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Investigation of the Relationship between Fear of Transmission and Attitudes Towards Clinical Practice in Nursing and Midwifery Students

Hemşirelik ve Ebelik Öğrencilerinde Bulaşma/Bulaştırma Korkusu ile Klinik Uygulamalara Yönelik Tutum Arasındaki İlişkinin İncelenmesi

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Öz

Giriş ve Amaç: Bu çalışma, hemşirelik ve ebelik öğrencileri arasındaki bulaşma korkusu ile klinik uygulamaya yönelik tutumlar arasındaki ilişkiyi araştırmak amacıyla yürütülmüştür.
Gereç ve Yöntemler: Bu tanımlayıcı ve keşifsel çalışma, Türkiye'nin Güneydoğu Anadolu Bölgesi'nde yer alan bir devlet üniversitesinin Sağlık Bilimleri Fakültesi'nde Ocak-Haziran 2023 tarihleri arasında 498 öğrenci ile gerçekleştirilmiştir. Veriler, Tanıtıcı Bilgi Formu, Bulaşma/Transmisyon Korku Ölçeği ve Korzul Klinik Uygulama Tutum Ölçeği kullanılarak çevrimiçi toplanmış ve SPSS 26 paket programı ile değerlendirilmiştir. Araştırma bulguları $p<.05$ düzeyinde anlamlı kabul edilmiştir.
Bulgular: Bu çalışmada hemşirelik ve ebelik öğrencilerinin demografik verileri incelendiğinde, katılımcıların %91.97'sinin kadın olduğu ve %66.47'sinin ebelik bölümünde yer aldığı tespit edilmiştir. Öğrencilerin önemli bir kısmı (%51.81) 18-20 yaş aralığında olup, %51.41'i aileleriyle birlikte yaşamaktadır. Çalışma, öğrencilerin bulaşma korkusunun yaş, cinsiyet ve bölümlerine göre önemli ölçüde farklılık gösterdiğini ortaya koymuştur. Özellikle, hemşirelik öğrencilerinin, kişisel koruyucu ekipman kullanmayanların ve izole hastalardan sorumlu olanların daha yüksek korku puanlarına sahip olduğu bulunmuştur. Ayrıca, erkek ve hemşirelik öğrencilerinin klinik uygulamalara yönelik daha olumlu tutum sergiledikleri gözlemlenmiştir.
Sonuç: Çalışmada, öğrencilerin bulaşma korkusu ile klinik uygulamalara yönelik tutumları arasında bir ilişki bulunmadığı tespit edilmiştir. Ancak, klinik uygulamalara yönelik tutumların cinsiyet, yaş ve bölüme göre farklılık gösterdiği belirlenmiştir.

Anahtar kelimeler: Bulaşma, korku, klinik uygulamaya yönelik tutum, ebelik öğrencisi, hemşirelik öğrencisi

Abstract

Aim; This study investigated the relationship between fear of transmission and attitudes towards clinical practice among nursing and midwifery students.

Method; This descriptive and exploratory study was conducted at a state university's Faculty of Health Sciences in the Southeast Anatolia Region of Turkey between January and June 2023 with 498 students. Data were collected online using the Introductory Information Form, Transmission/Contagion Fear Scale, and Korzul Clinical Practice Attitude Scale and evaluated with the SPSS 26 package program. Research findings were deemed significant at $p<0.05$.
Results; In this study involving nursing and midwifery students, the demographic data revealed that 91.97% of the participants were female, and 66.47% were from the midwifery department. A significant portion of the students (51.81%) were in the 18-20 age range, with 51.41% living with their families. The study found that students' fear of transmission varied significantly according to their age, gender, and department. Specifically, nursing students, those who did not use personal protective equipment, and those responsible for isolated patients had higher fear scores. Additionally, male and nursing students exhibited more positive attitudes towards clinical practice than their counterparts.
Conclusion; The study found no correlation between students' fear of transmission and their attitudes toward clinical practice. However, attitudes toward clinical practice did vary based on gender, age, and department.

Keywords: Transmission, fear, attitude towards clinical practice, midwifery student, nursing student

1. Introduction

Infectious diseases have been responsible for a significant number of global fatalities. These diseases have not only triggered far-reaching transformations in social, economic, and cultural spheres but have also been accompanied by a pervasive sense of fear and anxiety. In particular, with the recent COVID-19 pandemic in 2020, people worldwide have become increasingly anxious about infectious diseases [1, 2]. The rapid spread of contagious diseases and the immersion of healthcare providers in the disease process place health professional workers at high risk, profoundly impacting them by heightening levels of fear, anxiety, and stress. Generally, fear of transmission is regarded as the fear of direct or indirect contact with an individual or substance perceived to be infected or harmful; students receiving health education, such as professional workers, are exposed to fear and a high degree of negativity due to their delivery of healthcare services [3]. For this reason, the negative impacts and challenges associated with infectious diseases can result in unfavorable attitudes among health education students, particularly in clinical practice courses.

Clinical practice is a fundamental health education component, allowing students to apply theoretical knowledge in practical settings. It includes direct patient care, where students perform various medical procedures under the guidance of experienced professionals. This hands-on training is vital for developing clinical skills, professional competence, and confidence in patient interactions. However, incorporating clinical practice into education also presents challenges, especially during infectious disease outbreaks. Students may experience increased fear and anxiety about potential exposure to infectious agents, affecting their learning and professional growth. Providing adequate support, training, and protective measures is essential to alleviate these fears and encourage a positive approach to clinical practice.

Undergraduate health students must continue clinical practices to develop their professional skills due to the emphasis on practical courses in health education programs at higher education institutions.[3-5].
Research reported that during the COVID-19 outbreak, students studying health education experienced higher levels of stress and anxiety than their peers in other fields [5]. As these students had direct and close contact with patients and their families, they intensely experienced health-related anxieties while providing care during the pandemic. Studies showed that students have high levels of health anxieties, experience intense stress, sleep disorders, feelings of tension, and a fear of death associated with the virus's transmission probability [6-8]. Another study showed that most students feared caring for individuals diagnosed with COVID-19 [9]. In a meta-analysis, the most common health issues among students were identified as fear, anxiety, stress, depression, and sleep disorders [10].
In a study involving students providing care to individuals with AIDS, a transmission disease that poses a global and life-threatening public health problem, it was found that students demonstrated negative attitudes towards individuals with HIV/AIDS due to fears of disease transmission during care [8]. Students in health education programs expressed prejudiced attitudes towards individuals with HIV/AIDS, indicating a reluctance to share the same environment and hesitancy to touch those affected by AIDS[11]. It was reported that healthcare workers also displayed negative attitudes ranging from refusing to provide care due to fears of transmission while caring for individuals with HIV/AIDS [12].

Transmission diseases will continue to emerge in the future, as they have done so far. The experiences and attitudes of students studying health education, who are the future professional workforce, in combating infectious diseases are significant. The physical and mental health problems they experience during and after such crisis periods will affect their desire to continue their profession and their levels of coping while practicing the profession. Particularly when young healthcare workers without experience in caring for critical patients face a major psychological crisis; if problems are not effectively resolved, it can hurt the quality and safety of the medical care system [4, 10, 13].

Infectious diseases pose an enduring and significant threat to health workers and students undergoing health education. The apprehension of transmission risk during the care of individuals with communicable diseases is anticipated to shape the attitudes of healthcare professionals persistently. A review of global and local literature shows numerous studies examining the anxiety, stress, fear levels, and attitudes of health workers and health education students towards various diseases. However, only a few studies examined the general transmission of fear and attitudes. To prepare students for their future roles as healthcare professionals, it is crucial to equip them with the knowledge of professional measures needed to protect themselves and their patients rather than succumbing to fear and compromising their psychological well-being due to the fear of infectious diseases. Therefore, educating them in this regard becomes imperative.

In light of this information, this research explored the relationship between the fear of transmission and attitudes toward clinical practice among nursing and midwifery students in health education.

2. Materials And Methods

2.1. Type, Place, and Time of the Research

The descriptive and exploratory research study was conducted from January to June 2023 at the Faculty of Health Sciences in a state university in the Southeastern Anatolia Region of Turkey.

2.2. Sample of the Research

The population of the study consisted of 1078 nursing and 406 midwifery students enrolled in the Faculty of Health Sciences in the spring semester of the 2022-2023 academic year. The sample calculation was conducted using the G*Power package program. Since no previous studies examined the transmission of fear and attitudes toward clinical practice, it was decided to use the Pearson Correlation method. It was expected to see a weak inverse correlation ($r < -0.2$) between the average scores on these scales. [16]. With a confidence level of 95% ($\alpha=0.05$) and statistical power of 80% ($(1- \beta)=0.80$), factoring in an effect size of 0.2, the required sample size for the study was determined to be a minimum of 328 students. The inclusion criteria for the study were being a registered nursing/midwifery student during the dates of the study, participating in clinical practice, agreeing to participate in the study, and approving the informed consent form online. The study ultimately included a participant pool of 498 students. After the research's conclusion, a post hoc power analysis was conducted. Using an effect size of 0.380, this analysis revealed that the study's theoretical power was 91% when calculated with an alpha value of 0.05.

2.3. Data Collection Instrument-Validity and Reliability Information

The data of the study were transmitted via Google Forms, a reliable online platform, using the "Introductory Information Form," the "Fear of Contagion/ Transmission Scale," and the "Korzul Clinical Practice Attitude Scale," and data were collected in the classroom environment.

2.3.1. Introductory Information Form: This form consists of 12 questions created by the researchers, covering students' thoughts about infectious diseases and clinical practice, as well as their sociodemographic characteristics. [3, 4, 6, 9, 10, 17].

2.3.2. Fear of Contagion/ Transmission Scale: The scale, developed by Koç and Bilgehan (2021), includes 24 items divided into four sub-dimensions. Each item is rated on a 5-point Likert scale, with total possible scores ranging from 24 to 120. Higher scores indicate a greater fear of transmission. There is no reverse scoring. The Cronbach Alpha value reported in the original study was 0.91, which was also found to be 0.91 for this study.

2.3.3. Korzul Clinical Practice Attitude Scale: The scale to be used in the research was developed by Kanbay et al. (2022). This scale comprises 25 items categorized into four distinct sub-dimensions. The first factor encompasses items 1, 5, 12, 13, 19, and 23. The second factor is composed of items 4, 6, 7, 10, 11, 14, 15, 16, and 20. The third factor includes items 2, 18, 21, and 24. Lastly, the fourth factor is constituted by items 3, 8, 9, 17, 22, and 25. The scale's overall Cronbach's Alpha reliability coefficient was determined to be 0.89. In the scale's scoring, items 2, 3, 4, 6, 8, 9, 10, 16, 17, 20, 21, and 23 are reverse scored. The total possible score that can be obtained from the overall scale ranges from 25 to 125. An increase in the score represents a positive attitude towards clinical practice[18]. For this study, the Cronbach's Alpha reliability coefficient of the scale was calculated to be 0.83.

2.4. Ethical Aspect of the Research

Approval from the Research Ethics Committee was obtained from the Institutional Review Board (date: January 18, 2023, number: 2023/07). Before the study, the students were informed about the purpose of the research and verbal consent was obtained in line with the principle of voluntary participation. Informed consent was secured from all participating students. The principles of the Declaration of

Helsinki conducted the study. The authors granted scale usage permissions via email.

2.5. Evaluation of the Data

Data analysis was conducted using SPSS version 26.0 (Statistical Package for the Social Sciences). The necessary assumptions were initially verified to determine the appropriate statistical tests (parametric or nonparametric). The Kolmogorov-Smirnov test was applied to assess the normality of the distribution. Normal distribution was indicated by skewness and kurtosis values falling within the range of -2.0 to +2.0 [19]. The independent samples t-test was utilized to compare two independent groups with normally distributed data. Comparisons involving more than two independent groups were made using One-way Analysis of Variance (ANOVA). Post-hoc analysis was performed to identify the source of variance; Bonferroni's test was applied when variances were homogeneous, while Tamhane's T2 test was used for non-homogeneous variances. Levene's test was employed to assess the homogeneity of variances. Pearson's correlation coefficient was used to examine the relationship between the scales. A p-value of less than 0.05 was considered to indicate statistical significance [20].

3. Results

In this study, including nursing and midwifery students, the demographic and situational data indicated that 91.97% of participants were female and 66.47% were part of the midwifery department. Within the age distribution, a majority of 51.81% fell into the 18-20-year range. It was identified that 51.41% resided with their families. Following the pandemic, 27.71% of participants wanted to change departments. As per the information gathered regarding their clinical experiences, 26.91% reported instances of needle sticks or encounters with contaminated materials, while a significant portion of participants (81.93%) confessed their unfamiliarity with the immediate actions required following exposure. Notably, 51.41% felt they received adequate support from teaching staff in dealing with these matters in clinical practice. It was found that 67.67% of the students included in the study used masks and other personal protective equipment in their clinical practice, 82.93% provided care to infectious (isolated) patients in the clinics where they practiced, 45.58% received training on protection from contagious diseases before clinical practice, and 66.06% regularly checked their laboratory tests for infectious diseases (AntiHbs, etc.) (Table 1).

Table 1. *Sociodemographic Characteristics of the Students (n=498)*

Descriptive Characteristics	**n**	**%**
Gender		
Female	458	91,97
Male	40	8,03
Age		
18-20	258	51,81
21-23	215	43,17
24-+	25	5,02
Department		
Nursing	167	33,53
Midwifery	331	66,47
Place of Residence		
Living with family	256	51,41
Dormitory/Apartment	221	44,38
Student House	21	4,22
Did you want to change your department after the pandemic?		
Yes	138	27,71
No	360	72,29
Have you experienced needle sticks or contact with contaminated materials in your clinical practices?		
Yes	134	26,91
No	364	73,09
Do you know the first steps to take if you experience exposure?		
Yes	90	18,07
No	408	81,93
Do you use masks and other personal protective equipment in your clinical applications?		
Yes	337	67,67
No	161	32,33
Do you care for patients with infectious diseases (isolated) in the clinics where you practice?		
Yes	413	82,93
No	85	17,07
Did you receive training on protection from infectious diseases before clinical application?		
Yes	227	45,58
No	271	54,42
Do you regularly check your laboratory tests (AntiHbs, etc.) for infectious diseases?		
Yes	329	66,06
No	169	33,94
Do you receive sufficient support from teaching staff members in your clinical applications?		
Yes	256	51,41
No	242	48,59

The scores received by the nursing and midwifery students from the Korzul Clinical Practice Attitude Scale ranged from 25-108 points, with an average score of 69.37±11.88, while the scores from the Fear of Contagion/ Transmission Scale ranged from 24-120 points, with an average score of 59.81±12.80. The Cronbach Alpha internal consistency test also showed that the Korzul Clinical Practice Attitude Scale and Fear of Contagion/ Transmission Scale/Sub-dimensions used in the study were highly reliable (Table 2).

Table 2. *Total and Subdimension Scores of the Scales*

Scales		**Descriptive Statistics**				**Cronbach's Alpha**
	n	**Min**	**Max**	$\bar{X}$	**Ss**	
Korzul Clinical Practice Attitude Scale	498	25	108	69,37	11,88	0.83
1. Factor	498	6	30	16,64	6,25	0.93
2. Factor	498	9	45	24,90	6,57	0.90
3. Factor	498	4	20	10,87	3,09	0.80
4. Factor	498	6	30	16,97	4,63	0.83
Contagion/Transmission Fear Scale	498	24	120	59,81	12,80	0.91
Contact Contagion Fear	498	5	25	11,04	3,66	0.80
Abstract Contagion Fear	498	6	30	17,03	3,89	0.72
Social Contagion Fear	498	8	40	19,26	5,44	0.89
Healthcare Contagion Fear	498	5	25	12,48	3,26	0.74

A statistically significant difference was found between the age groups of the students included in the study. The total scores of the Fear of Contagion/ Transmission Scale (p=.01). Post hoc "Bonferroni" adjustment was made to find the source of the difference, according to which it was found that the students in the 18-20 age range experienced more contagion/contamination fear than students in the 21-23 age range. On the other hand, when some descriptive characteristics of the students were compared with the average total scores of the Fear of Contagion/ Transmission Scale, it was found that those nursing department students, those who did not use personal protective equipment, and those who cared for isolated patients scored higher than the others (Respectively; p= .02, p=.01, p=.01). When comparing the total scale scores based on students' living arrangements, it was found that those living in dormitories had higher average scores on the Social Contagion Fear sub-dimension of the Fear of Contagion/Transmission Scale (p= .02) and the total score of the Korzul Clinical Practice Attitude Scale (p= .01) compared to those living with their families. Additionally, students living in student houses had higher total scores on the Korzul Clinical Practice Attitude Scale (p= .01) and some sub-dimensions (Factor 2 and Factor 3, p= .01) compared to those living with their families (Table 3). Furthermore, male students (p=.01) and nursing department students (p=.01) had higher total scores on the Korzul Clinical Practice Attitude Scale than others (Table 3).

Table 3. *Comparison of Contagion/Transmission Fear Scale/Subscale Total Scores According to Some Characteristics*

Characteristics		Contact Contagion Fear	Abstract Contagion Fear	Social Contagion Fear	Healthcare Contagion Fear	Contagion/Transmission Fear Scale	Korzul Clinical Practice Attitude Scale	Factor 1	Factor 2	Factor 3	Factor 4
		X ± SD	X ± SD	X ± SD	X ± SD	X ± SD	X ± SD	X ± SD	X ± SD	X ± SD	X ± SD
Gender	Female	10,87±3,63	17,13±3,88	19,2±5,45	12,47±3,27	69,66±12,64	68,76±11,61	16,69±6,3	24,46±6,34	10,84±3,12	16,79±4,61
	Male	13,05±3,48	15,88±3,99	19,98±5,39	12,65±3,22	61,55±14,59	76,43±12,77	16,1±5,74	29,98±7,14	11,28±2,84	19,08±4,52
	t/p	**3,67/0,01***	1,96/0,05	0,87/0,39	0,34/0,73	**0,90/0,03***	**3,97/0,01***	0,57/0,57	**5,23/0,01***	0,87/0,39	**3,02/0,01***
Age	18-20(a)	11,7±3,74	17,07±3,4	19,8±5,04	12,89±3,07	61,44±11,86	69,99±11,23	16,7±5,97	25,49±5,78	10,99±2,92	16,83±4,22
	21-23(b)	10,35±3,43	17,07±4,32	18,6±5,69	12,05±3,46	58,06±13,39	68,79±12,73	16,67±6,56	24,29±7,31	10,75±3,24	17,1±5,1
	24-+(c)	10,24±3,69	16,36±4,88	19,48±6,8	12,04±3,01	58,12±15,23	68,2±10,88	15,96±6,65	24,08±7,28	10,76±3,67	17,4±4,77
	F/p	**8,88/0,01****	0,39/0,68	2,85/0,06	**4,20/0,02****	**4,37/0,01****	0,73/0,48	0,16/0,85	2,17/0,11	0,36/0,70	0,31/0,73
		a-b	-----	---	a-b	a-b	---	-----	----	-----	-----
Department	Nursing	12,12±3,78	16,57±3,64	20,13±5,58	12,88±3,43	61,69±13,72	73,12±10,36	16,19±5,81	28,01±6,63	11,26±2,85	17,68±4,5
	Midwifery	10,5±3,49	17,26±4,01	18,83±5,33	12,29±3,16	58,87±12,23	67,49±12,16	16,88±6,46	23,33±5,97	10,68±3,2	16,62±4,68
	t/p	**4,76/0,01***	1,88/0,06	**2,53/0,01***	1,91/0,06	**2,33/0,02***	**5,13/0,01***	1,16/0,25	**7,96/0,01***	2,00/0,05	**2,42/0,02***
Place of Residence	WithFamily(a)	10,81±3,34	17,13±3,78	18,88±5,29	12,49±3,18	59,28±11,74	64,59±12,36	16,7±6,8	20,89±5,23	10,25±3,23	16,76±5,12
	Dormitory(b)	11,28±3,98	17,01±4,09	19,93±5,59	12,58±3,37	60,79±13,96	73,62±8,17	16,48±5,39	28,45±3,69	11,49±2,65	17,22±3,82
	Student House(c)	11,39±3,91	16,15±3,27	17±4,83	11,53±3,08	56,05±12,13	83,05±11,6	17,77±7,74	36,39±9,56	11,96±4,23	16,96±6,25
	F/p	1,08/0,34	0,62/0,54	**4,19/0,02****	1,00/0,37	1,77/0,17	**60,57/0,01****	0,43/0,65	**203,35/0,01****	**11,44/0,01****	0,57/0,57
		---	---	**b-c**	---	---	**b-c**		**c,b-a - c-b**	**a-b**	
Get infected	Yes	11,19±4,03	17,29±3,99	20,1±6,14	12,33±3,68	60,9±14,45	70,83±9,77	16,3±5,51	26,05±6,09	11,3±2,85	17,21±4,2
	No	10,99±3,52	16,94±3,86	18,96±5,14	12,54±3,1	59,41±12,14	68,84±12,54	16,78±6,51	24,48±6,7	10,72±3,17	16,89±4,79
	t/p	0,55/0,58	0,89/0,37	**2,09/0,04***	-0,64/0,52	1,15/0,25	1,66/0,10	0,76/0,45	**2,38/0,02***	1,86/0,06	0,68/0,50
Use PPE	Yes	10,6±3,61	16,97±3,86	18,76±5,47	12,18±3,21	58,49±12,48	69,31±11,85	16,79±6,35	24,5±6,65	10,87±3,14	17,17±4,85
	No	11,97±3,62	17,17±3,98	20,33±5,24	13,13±3,3	62,58±13,08	69,52±11,98	16,36±6,07	25,74±6,34	10,87±3,01	16,56±4,15
	t/p	**3,96/0,01***	0,53/0,60	**3,04/0,01***	**3,07/0,01***	**3,36/0,01***	0,18/0,85	0,71/0,48	1,99/0,05	0,02/0,98	1,36/0,17
Care for the isolated patient	Yes	10,64±3,59	16,9±3,84	18,89±5,4	12,29±3,15	58,7±12,46	69,19±12,1	16,71±6,38	24,63±6,59	10,85±3,15	17±4,72
	No	13±3,36	17,69±4,11	21,09±5,29	13,44±3,63	65,2±13,17	70,31±10,77	16,32±5,64	26,2±6,37	10,98±2,84	16,82±4,25
	t/p	**5,59/0,01***	1,71/0,09	**3,43/0,01***	**2,99/0,01***	**4,34/0,01***	0,79/0,43	0,53/0,60	2,02/0,04	0,36/0,72	0,34/0,73

***P**<0,05 **t=** Independent t-testi **F**= Oneway ANOVA **Bonferroni /Tamhane's corrections **PPE:** Personal Protective Equipment

After post hoc Bonferroni corrections (c-a, b), the variable marked "c" had a statistically significant difference from variables marked "a" and "b

When examining the relationship between the scales used in the study, a positive high-level relationship was found between the Fear of Contagion/ Transmission Scale scores and the subscale scores (Contact Contagion, Abstract Contagion, Social Contagion, and Healthcare Area Contagion) (Respectively, r=.727, r=.771, r=870, r=739, p<.01). In contrast, no significant relationship was found between the Fear of Contagion/ Transmission Scale scores and the Korzul Clinical Practice Attitude Scale score (p>.05) (Table 4).

Table 4. *Relationship Between Contagion/Transmission Fear Scale Scores and Attitude Scale Scores Towards Clinical Applications*

Scale/Subdimensions		Contagion/Transmission Fear Scale	Contact Contagion Fear	Abstract Contagion Fear	Social Contagion Fear	Healthcare Contagion Fear
Contact Contagion Fear	r	0,727**				
	p	0,001				
	n	498				
Abstract Contagion Fear	r	0,771**	0,413**			
	p	0,001	0,001			
	n	498	498			
Social Contagion Fear	r	0,870**	0,509**	0,536**		
	p	0,001	0,001	0,001		
	n	498	498	498		
Healthcare Contagion Fear	r	0,739**	0,390**	0,474**	0,538**	
	p	0,001	0,001	0,001	0,001	
	n	498	498	498	498	
Korzul Clinical Practice Attitude Scale	r	0,026	0,143**	-0,084	0,028	-0,006
	p	0,568	0,001	0,060	0,530	0,898
	n	498	498	498	498	498

**P<0,05 ** P<0,01* *r:* Pearson correlation

4. Discussion

Nursing and midwifery students interact with patients and their families throughout their education, taking on roles such as caregivers, educators, and consultants [6]. Recent research has highlighted the likelihood of these students experiencing fear for their health and the well-being of those close to them while providing patient care [7, 17, 21]. This study investigated the relationship between students' fear of transmission and their attitudes toward clinical practice, involving 498 nursing and midwifery students. Fear of transmission refers to the apprehension of direct or indirect contact with individuals or substances perceived as infectious or harmful. The findings indicated that female students had a higher fear of transmission and more negative attitudes towards clinical practices than their male counterparts. Similar studies conducted during the pandemic have also found that women exhibit higher levels of fear [22-24]. This may be attributed to women's greater tendency towards ruminative thinking. Additionally, the study revealed that students aged 18-20 experienced greater fear of transmission than those aged 21-23, consistent with Değirmen et al. (2022) [25]. Other literature also supports these results [26, 27]. This trend could be due to older students having more extended educational experiences, which may enhance their health literacy levels."

Fear is an emotional response towards an object that is perceived as dangerous. It is inherent in human nature to seek distance from environments that are perceived as hazardous. When confronted with such situations, the instinct is to safeguard oneself by seeking refuge through avoidance or escape [28]. Our study found that the nursing students had higher contagion/transmission fears and more negative attitudes toward clinical practice than the midwifery students. Contrary to our findings, in a study conducted in 2021 investigating the impact of the COVID-19 pandemic on the fear and perception of control of nursing and midwifery students, it was found that midwifery students had higher fears of disease/contagion [28]. The disparities in outcomes may be ascribed to divergences in the educational institutions and curricula overseeing the students' training. While no statistically significant correlation

was identified between the Fear of Contagion/Transmission Scale and the Korzul Clinical Practice Attitude Scale, we posit an interplay between these two patterns. Specifically, there appears to be a tendency for students harboring heightened fears of contagion/transmission to concurrently exhibit more adverse attitudes towards clinical practice. This suggests a potential nuanced relationship warranting further investigation.

5. Conclusions

This study explored the relationship between fear of transmission and attitudes towards clinical practice among nursing and midwifery students. The findings demonstrated that fear of transmission varied significantly according to demographic factors such as age, gender, and department. Specifically, nursing students and those who did not utilize personal protective equipment exhibited higher levels of fear. Additionally, male students and nursing students showed more positive attitudes towards clinical practice. Although no direct correlation was found between fear of transmission and attitudes towards clinical practice, it was observed that students with elevated transmission fears tended to display more negative attitudes towards clinical practice. This suggests that fear of transmission may indirectly influence students' clinical attitudes and performance. In light of these findings, it is recommended that the curriculum includes enhanced education on infection prevention and that psychological support be provided to mitigate transmission fears and foster more positive attitudes towards clinical practice.

Limitations

This study has some limitations. Firstly, the data collected are contingent upon the specific data collection tools employed. Furthermore, the restricted generalizability of the results can be attributed to the sample size within where the study was conducted.

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References

1. Malesza M, Kaczmarek MC. Predictors of anxiety during the COVID-19 pandemic in Poland. Personality and Individual Differences. 2021;170:110419.
2. Santomauro DF, Herrera AMM, Shadid J, Zheng P, Ashbaugh C, Pigott DM, et al. Global prevalence and burden of depressive and anxiety disorders in 204 countries and territories in 2020 due to the COVID-19 pandemic. The Lancet. 2021;398(10312):1700-12.
3. Koç A, Bilgehan T. Fear of Contagion/ Transmission Scale: A Study of Scale Development. Journal of the Turkish Nurses Association. 2021;2(2):14-26.
4. Bilgiç FŞ, Karaahmet AY. Investigation of Coronavirus Fear and Perceived Stress Levels of Midwifery Students in Clinical Practice in the COVID-19 Pandemic: A Cross-Sectional Study. Journal of Midwifery and Health Sciences. 2022;5(1):22-8.
5. Kim SC, Sloan C, Montejano A, Quiban C. Impacts of coping mechanisms on nursing students' mental health during COVID-19 lockdown: A cross-sectional survey. Nursing Reports. 2021;11(1):36-44.
6. Demirezen E, Bağış AN. Midwifery Education And Student Anxiety During The Covid-19 Pandemic Process. Journal of Midwifery and Health Sciences. 2021;4(3):254-9.
7. Okuyan Birimoglu C, Karasu F, Polat F. The Effect of COVID-19 on Health Anxiety Levels of Nursing Students. Van Journal of Health Sciences. 2020;13(COVID-19 Özel Sayı):45-52.
8. Çimen S, Bahar Z, Öztürk C, Bektaş M. To Comparison Of Attitudes Of Turkish And Danish Nursing Students Toward The Care Of Persons With HIV/AIDS. Dokuz Eylul University Electronic Journal of Nursing Faculty. 2013;6(3):139-43.
9. Cantekin I, Çoban Arguvanlı S, Dönmez H. The Perceived Stress Level of Nursing Students Regarding The Clinical Practices in the Covid-19 Pandemic Yükseköğretim ve Bilim Dergisi. 2021;11(3):592-9.
10. Mulyadi M, Tonapa SI, Luneto S, Lin W-T, Lee B-O. Prevalence of mental health problems and sleep disturbances in nursing students during the COVID-19 pandemic: A systematic review and meta-analysis. Nurse Education in Practice. 2021;57:103228.
11. Artan Oğuzkaya M, Güleser GN. Evaluation of the level of the knowledge of the first year students of Health College on AIDS, HBV and HCV. Journal of Clinical Practice and Research. 2006;28(3):125-133.
12. Demmer C. AIDS attitudes and attitudes toward caring for dying patients. Death Studies. 1999;23(5):433-42.
13. Yildirim D, Akman O, Sarikaya A. The Effect of COVID-19 Pandemic on Death Anxiety of Nursing Students. Psychiatria Danubina. 2021;33(suppl 13):399-404.

14. Abdel Wahed WY, Hefzy EM, Ahmed MI, Hamed NS. Assessment of knowledge, attitudes, and perception of health care workers regarding COVID-19, a cross-sectional study from Egypt. Journal of Community Health. 2020;45(6):1242-51.
15. Li Y, Scherer N, Felix L, Kuper H. Prevalence of depression, anxiety and post-traumatic stress disorder in health care workers during the COVID-19 pandemic: A systematic review and meta-analysis. PloS One. 2021;16(3):e0246454.
16. Turney S. Pearson correlation coefficient (r)| guide & examples. Retrieved from Scribbr: https://www scribbr com/statistics/pearson-correlation-coefficient. 2022.
17. Sögüt S, Dolu İ, Cangöl E. The relationship between COVID-19 knowledge levels and anxiety states of midwifery students during the outbreak: A cross-sectional web-based survey. Perspectives in Psychiatric Care. 2021;57(1):246.
18. Kanbay Y, Okanlı A. The effect of critical thinking education on nursing students' problem-solving skills. Contemporary Nurse. 2017;53(3):313-21.
19. George D. SPSS for Windows step by step: A simple study guide and reference, 17.0 update, 10/e: Pearson Education India; 2011.
20. Tabachnick BG, Fidell LS, Ullman JB. Using multivariate statistics: Pearson Boston, MA; 2013.
21. Rojas-Silva J, Damacen-Oblitas V, Castro-Gomez D, Rojas-Vega J, Barja-Ore J, Vila-Arevalo R, et al. Hospital practice in COVID-19 times: Perceptions of the midwifery interns in Peru. MedRxiv. 2020:2020.06. 05.20094482.
22. Altundağ Y. Fear of Covid-19 and Resillience during the Early Covid-19 Pandemic. EKEV Akademi Dergisi. 2021(85):499-516.
23. Arpacıoglu S, Baltalı Z, Ünübol B. Burnout, fear of Covid, depression, occupational satisfaction levels and related factors in healthcare professionals in the COVID-19 pandemic. Cukurova Medical Journal. 2021;46(1):88-100.
24. Yılmaz Çayır M, Uysal N. Determining the Fear of COVID-19 and the Level of Professional Commitment in Clinician Nurses Ordu University Journal of Nursing Studies. 2021;4(3):316-25.
25. Değirmen N, Akman Kılınç E, Kanan N. A Review On Covid-19 Phobies of Nursing Students. Abant Medical Journal. 2022;11(1):28-36.
26. Nguyen HC, Nguyen MH, Do BN, Tran CQ, Nguyen TT, Pham KM, et al. People with suspected COVID-19 symptoms were more likely depressed and had lower health-related quality of life: the potential benefit of health literacy. Journal of Clinical Medicine. 2020;9(4):965.
27. Bukhsh A, Hussain S, Rehman IU, Mallhi TH, Khan YH, Khaliel AM, et al. Awareness and perception of seasonal influenza (Flu) among health science and Non-Health science university students in Pakistan: A nationwide survey. Pak J Pharm Sci. 2019;32(4):1789-96.
28. Sevgi N, Tavşanlı Güngör N. The Effect of Covid-19 Pandemic on The Nursing and Midwifery Students' Perception of Fear and Control. Medical Sciences. 2021;16(2):141-50.