effects like post-traumatic stress disorder, anxiety, anger, fear of contamination, perceived risk, uncertainty, insecurity, and substance use emerged following the outbreak of the pandemic (Esterwood & Saeed, 2020). Saurabh and Ranjan (2020) revealed most common emotions during the quarantine as anxiety (68.59%), helplessness (66.11%), and fear (61.98%) (Saurabh & Ranjan, 2020). During the pandemic, fear increases the anxiety and stress levels of healthy individuals and intensifies the symptoms of those with pre-existing psychiatric disorders (Shigemura et al., 2020).

Fear is an adaptive defense mechanism essential for survival and encompasses a variety of biological readiness processes to respond to potentially threatening events. When fear becomes chronic, it becomes harmful and paves the way for the development of various psychiatric disorders (Garcia, 2017). Fear of COVID-19 may result in cognitive distress, negative emotions, and aggression due to poor sleep quality or feelings of lethargy (Cao et al., 2020). Recent studies have linked fear and aggression in humans (Halevy, 2017; Mifune et al., 2017). Aggression is a feature of human nature and can turn into socially acceptable behavior or generate violent behavior aimed at producing pain in others. The side effects of the pandemic can be more devastating in young people, who are a more vulnerable group to COVID-19. Young people are exposed to stressful situations like fear of getting sick, frustration, boredom, information overload, loss of family, and drastic changes in daily activity patterns (Brooks et al., 2020) and may feel frustrated, tense, and bored due to social distance (Imran et al., 2020). The pessimistic viewpoints about the pandemic and the fear of infecting or being infected can cause behavioral changes (Lee, 2020). In terms of mental health symptoms, university students face many challenges due to quarantine, expectations, uncertainties regarding future employment, inability to complete applications and courses (Sahu, 2020), and experience high levels of worry and anxiety (Husky et al., 2020). Strict isolation measures like the closure of universities worldwide affected students' mental health negatively (Cao et al., 2020). Cao et al. (2020) determined that during the pandemic, 24.9% of university students were worried about the disease, and 0.9% had severe anxiety (Cao et al., 2020). Okuyan et al. (2020) reported that nursing students had high levels of anxiety during the pandemic, they were negatively affected by staying at home, they felt nervous and overwhelmed, and had fear of infection and death and suggested that their concerns should be identified (Birimoglu Okuyan et al., 2020).

Given the significant danger of infection and transmission that healthcare professionals face, it seems to reason that these people may become more fearful and aggressive. Nursing students constitute a large part of the future health force. Therefore, identification of the fear and hostility of nursing students throughout the COVID-19 period is crucial. The study aims to examine the fear and aggression of COVID-19 in nursing students, the relationship between them, and the effect of demographic characteristics on fear of COVID-19 and aggression.

Research questions

1. What is the level of fear of COVID-19 and aggression in nursing students?
2. Is there a relationship between fear of COVID-19 and aggression level?
3. Do sociodemographic characteristics affect fear of COVID-19 and aggression

2. Materials and Methods

2.1. Study Design and the sample size of the research

The research was a descriptive cross-sectional study. The study was conducted with the students in the nursing department at a university in the Black Sea region in May-July 2021. The population consists of 414 students in the Faculty of Health Sciences, Department of Nursing. The incidence of the event is in the range of 83-

94% in studies (Gülner & Acar, 2021; Memiş Doğan & Düzel, 2020; Tekin Atay et al., 2020). The incidence of the event was taken as 83% when calculating the sample size. Considering the number of students required for the study as $p:0.83$, $t:5$, $d:0.05$, it was calculated that $n: 143$. Calculations were made using the Raosoft Sample Size Calculator program. The study was completed with 183 students who agreed to participate in the research. The data were collected using google forms sent to students' e-mails due to the pandemic. The name of the study, its purpose and the link to the research were shared via e-mail sent to all students. In the first part of the google form created online, information was given about the purpose of the study and that the data would be kept confidential. Consent was obtained with a button proving that the participants agreed to participate in the study. Those who volunteered to participate answered the questions by scrolling through the form after consent.

2.2. Data collection tool

The data were collected using the socio-demographic information form developed by the researcher, the Fear of Coronavirus (COVID-19) Scale, and the Aggression Scale: Short Form.

2.2.1. The Socio-demographic Information Form

It consists of socio-demographic information about the participants' age, gender, type of high school, year, employment status, place of residence, marital status, maternal and paternal education levels, number of siblings, smoking, alcohol consumption, sleep pattern, and having witnessed domestic violence, their effects on readiness for the profession during the pandemic and how the students and how the students are affected (Alsolais et al., 2021; Cao et al., 2020; Duman, 2020; Low et al., 2012; Ochnik et al., 2021; Usher et al., 2021; Wang et al., 2021; Zaman et al., 2021; Zhang et al., 2020).

2.2.2. The Fear of Coronavirus (COVID-19) Scale

It is a one-dimensional, 7-item Likert-type scale developed by Ahorsu et al. (2020) (Ahorsu et al., 2020). The Turkish validity and reliability study of the scale was performed by Bakioğlu et al. (2020). There is no reverse item on the scale. The total score indicates the individual's fear level of Coronavirus (COVID-19). The scores to be obtained from the scale range from 7 to 35. A high score means a high level of fear of the coronavirus. The Cronbach's alpha internal consistency coefficient of the scale was found to be 0.82 (Bakioğlu et al., 2020) in the original study and 0.904 in the current study.

2.2.3. The Aggression Scale: Short Form

The short form of the scale, developed by Buss and Perry (1992), was created by Bryant and Smith (2001), and its Turkish validity and reliability study was conducted by Kuzucu and Sarıot-Ertürk in 2020. It is used to measure aggression among Turkish adolescents and adults, regardless of gender and age. The 5-point Likert-type scale consists of 12 items and has 4 sub-dimensions. A score can be obtained for the sub-dimensions separately, or the total aggression score covering all the items of the scale can be calculated. Participants respond to each item on the scale as "Totally wrong", "Mostly wrong", "Neither wrong nor right", "Mostly right", and "Completely right". In the original study, the total Cronbach's alpha value was found to be 0.80, and 0.76 for physical, 0.68 for verbal, 0.70 for anger, and 0.74 for hostility sub-dimensions (Bryant & Smith, 2001; Kuzucu & Ertürk Sarıot, 2020). The Cronbach's alpha value of the scale was found to be 0.911 and 0.806 for physical, 0.805 for verbal, 0.857 for anger, and 0.867 for hostility sub-dimensions.

2.3. Data analysis

SPSS 22 package program was used for the statistical analysis of the data. Descriptive data were presented as percentages, mean, and standard deviation. In the analysis of quantitative data, the Mann-Whitney U test, Kruskal Wallis analysis, Tamhane's T2 post hoc test, and Spearman correlation analysis were used. In the correlation analysis, 0-0.39 was accepted as a weak relationship, 0.40-0.69 a moderate relationship, 0.70-0.89 a strong relationship, and 0.90-1.00 a very strong relationship. $p<0.05$ was considered statistically significant.

2.4. Ethical Approval

The purpose of the research was explained in research link to each participant before filling out the questionnaire. The research was conducted with the approval of the Social and Humanities Ethics Committee of Recep Tayyip Erdogan University University (2021/109). This study was conducted as per the Declaration of Helsinki.

3. Results

According to the results, 69% of the students were female, and their average age was 21.22 ± 2.05 . 19.7% were 1st-year, 24% 2nd-year, 35% 3rd-year, 21.3% 4th-year students, and 23% were health high school graduates. 12.6% smoked, 3.3% drank alcohol, 49.7% had sleep disorders, and 18.6% witnessed domestic violence. 83.6% thought that not participating in hospital practice during the pandemic affected their readiness for the profession. 63.4% felt inadequate. Socio-demographic characteristics are given in Table 1.

Table 1. Socio-Demographic Characteristics of the Participants

Characteristics of the participants	X±SD	n	%
Age	21.22±2.05		
Gender			
	Female	126	68.9
	Male	57	31.1
High school			
	General or Anatolian High School	141	77.0
	Health High School	42	23.0
Year			
	1 st year	36	19.7
	2 nd year	44	24.0
	3 rd year	64	35.0
	4 th year	39	21.3
Employment status			
	Yes	20	10.9
	No	163	89.1
Place of residence			
	City	69	37.7
	District	60	32.8
	Village/ Town	54	29.5
Marital status			
	Single	182	99.5
	Married	1	0.5
Maternal education level			
	Primary-secondary school	161	88.0
	High school	19	10.4
	University	3	1.6
Paternal education level			
	Primary-secondary school	123	67.2
	High school	53	29.0
	University	7	3.8
Number of siblings			
	1	30	16.4
	2	37	20.2
	3	43	23.5
	4 +	73	39.9
Smoking			
	Yes	23	12.6
	No	160	87.4
Alcohol			
	Yes	6	3.3
	No	177	96.7
Regular sleep pattern			
	Yes	92	50.3
	No	91	49.7
Having witnessed domestic violence			
	Yes	34	18.6
	No	149	81.4
Not participating in the hospital practice during the pandemic affected the readiness for the profession			
	Yes	153	83.6
	No	30	16.4
How does it affect you?			
	I feel professionalized.	11	6
	I feel inadequate	116	63.4
	I think I will have a communication problem	11	6
	I have aggressive behavior	1	0.5
	I feel scared	11	6
	Others	33	18

The mean score of the students on the Fear of Coronavirus (COVID-19) Scale was 13.74 ± 6.08 . The mean total score was 25.43 ± 9.98 for the Aggression Scale, 5.21 ± 2.6 for the physical aggression sub-dimension, 5.46 ± 2.6 for the verbal aggression sub-dimension, 6.81 ± 3.3 for the anger sub-dimension, and 7.95 ± 3.6 for the hostility sub-dimension. Students had a moderate fear of coronavirus. Total aggression and all sub-dimension scores were also moderate. The mean scores of the scales are shown in Table 2.

Table 2. The Mean Scores of The Fear of Coronavirus Scale, The Aggression Scale, and Its Sub-Dimensions

	n	Mean \pm sd	Min-Max
The Fear of Coronavirus (COVID-19) Scale total score	183	13.74 \pm 6.08	7-35
The Aggression Scale total score	183	25.43 \pm 9.98	2-56
Physical Aggression	183	5.21 \pm 2.6	3-15
Verbal Aggression	183	5.46 \pm 2.6	3-14
Anger	183	6.81 \pm 3.3	3-15
Hostility	183	7.95 \pm 3.6	3-15

sd: Standard deviation, Min: Minimum, Max: Maximum

The analysis of the independent variables of the students with the Fear of Coronavirus Scale, the Aggression Scale, and its sub-dimensions are shown in Table 3.

Table 3. Evaluation of Fear of Coronavirus Scale, Aggression Scale, and Its Sub-Dimensions by Sociodemographic Characteristics

Independent variables	n	The Fear of COVID-19 Scale Total Score	The Aggression Scale Total Score	Physical Aggression	Verbal Aggression	Anger	Hostility	
								Mean Rank
Gender	Female	126	100.70	90.39	85.72	88.42	93.15	93.08
	Male	57	72.77	95.55	105.89	99.91	89.46	89.61
			U=2495.0 Z= -3.318, P=.001	U=3388.5 Z= -.611, P=.541	U=2799.0 Z= -2.458, P=.014	U=2140.0 Z= -1.383, P=.167	U=3446.0 Z= -.441, P=.659	U=3454.5 Z= -.414, P=.679
High School	Regular /Anatolian High school	141	84.18	92.73	91.38	91.01	93.17	93.32
	Health High School	42	118.24	89.55	94.10	95.31	88.08	87.57
			U=1859.0 Z= -3.674 P<.001	U= 2858.0 Z= -.342 P=0.732	U= 2873.0 Z= -301 P=0.762	U=2822.0 Z=-.469 P= .639	U=2796.5 Z= -.551 P=.582	U=2775.0 Z=-.621 P=.534
Year	1 st year a	36	88.72	102.14	102.03	105.50	96.78	98.28
	2 nd year b	44	105.86	96.43	98.17	88.17	96.26	103.76
	3 rd year c	64	93.34	76.30	78.04	81.55	80.03	76.78
	4 th year d	39	77.18	103.40	98.69	100.91	102.42	97.91
			KW X ² =6.304 P=.098	KW X ² =9.068 P=.028 c<a, d	KW X ² =7.389 P=.060	KW X ² =6.414 P=.093	KW X ² =5.457 P=.141	KW X ² =8554. P=.036 c<a, b, d
Working status	Yes	20	60.90	115.85	119.10	109.88	105.93	110.18
	No	163	95.82	89.07	88.67	89.91	90.29	89.77
			U=1008.0 Z=-2.795 P=.005	U=1153.0 Z=-2.135 P=.033	U=1088.0 Z=-2.499 P=.012	U=1272.5 Z=-1.627 P=.104	U=1351.5 Z=-1.258 P=.209	U=1266.5 Z=-1.637 P=.102

Place of residence	City	a	69	85.72	85.72	82.54	80.20	87.37	90.05
	District	b	60	96.12	101.48	103.47	103.05	97.26	102.08
	Village/ Town	c	54	95.45	89.50	91.34	94.80	92.07	83.30
				KW X ² =1.577 P=.454	KW X ² =3.016 P=.221	KW X ² =5.332 P=.070	KW X ² =6.404 P=.041 a<b	KW X ² =1.140 P=.566	KW X ² =3.771 P=.152
Maternal education level	Primary- Secondary school	a	161	93.11	95.15	93.05	93.76	94.47	95.99
	High school	b	19	82.58	69.55	89.63	80.66	75.47	58.89
	University	c	3	91.83	65.17	50.50	69.33	64.17	87.50
				KW X ² =.679 P=.712	KW X ² =4.759 P=.093	KW X ² =2.064 P=.356	KW X ² =1.655 P=.437	KW X ² =3.085 P=.214	KW X ² =8.466 P=.015 b<a
Paternal education level	Primary- Secondary school		123	91.24	90.63	88.86	89.91	90.43	93.00
	High school		53	95.82	93.66	97.62	95.84	93.64	90.89
	University		7	76.50	103.43	104.64	99.64	107.21	82.93
				KW X ² =.909 P=.635	KW X ² =.461 P=.794	KW X ² =1.518 P=.468	KW X ² =.637 P=.727	KW X ² =.751 P=.687	KW X ² =.276 P=.871
Number of siblings	1	a	30	97.35	67.22	80.68	70.87	77.15	68.92
	2	b	37	96.15	86.61	78.84	85.65	90.74	88.27
	3	c	43	97.12	117.14	114.79	109.64	115.50	109.40
	4	d	73	84.68	90.11	89.90	93.51	84.90	93.13
			KW X ² =2.348 P=.503	KW X ² =16.759 P=.001 a,d<c	KW X ² =12.460 P=.006 a,b<c	KW X ² =10.495 P=.015 a<c	KW X ² =12.386 P=.006 a,b<c	KW X ² =10.689 P=.014 a<c	
Smoking	Yes		23	58.74	100.83	103.61	91.70	102.37	95.59
	No		160	96.78	90.73	90.33	92.04	90.51	91.34
				U=1075.0 Z=-3.236 P=.001	U=1637.0 Z=-.855 P=.392	U=1573.0 Z=-1.159 P=.247	U=1833.0 Z=-.030 P=.976	U=1601.5 Z=-1.014 P=.311	U=1734.5 Z=-.447 P=.655
Alcohol	Yes		6	37.00	125.83	125.08	94.50	125.83	106.08
	No		177	93.86	90.85	90.88	91.92	90.85	91.52
				U=201.0 Z=-2.598 P=.009	U=328.0 Z=-1.592 P=.111	U=332.5 Z=-1.603 P=.109	U=516.0 Z=-.120 P=.905	U=328.0 Z=-1.606 P=.108	U=446.5 Z=-.667 P=.505
Regular sleep pattern	Yes		92	91.53	78.19	88.33	84.51	81.47	74.56
	No		91	92.47	105.96	95.71	99.57	102.65	109.63
				U=414.0 Z=-.121 P=.904	U=2915.5 Z=-3.549 P<.001	U=3848.5 Z=-.971 P=.332	U=3497.0 Z=-1.957 P=.050	U=3217.0 Z=-2.730 P=.006	U=2581.5 Z=-4.508 P<.001
Having witnessed domestic violence	Yes		34	89.90	105.94	94.18	105.91	98.22	113.31
	No		149	92.48	88.82	95.50	88.83	90.58	87.14
				U=2461.5 Z=-.258 P=.797	U=2059.0 Z=-1.702 P=.089	U=2459.0 Z=-.274 P=.784	U=2060.0 Z=-1.727 P=.084	U=2351.5 Z=-.766 P=.444	U=1808.5 Z=-2.617 P=.009
Not participating in the hospital practice during the pandemic affected the readiness for the profession	Yes		153	93.42	93.04	92.72	92.89	92.56	93.63
	No		30	84.77	86.72	88.35	87.45	89.13	83.67
				U=2078.0 Z=-.822 P=.411	U=2136.5 Z=-.598 P=.550	U=2185.5 Z=-.425 P=.671	U=2158.5 Z=-.524 P=.601	U=2209.0 Z=-.327 P=.743	U=2045.0 Z=-.949 P=.343

U: Mann Whitney U, KW: Kruskal Wallis, p: Statistical Value

Table 3 shows that fear of coronavirus was significantly higher in females, and physical aggression was significantly higher in males ($p=.001$, $p=.014$). The fear of coronavirus was found to be significantly higher in health high school graduates, unemployed students, and those who smoked and consumed alcohol ($p<.001$,

$p=.005$, $p=.001$, $p=.009$, respectively). The year of students created a significant difference on the Aggression Scale total and hostility sub-dimension ($p=.028$, $p=.036$). The 3rd year that caused this difference was different from the 1st and 4th year in total on the aggression scale and all other years in the hostility dimension. Physical and total aggression scores were significantly higher in working students ($p=.033$, $p=.012$), and total and verbal aggression, anger, and hostility scores were significantly higher in students who did not have a regular sleep pattern ($p<.001$, $p=.050$, $p=.006$, $p<.001$). The place of residence created a significant difference in the verbal aggression sub-dimension ($p=.041$), and the difference stemmed from the city and district. The maternal education level also caused a significant difference in the hostility sub-dimension ($p=.015$), which was due to primary and secondary school and high school graduates. The number of siblings made a significant difference in the total and all sub-dimensions of the aggression scale ($p=.001$, $p=.006$, $p=.015$, $p=.006$, $p=.014$). This difference was found between 3 siblings and 1 and 4 siblings in total scores, between 3 siblings and 1 and 2 siblings in physical aggression and anger dimensions, and between 3 siblings and 1 sibling in verbal aggression and hostility dimensions. Hostility was found to be significantly higher in those who witnessed domestic violence ($p=.009$).

In the Spearman correlation analysis, no significant relationship was found between age, fear of coronavirus, and aggression scale and its sub-dimensions. There were positive, moderate, and strong correlations between the aggression scale and its sub-dimensions ($p<0.01$). The correlation analysis is shown in Table 4.

Table 4. Correlation Analysis of The Fear of Coronavirus Scale, Aggression Scale, and Its Sub-Dimensions

	Age	Fear of Coronavirus	Aggression Total	Physical Aggression	Verbal Aggression	Anger	Hostility
Age	r	1	-.061	-.029	-.033	.025	-.070
	p		.415	.696	.662	.738	.344
Fear of Coronavirus	r	1	-.029	-.011	-.036	-.083	.020
	p		.693	.886	.633	.264	.791
Aggression Total	r		1	.766**	.829**	.851**	.813**
	p			.000	.000	.000	.000
Physical Aggression	r			1	.685**	.582**	.442**
	p				.000	.000	.000
Verbal Aggression	r				1	.642**	.539**
	p					.000	.000
Anger	r					1	.570**
	p						.000
Hostility	r						1
	p						

** $p<0.01$

4. Discussion

The COVID-19 pandemic has seriously affected society in different ways on a global scale. In this study, a relationship was found between COVID-19 fear and aggression levels of nursing students.

According to the results, the average score of the students on the Coronavirus Fear Scale was 13.74 ± 6.08 . Considering that the maximum score on the scale is 35, this value indicates almost a moderate level of coronavirus fear. Consistent with this study, the total score of the fear of coronavirus scale in nursing students was found to be 15.99 ± 5.17 by Çalışkan et al. (2021) and moderate in various relevant studies (Aksoy & Atılğan, 2021; Çalışkan et al., 2021; Duman, 2020). Various studies show that the pandemic causes individuals to experience fear.

When evaluated in terms of the gender factor, fear of coronavirus was found to be statistically significantly higher in female students. In the studies by Maheshwari et al. (2020) with medical students and Aslan and Pekince (2021) with nursing students, the mean scores of female students fear of coronavirus were statistically significantly high (Aslan & Pekince, 2021; Maheshwari et al., 2020). Literature has citations that the fear of coronavirus was higher in female students (Bakioğlu et al., 2020; Çalışkan et al., 2021; Nehir & Güngör Tavşanlı, 2021; Tekin Atay et al., 2020). The results show that female students experience fear due to the

pandemic, which could be a result of female students different physiological structures and more sensitive personalities.

Clinical training in nursing education is theoretically more stressful (John & Al-Sawad, 2015). In this study, 83.6% of the students did not participate in the hospital practice during the pandemic, which affected their readiness for the profession, and therefore 63.4% felt inadequate. It is reported that a lack of disease knowledge and awareness increases the fear of disease (Aerts et al., 2020). The fear of students can be explained by the fact that they stayed away from clinical practice due to the pandemic, affecting their level of knowledge and awareness about the disease and hindering their professional experience. In addition, fear of coronavirus was found to be significantly higher in health high school graduates, and unemployed ones. The greater awareness among health high school graduates and the uncertainty of the disease may have caused them to experience more fear. Likewise, the high level of fear in those who did not work may be due to the lack of following up-to-date data on the disease.

In this current study, the fear of coronavirus was found to be significantly higher in smokers and alcohol users. Alsolais et al. (2021) found that substance use is a significant predictor of contracting COVID-19 among students (Alsolais et al., 2021). The fact that students who use cigarettes and alcohol think that they may experience potential health problems more when they are infected with COVID-19 may be associated with their high level of fear.

As the pandemic intensifies, quarantined people are more likely to feel suspicious, be mistreated, get angry easily, verbally attack others, and even display physical aggression (Killgore et al., 2021). In this study, aggression, and all sub-dimensions scores were found to be moderate, and physical aggression was found to be significantly higher in the male gender. Şahinler et al. (2020) also stated that aggression behaviors in favor of males are high in the aggression sub-dimensions and the general aggression level was above moderate (Şahinler et al., 2020). Our study is consistent with the literature in this regard. The reason why aggression is more common in men may be related to gender roles.

Total aggression in 1st and 4th-year students and hostility in 1st-2nd-4th-year students was significantly higher than in 3rd-year students. The reason for this may be that the 4th-year students were about to graduate, and the 1st and 2nd-year students did not participate in the hospital practice. Duman (2020) stated that there is a significant correlation between fear of the pandemic and intolerance of uncertainty in students (Duman, 2020).

In this study, physical and total aggression levels were statistically significantly higher in working students. This is because working students are in the health sector, and increased contact with people may have increased the risk of transmission.

In the study, verbal aggression was significantly higher among the students living in the district than those living in the city, and hostility was significantly higher in the students whose mothers were primary or secondary school graduates than those with mothers with high school graduates. Likewise, Wang et al. (2021) reported that the aggression scores of primary and secondary school students whose families live in rural areas are the highest and those who live in the cities are the lowest and that the total aggression and five sub-dimension scores of the students decrease significantly as the education level of the parents increases (Wang et al., 2021). While the place of residence reflects the education level of the parents to a certain extent, those with a low education level apply negative parenting methods, leading to an increase in the tendency of young people to show aggressive behaviors (Low et al., 2012). Parents are role models for children. Consistent with the literature, students living in the district may also have lower parental education levels, which may have influenced students' perceptions.

In this study, half of the students had irregular sleep patterns, and verbal aggression, anger, hostility, and total aggression were significantly higher in these students. In support of this study, Zhang et al. (2020) found that the severity of COVID-19 can significantly increase people's negative emotions by reducing sleep quality, and significantly reduced sleep quality of young adults increases global negative emotions (Zhang et al., 2020). According to Romero-Blanco et al. (2020), the sleep quality of nursing students was worse due to the fear of

the pandemic and infection, and lack of sleep increased the idea of suicidal thoughts (Romero-Blanco et al., 2020). The data show that the pandemic has an indirect impact on mental health by changing the sleep quality of young people. It is thought that insomnia can trigger aggressive behavior by increasing impulsivity.

Pandemic-induced anxiety has been associated with aggression (Renner et al., 2020). Social distancing, staying at home, restricted travel, and closure of public spaces during the pandemic are likely to significantly increase the risk of domestic violence worldwide (Campbell, 2020). The COVID-19 pandemic has caused an increase in domestic violence (Usher et al., 2021), and a 7.5% increase in domestic violence in the first five weeks of nationwide social distancing efforts (Leslie & Wilson, 2020). Zaman et al. (2021) emphasize that there is a positive and significant relationship between parental conflict and aggression, and a significant predictive relationship between parental conflicts and aggression (Zaman et al., 2021). In this study, hostility was found to be significantly higher in those who witnessed domestic violence, and total score for aggression and all sub-dimensions were found to be significantly higher in those with 3 siblings. Ingram et al. (2020) stated that exposure to domestic violence and aggression increased the probability of being in the category of sibling aggression 1.82 times (Ingram et al., 2020). These results suggest that spending more time in the same environment with close people can increase the risk of conflict among family members and trigger violent behavior, and in some cases, increase aggression in siblings who stay at home more than usual due to the pandemic.

In this study, no significant relationship was found between age, fear of coronavirus, and aggression scale. Similarly, no significant relationship was reported between age and fear of COVID-19 (Arıkan et al., 2021; Çalışkan et al., 2021). This may be due to the small age range of the students in the study. On the other hand, Nehir and Güngör Tavşanlı (2021) stated that students over the age of 21 feel fearful more, and they associate it with having better knowledge as it covers the group of students about to graduate (Nehir & Güngör Tavşanlı, 2021).

In our study, no significant relationship was found between fear and aggression.

A positive, moderate, and strong relationship was observed between the aggression scale and its sub-dimensions in the study. As the mean of aggression increased, physical and verbal aggression, anger, and hostility increased. Killgore et al. (2021) examined increased levels of aggression during COVID-19 quarantines and found that total aggression scores were significant for four sub-dimensions of the scale, including physical aggression, verbal aggression, anger, and hostility (Killgore et al., 2021), suggesting that an increase in one type of aggression may increase other types.

Limitations

The limitations of the research are conducting the research at a single center. Another limitation is the online collection of data for students who have problems accessing the internet.

5. Conclusion

The students' fear and aggression score averages were found to be moderate in the study. Gender, type of high school, employment status, smoking, and alcohol use caused a significant difference in the level of fear of COVID-19. As for the total and sub-dimensions of the aggression scale, gender, year, working status, place of residence, maternal education level, the number of siblings, witnessing domestic violence, and sleep patterns created significant differences. Most of the students thought that not participating in the hospital practice during the pandemic affected their readiness for the profession, and more than half of them felt inadequate, which may have caused them to experience fear and display aggressive behavior.

Practice training is very important in departments like nursing. In the following periods, the compensation of the practical training given theoretically in the distance education process has gained importance. For students to gain the necessary psychomotor skills, instructors and health professionals should pay attention to this issue and follow the students closely. Incomplete skills should be completed, and clinical rules should be taught through simulation applications.

The sources of fear of students with high levels of fear, especially girls, can be identified and included in appropriate education programs. Students who use cigarettes and alcohol and have a high level of fear should be supported to quit by providing counseling. The pandemic period and fear can be turned into an opportunity for them to quit these habits. To reduce the attitudes of those at risk for aggression and male students, their reasons should be determined, solutions should be offered, and they should be included in personal development programs such as anger control and stress management. Family members serve as role models; thus programs should be developed for the entire population.

Implementing community-based strategies to support resilience and psychologically vulnerable individuals during the COVID-19 crisis is recommended for all communities (Amerio et al., 2020). To optimize educational efforts, it would be effective to identify students who experience fear and are at high risk of aggression, engage them in the necessary educational programs, and offer appropriate counseling services to promote mental health.

Implications for Practice

Health education and policy was effected by distance education during the pandemic. Distance education of practice training negatively affected their readiness for the profession. This situation caused the students to experience fear and aggression. The clinical performance of the student with a high level of fear will be affected and the probability of making a mistake will increase. For this reason, it is important to identify students with high fear and to support them more closely. Nursing students constitute the majority of future health professionals. Therefore, it is very important to detect the fear and hostility experienced by nursing students during the COVID-19 period. If students have high levels of fear and aggression, they may make mistakes in hospital practices and have communication problems. It is that it is important to reduce the fear and aggression of the students and to provide education and counseling to these students because reduce malpraktis and mistake.

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