The impact of distance learning on the attitudes of nursing students: An online survey study

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ABSTRACT. The COVID-19 pandemic has led to the transition to distance education in nursing education. However, Nursing students are not accustomed to learning through distance learning.This research aimed to determine the effect of distance education method on the attitudes of nursing students towards the profession during the COVID-19 pandemic. This research was cross-sectional in design. Data were collected with an online survey about distance education and the nursing profession through Google Forms in November 2020 and June 2021 at the nursing department. The students' views on distance education were moderate (46.66±8.81), and their attitudes towards the nursing profession were good (86±13.86). There was no statistically significant relationship between scale scores. There was no statistically significant difference in terms of students' grade levels, graduating from a distance education institution before, taking courses through distance education before the COVID-19 pandemic and clinical practice before the pandemic, and their attitudes towards both distance education and the nursing profession. Our study shows that the distance learning method does not affect students' attitudes toward the nursing profession.

Keywords: COVID-19; distance education; nursing student; nursing education; online learning.

Introduction

COVID-19, a contagious disease, emerged in Wuhan in the last month of 2019, and it has become a global health problem by spreading from China to many countries in a short time. During the COVID-19 pandemic, these unexpected conditions have caused changes in several systems of countries, such as health, economy and transportation. The education system has been one of the most affected by COVID-19. With the implementation of the distance education system, the education in higher education has begun to be carried out remotely in the digital environment (Al Lily, Ismail, Abunasser, & Alhajhoj Alqahtani, 2020; Bergdahl & Nouri, 2021; Casacchia et al., 2021).

The distance education system has been used for a long time in some departments of higher education in Türkiye (Durak, Çankaya, & İzmirli, 2020). Furthermore, the concept of distance education in the teaching of the nursing profession has become apparent in recent years.Nursing is a profession that requires manual dexterity with multiple applications, such as administering medication, measuring the patient's vital signs, and providing care. For this reason, educators conduct face-to-face lectures, flipped training, role model applications, simulation studies, in-clinic training and orientation studies so that students can gain these skills. Moreover, the clinical practice is a significant part of nursing education and it is an essential practice that students must engage in in order to be prepared for the workforce (Metin Karaaslan, Çelik, Kurt, Yılmaz Yavuz, & Bektaş, 2022). Due to the fact that the educator did not have the opportunity to evaluate the student in this sense during COVID-19, and the student could not observe the educator and the real clinical environment, it is not exactly known to what extent the students gained these skills in the digital environment. This situation may cause students to feel incomplete in their future academic and professional lives, develop professional anxiety and develop negative attitudes towards the profession (Nabolsi, Abu-Moghli, Khalaf, Zumot, & Suliman, 2021; Metin Karaaslan et al., 2022;).

With COVID-19, there was a sudden and rapid transition to distance education in nursing education. Transitions can be facilitated or inhibited.Meanings, cultural beliefs and attitudes, socioeconomic status, preparation and knowledge, and community and societal conditions closely influence this process (Meleis,

Sawyer, Im, Hilfinger Messias, & Schumacher, 2000). Previous studies show that nursing students experience several technical problems in distance education (Mitchell, 2014; Kürtüncü & Kurt, 2020; Masha, Rababa, & Shahrour, 2020; Nabolsi et al., 2021; Terkeş & Yamaç, n.d.).These possible problems in distance education may cause students to experience more exam stress than usual. In a previous study, it has been found that distance education increased students' exam stress (Kürtüncü & Kurt, 2020). However, there is no study in the literature investigating the effect of the distance education system on the professional attitudes of nursing students. Determining the effect of distance education methods on the professional attitudes of nursing students can help nurse educators identify appropriate content for the curriculum, how to use more technology in the classroom, and how to make up for the fact that their students don't have enough clinical practice.

Research questions:

1. What is the level of nursing students' attitudes towards distance education?

2. Does the distance education method affect students' attitudes towards the nursing profession?

3. How does the distance education method affect students' attitudes towards the nursing profession?

This study aimed to determine whether the provision of education to students through distance education methods during the pandemic affects nursing students' attitudes to the profession.

Methodology

Objective and method

This study was descriptive and relational. The study adhered to the A Consensus-Based Checklist for Reporting of Survey Studies (CROSS) Checklist.

Population and sample

A total of 690 students from the Department of Nursing, Faculty of Health Sciences, Bolu Abant İzzet Baysal University, Türkiye, were enrolled in the present study for the academic year 2020-2021. The power of the study was calculated by G power analysis, and the power of the study was determined as 0.79 with an effect size of 0.19 and an error of 0.05. Purposive sampling was adopted in the study and was completed with the participation of 161 nursing students. The questionnaire and scale forms were distributed to the participating students via a link, and data collection was conducted exclusively online.

Data collection

Data were collected from November 2020 to June 2021 online survey hosted on Google forms. Students were invited to participate in the study by sending a research link. In order to prevent duplication in the data, it was allowed to enter the system only once with each e-mail address. The study did not include any students whose registration was suspended throughout the period of data collection.

Data collection tools

Researcher-made Questionnaire:The researcher-made questionnaire was divided in two parts aimed at collecting (1) socio-demographic data such as age, gender, level of education, and marital status, (2) Graduation from an associate degree or undergraduate program that provides distance education, previous clinical practice (yes=1, no=2).

Distance Educatıon Scale: It was developed by Yıldırım et al. in 2014. The scale, which consists of 18 items and four factors, has a 5-point Likert structure. The Distance Education Scale is composed of 18 items on a 5-point scale. Since the group in which the scale was developed is nursing students who completed their undergraduate education with distance education, it is a valid and reliable tool in determining the views of nursing students towards distance education. In the development study of the scale, the Chronbach's alpha reliability coefficient was 0.86, and the Cronbach's alpha reliability coefficient in this study was 0.75.

Attitude Scale for Nursing Profession (ASNP): Nursing Profession Attitude was assessed with ASNP, a 40-item Questionnaire with responses scored on a 1–5 Likert scale (1 = "Never", 5 = "I totally agree"). It was developed by İpek Çoban and Kaşıkçı in 2010. The scale consists of 40 items and three factors. The scale is Likert-type, each statement is coded as "strongly disagree" (1), "little agree" (2), "moderately agree" (3), "strongly agree" (4) and "strongly agree" (5). The Cronbach alpha reliability coefficient of the scale in this study was determined as 0.82.

Statistical analysis

All statistical analyses were performed using the SPSS software (IBM Corporation). Descriptive statistics were presented as mean ± standard deviation of continuous variables. Normality of distributions was assessed considering the values of skewness and kurtosis (−2, 5/+2,5 was the acceptable range of normality. Mean, standard deviation, minimum-maximum values and Cronbach's alpha were used to evaluate the scale scores. The relationship between the distance education scale and ASNP was evaluated with Pearson Correlation analysis.

Opinions towards distance education and attitudes towards the nursing profession according to socio-demographic variables were analyzed by t-test and/or ANOVA test in independent groups.

Ethics Statement

This study was conducted in accordance with the Declaration of Helsinki. Ethical permission to conduct the study was obtained from the Human Research Ethics Committee of Bolu Abant İzzet Baysal University (Ethical Approval number: 2020/222). Before the beginning of the research, the students were informed about the study and those who volunteered to participate in the study were included in the study.

Results

Demographic characteristics of participants

A total of 161 nursing students participated in the online survey. 88.2% of the students were female, and 37.9% of them were in their first year. The mean age of the students was 20.24± 1.70 years. 87.6% of the students have not graduated from a distance education institution before. % 0.9 of them took courses with distance education in the previous course period. About half of the students (47.2%) went into clinical practice before the COVID-19 (Table 1).

Table 1. Demographic characteristics of participants.

Variables		N	%
Age		20.24± 1.70	
Gender	Female	142	88.2
	Male	19	11.8
Academic year	First year	61	37.9
	Second year	29	18.0
	Third year	48	29.8
	Fourth year	23	14.3
History of graduated from a distance learning institution	Yes	20	12.4
	No	141	87.6
History of pre-pandemic clinical practice	Yes	76	47.2
	No	85	52.8
History of taking lessons through distance education before the COVID-19	Yes	111	68.9
	No	50	31.1

Participants' views on distance education and attitudes toward nursing profession

The mean score of the students' opinion scale towards distance education was 46.66±8. 81 and the Chronbach's alpha value of the internal consistency coefficient of the scale was .75. The sub-dimension values of the scale were respectively 14.84±6.36 (α=.92), efficacy 9.29±4.60 (α=.92), teaching 16.86±3.50 (α=.85), predisposition 5.68±2.0. It is 35 (α=.75). The mean score of the students' attitude scale towards the nursing profession was 165. 86±13.86 and the internal consistency coefficient of the scale was Chronbach's alpha value of .87. The sub-dimension values of the scale were respectively; characteristics of the nursing profession 80.93±6.89 (α=.85), preferring the nursing profession 50.38±6.92 (α=.80), the general status of the nursing profession 34.55±2.82 (α=.34). Since the internal consistency coefficient of the general condition of the nursing profession sub-dimension was below the required value (.70), this dimension of the scale was not taken into consideration (Table 2).

Correlation between Distance Education and ASNP

The relationship between students' views on distance education and their attitudes towards the nursing profession was evaluated with Pearson Correlation analysis. There was a weak negative but statistically

insignificant relationship between the view towards distance education and the ASNP; p>.05. However, there was a negative and weak relationship between the effectiveness dimension (r=-.19) of the view towards distance education scale and the ASNP. It was determined that there was a negative but moderate statistically significant relationship between the predisposition dimensionof the view towards distance education scale (r=-.34) and ASNP (Table 3).

Table 2. The mean Dıstance Educatıon and ASNP scales scores of the nursing students.

Dıstance Educatıon	M±SD	Min-Max.	Item	Cronbach's α
Personal Compliance	14.84±6.36		6	0.92
Effectiveness	9.29±4.60		5	0.92
Tutorial	16.86±3.50		4	0.85
Predisposition	5.68±2.35		3	0.75
Total	46.66±8.81		18	0.75
ASNP	Mean±sd.	Min-Max.	Item	Cronbach's α
Properties of nursing profession	80.93±6.89		18	0.85
Preference to nursing profession	50.38±6.92		13	0.80
General position of nursing profession	34.55±2.82		9	0.34
Total	165.86±13.86		40	0.87

M=Mean, Max.= Maximum, Min= Minumum, SD= Standard Deviation

Table 3. Correlation between Dıstance Educatıon and ASNP.

Variables	M	SD	1	2	3	4	5	6	7	8	9
1. Distance Education Total	46.66	8.81	---								
2.Personal suitability	14.84	6.36	-.901*	--							
3. Effectiveness	9.29	4.60	.754**	.714**	--						
4. Tutorial	16.86	3.50	-.372**	-.574**	-.715**	--					
5. Predisposition	5.68	2.35	.390**	.130	.006	.065	---				
6. Properties of nursing profession	80.93	6.89	-.158*	-.077	-.209**	.209**	-.284**	---			
7. Preference to nursing profession	50.38	6.92	-.108	-.070	-.108	.218**	-.327**	.518**	----		
8. General position of nursing profession	34.55	2.82	-.063	-.037	-.138	.209**	-.175*	.551**	.462**	---	
9. Total	165.86	13.86	-.145	-.081	-.186*	.255**	-.340**	.868**	.850**	.708**	---

Pearson Correlation analysis results. *=p<0.01, **=p<0.05, M= Mean, SD= Standart Deviation.

Opinion towards distance education and attitude towards the nursing profession according to socio-demographic variables

The students' views towards distance education and their attitudes towards the nursing profession according to socio-demographic variables were analyzed by Independent Groups t-test and Anova variance test. According to the t-test in independent groups, the mean score of the male students' opinion scale towards distance education was statistically significantly higher than the mean score of the female students, t (159) = 2.127, p<.05, d= .19. However, there was no significant difference between genders in attitudes towards the nursing profession, p>0.05. There was no statistically significant difference in terms of students' grade levels, graduating from a distance education institution before, taking courses through distance education before the COVID-19and clinical practice before the COVID-19 , and their attitudes towards both distance education andattitude towards thenursing profession, p >0.05 (Table 4).

Table 4. Opinion towards distance education and attitude towards the nursing profession according to socio-demographic variables

Variables	Distance Education				ASNP		
	N	M	SD		M	SD	
Gender							
Female	142	46.44	8.63	T=2.127* P=0.035	166.70	13.38	T=-0.869 P=0.386
Male	19	48.32	10.14	d=0.19	159.58	16.05	
Academic year							
First year	61	47.66	9.14	F= 1.370	162.48	15.33	F= 2.265
Second year	29	43.76	7.36	P=0.254	169.48	11.98	P=0.083
Third year	48	46.83	9.04		167.88	13.09	
Fourth year	23	46.66	8.88		165.86	13.86	
History of graduated from a distance learning institution							
Yes	20	45.65	10.59	T=-0.452	164.55	18.18	T=-0.549

No	141	46.81	8.56	P=0.652	166.04	13.21	P=0.584
History of pre-pandemic clinical practice							
Yes	76	47.62	8.90	T=1.302	167.13	13.45	T= 1.098
No	85	45.81	8.69	P=0.195	164.73	14.20	P= 0.274
History of taking lessons through distance education before the pandemic							
Yes	111	46.80	8.65	T=0.294	166.49	13.74	T=0.849
No	50	46.36	9.25	P=0.770	164.48	14.17	P=0.397

d= Cohen's D, F= One Way Anova, M= Mean, p=0.05 , SD= Standart Deviation, T= Independent Sample T-test

Discussion

In the present study, we examined the effect of the distance education method applied during the COVID-19 process on the attitudes of nursing students towards the profession. Our data showed that there was no significant relationship between the students' views on distance education and their attitudes towards the nursing profession. Furthermore, we observed that the attitudes of the students towards distance education are at a moderate level, which is consistent with previous studies. Previous studies have reported that distance education is not as effective as face-to-face education in nursing students, and students think that distance education is not suitable for nursing education and basic applied nursing skills (Keskin Kızıltepe & Kurtgöz, 2020; Özkan, Taylan, & İLaslan, 2021; Terzi, Azizoğlu, & Özhan, 2021). Hence, it is possible that the participants in our study do not have a favourable perception of remote education.In comparison to previous research, the mean scores of the students who took part in our study with regard to the nursing profession were greater (Çeçen, Lafçi, & Yildiz, 2020; Seval & Sönmez, 2020). In a previous study,it was reported that ASNP scores were higher in female and 2nd-grade students (Çeçen et al., 2020). However, regarding gender and grade level, attitudes toward the profession remained unchanged in our research. Nurses worked with devotion during the COVID-19 pandemic, and they were effective in the recovery of patients. This may have been effective in increasing the attitudes of the students towards the profession.Our opinion is supported by the results of the study examining the professional motivation of nursing students during the pandemic.It was found in the study that the motivation of the students increased with the prestige of the nursing profession (Taş & Dalcali, 2021).

Our study provides important information on the impact of distance education on the professional attitudes of nursing students. However, there are some limitations emerge from the study's design. The major limitation of the present study is that the sample size is relatively small because it was conducted with one nursing department student. Therefore, the results could not be generalized to all nursing students.

It is observed that the distance education method, which was implemented quickly due to COVID-19, does not contribute to the professionalism of nursing students. Moreover, our data reveals that a variety of distance education methods for nursing students are needed. Simulation-based apps and the use of animation and gamification have the potential to enhance the professionalism of nursing students (Inangil, Dincer, & Kabuk, 2022). In addition, special training should be given to educators who will provide distance education (Chang, Chung, & Yang, 2022).

Conclusion

Consequently, our data revealedthat there was no significant relationship between students' views on distance education and their attitudes toward the nursing profession. Additionally, we demonstrated that attitudes toward the nursing profession were positively correlated with the teaching dimension but negatively correlated with the efficacy and disposition dimensions of the view toward distant education.Considering the data mentioned above, we suggest that it is crucial to evaluate the factors affecting the professional professionalism of nurses and to carry out comprehensive interventions or qualitative research that includes the development of distance education strategies.

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