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Opinions and Attitudes of Nursing Students Towards Distance Education During the COVID-19 Pandemic

Seda Cevheroğlu[1], Sevinç Taştan[2], Seda Sümer Dalkıran[3]

[1]Department of Nursing, İstanbul University-Cerrahpaşa, Florence Nightingale Faculty of Nursing, İstanbul, Türkiye
[2]Department of Nursing, Eastern Mediterranean University Faculty of Health Sciences, Famagusta, North Cyprus
[3]Department of Midwifery, University of Health Sciences Turkey, Hamidiye Faculty of Health Sciences, İstanbul, Türkiye

Abstract

BACKGROUND/AIMS: This study aimed to determine the opinions and attitudes of nursing students towards distance education during the coronavirus disease-19 (COVID-19) pandemic.

MATERIALS AND METHODS: This research was designed as a descriptive study. Two hundred ten students of a nursing department of a private university in the Turkish Republic of Northern Cyprus, who received distance education in the spring semester of 2019-2020 academic year due to the COVID-19 pandemic, constituted the sample of this study. The participants were asked to complete an online survey which included a descriptive information form, an Opinions on Distance Education Scale (ODES) and an Attitude Scale towards Distance Education (ASDE).

RESULTS: The mean age of the participants was 21.62±1.90 and 55.7% used their mobile phone to participate in distance education. The mean internet use was 6.58±0.27 hours per day and 74.4% had internet access problems. The mean scores obtained from the ODES and ASDE were 45.50±0.77 and 95.74±2.15, respectively. There was a positive and moderate correlation between the mean ODES and ASDE scores.

CONCLUSION: The findings of this study imply that lectures with lab and clinical practice are not appropriate for distance education and so any missed lab or clinical practice might be compensated for via face-to-face education after the COVID-19 pandemic ends.

Keywords: Distance education, nursing students, attitudes, opinions

INTRODUCTION

The World Health Organization declared a global pandemic on the 11th of March, 2020 as coronavirus disease-19 (COVID-19) had been spreading globally since late December, 2019. Since then, various measures to prevent the spread of this disease were taken in different sectors, including education.[1] Most countries temporarily closed down educational institutions, including, pre-schools, schools and universities.[2,3] In line with these global measures, the Ministry of Education and Culture in the Turkish Republic of North Cyprus (TRNC) decided to temporarily close down all educational institutions as the first COVID-19 case was reported in the country on the 10th of March, 2019.[4] Similarly, after the first COVID-19 case was announced, on the 11th of March, 2020, the Turkish government first decided to suspend face-to-face education starting on the 16th of March, 2020, which was followed by the decision to temporarily close all educational institutions on the 25th of March, 2020.[5] During this period, some of the universities and colleges in different countries decided to postpone the spring semester of the 2019-2020 academic year, whereas others decided to use distance education.[2,6] The Council of Higher Education (CoHE), the primary institution responsible for all higher education institutions in Türkiye and the TRNC, decided to continue the spring term of the 2019-2020 academic year via distance education.[5,7] Universities in the TRNC complied with the decision of the CoHE on distance education so that university students could graduate on time.[8]

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ORCID IDs of the authors: S.C 0000-0002-4671-3095; S.T. 0000-0002-1647-6965; S.S.D. 0000-0001-5758-6514.

Address for Correspondence: Seda Cevheroğlu
E-mail: seda.cevheroglu@emu.edu.tr
ORCID ID: orcid.org/0000-0002-4671-3095

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Distance education is an education system in which students and lecturers are not in the same physical environment but they can simultaneously or sequentially communicate for educational purposes.[9] This education system is frequently used in today's world parallel to the advances in communication and information technologies and the increasing importance of life-long learning.[10] Although distance education has been a widely used method of learning during the COVID-19 pandemic, its roots in nursing education can be dated back to the 1960s.[11,12] In Türkiye, the first associate degree program of nursing which used the distance education method was initiated in 1993 but it was only in 2009 that the graduates of these programs were granted the right to complete a bachelor's degree.[12] However, the global pandemic resulted in the temporary replacement of face-to-face learning by distance education.[12,13] Developments in internet technologies and their use in education enabled students to learn by themselves and provided a more flexible and individualized learning environment, which, in turn, resulted in more positive attitudes towards online education. In addition, distance education has several positive aspects, including lower costs than face-to-face learning and having better access to various sources of information in a relatively short time and to a geographically widespread population.[14] Despite these positive aspects, technical problems, communication deficiency, affective inadequacies, and problems with educational materials may have negative effects on the opinions and attitudes of students towards distance education.[15]

Attitude is defined by the Oxford Learner's Dictionaries as "the way that you think and feel about someone or something". As a positive or negative reaction towards a person or an object, attitude is an important factor which influences the efficiency of learning.[16] The success and effectiveness of distance education depends on the attitudes and opinions towards this education system. The attitude of an individual towards distance education is closely related with their success in learning. That is, people with positive attitudes towards distance education are more likely to have successful learning outcomes.[17] Developing positive attitudes towards distance education, on the other hand, depends on determining the opinions and feelings of the students towards this education method. Additionally, determining the opinions and attitudes of students towards distance education helps scholars to reveal the factors which lead to negative perceptions and to set up the learning environment in order to minimize these negative perceptions.[16] Consequently, this study aimed to reveal the opinions and attitudes of nursing students towards distance education during the COVID-19 pandemic. An analysis of the literature on distance education in nursing revealed that distance education had positive effects on the cognitive and psychomotor skills of nursing students,[18,19] and did not significantly differ from face-to-face learning.[20,21] Studies on distance education in nursing during the COVID-19 pandemic found, on the other hand, that student satisfaction was moderate or lower, and students experienced internet access problems or felt insufficient in terms of clinical practices.[13,22,23] In contrast to other studies, this study aimed to evaluate both the opinions of the nursing students and their attitudes towards online education.

MATERIALS AND METHODS

The Purpose of This Study

This descriptive study was conducted on nursing students who were enrolled in the department of nursing of a private university in the TRNC who received distance education during the spring semester of the 2019-2020 academic year.

The research questions included the following:

- What were the opinions of the nursing students on distance education during the COVID-19 pandemic?

- What were the attitudes of the nursing students towards distance education during the COVID-19 pandemic?

Participants

Two hundred and ten students in the second, third and fourth years of the nursing department constituted the study population of this study. Voluntary nursing students at the age of 18 or above, who were enrolled in the nursing department and who received distance education during the spring semester of the 2019-2020 academic year, were included in this study. The criteria for exclusion were the students' decision not to participate or being under the age of 18.

Data Collection Tools

We used a descriptive information form (11 items), the Opinions on Distance Education Scale (ODES) (18 items) and the Attitude Scale towards Distance Education (ASDE) (35 items) for data collection. The participants were asked to sign into the Moodle software, which was used to access distance education, and to complete the online survey. The first part of the survey provided information about the researchers and the aims of the research and included a statement regarding informed consent.

Descriptive Information Form

This form was developed by the researchers using the relevant literature.[24] It includes 11 questions on age, gender, class, computer and internet skills and the internet access of the participants.

Opinions on Distance Education Scale (ODES)

Developed by Yıldırım et al.[25], ODES is composed of 18 items which measure four dimensions of opinions on distance education, namely: personal suitability, effectiveness, instructiveness and familiarity, by using a five-point Likert scale, ranging from "strongly disagree" (1 point) to "strongly agree" (5 points). The maximum scores which can be obtained from the personal suitability, effectiveness, instructiveness and familiarity subscales are 30, 25, 20 and 15, respectively. The minimum and maximum scores which can be obtained range from 5 to 90. The Cronbach's alpha of the scale in the original study and in our study were 0.864 and 0.758, respectively.[25]

Attitude Scale towards Distance Education

Developed by Kışla, the ASDE has 35 items which are scored on a five-point Likert scale. The total scores can range between 35 and 175 points, with higher scores indicating positive attitudes towards distance education. The Cronbach's alpha of the scale in the original study and our study were 0.89 and 0.955, respectively.[10]

Data Collection

Following the preparation of the online survey, we asked for the permission of the academicians who had lectures with the 2nd, 3rd and 4th year students to conduct our study before their online course. After obtaining permission, we informed the students about the aims and the scope of the research and its voluntary nature. We then asked them to complete the online survey before the start of their courses via Moodle-

Microsoft Teams software. After obtaining their informed consent, the students were given 15 minutes to complete the survey.

We obtained permission from the Ethical Commission of the Eastern Mediterranean University where this study was conducted (approval number: ETK 00-2020- 0245) and institutional permission from the head of the department of nursing. All participants were informed before the study and their consent was obtained.

Statistical Analysis

SPSS 22.0 (SPSS Inc.; Chicago, IL, USA) was used for the statistical analysis of collected data. The Kolmogorov-Smirnov test was used to evaluate normality. The Mann-Whitney U and Kruskal-Wallis tests were used for data without normal distribution. Spearman's correlation analysis was used to evaluate the relationship between the age of the participants, the personal suitability, effectiveness, instructiveness and familiarity subscales of the ODES and the mean ODES and ASDE scores. Statistical significance was set at $p<0.05$.

RESULTS

Table 1 presents the findings on the descriptive characteristics of the participants and the relationship between their descriptive characteristics and the mean ASDE scores. This study was conducted on 210 nursing students who received distance education during the COVID-19 pandemic. Their mean age was 21.62±1.90. 62.1% had personal computers and 55.7% used mobile phones to participate in distance education. 52.7% had a moderate level of computer skills and 27.8% had moderate internet skills. Daily internet use was 7 hours or above for 38.9% of the participants and their mean internet use was 6.58±0.27 hours per day. 74.4% had internet access problems.

The mean ASDE scores of the participants aged 23 years or above (112.00±33.41) were statistically significantly higher than for those students aged 20 years or below (86.81±27.26) and between 21 and 22 years of age (93.19±27.69) ($p<0.001$). We did not find any statistically significant relationship between class standing, gender, the ownership of personal computer, the type of distance learning device, internet skills, daily internet use or the mean ASDE scores ($p>0.05$). The mean ASDE score of the participants with advanced computer skills (120.38±36.31) was significantly higher than for those participants with low (101.33±31.49), moderate (91.24±28.37) and high levels of computer skills (97.04±31.70) ($p<0.001$). Finally, the mean ASDE scores of the participants without internet access problems (108.40±32.65) was significantly higher than for those students with internet access problems (91.39±28.66) ($p<0.001$).

Table 2 shows the mean ODES and ASDE scores of the participants. The mean ODES score was 45.50±0.77. The mean scores obtained from personal suitability, effectiveness, instructiveness and familiarity subscales of ODES were 14.59±0.51, 10.16±0.41, 15.07±0.36 and 5.70±0.21, respectively. Finally, the mean ASDE score of the participants was 95.74±2.15.

Table 3 evaluates the relationship between the ODES scores and the descriptive characteristics of the participants. There was a statistically significant relationship between age, mean ODES scores and the scores obtained from the personal suitability, effectiveness, and instructiveness subscales of the ODES ($p<0.001$). In other words, the positive opinions of nursing students on distance education increased in parallel with their increase in age. Additionally, the relationship between gender and the instructiveness subscale of ODES was statistically significant ($p<0.021$). That is, female students considered distance education as more instructive, however, there was no significant relationship between gender, mean ODES scores and the other subscales of ODES ($p>0.05$). We found a statistically significant relationship between the computer skills of the participants and the mean scores obtained from the effectiveness ($p<0.033$) and instructiveness ($p<0.042$) subscales of the ODES. Students with advanced (16.38±7.27) and high (15.73±4.52) levels of computer skills had more positive opinions on the effectiveness of distance education. Regarding the relationship between internet access problems and their ODES scores, we found that students without internet access problems obtained significantly higher scores from the ODES (47.60±10.42; $p<0.023$) and its subscales of personal suitability (16.98±7.95; $p<0.009$) and effectiveness (12.69±6.41; $p<0.001$). On the other hand, there was a significant relationship between the instructiveness (15.69±4.78; $p<0.007$) and familiarity (6.05±3.10; $p<0.003$) scores of the participants with internet access problems. Although not shown in the table, no statistically significant relationship was found between the ASDE scores and some introductory student characteristics.

Table 4 shows the correlation between the mean ODES and ASDE scores of the nursing students. We found a moderate and positive correlation between their mean ASDE and ODES scores ($r= 0.491$; $p<0.001$). In this sense, higher ASDE scores of the participants correlated with higher scores obtained from the ODES.

DISCUSSION

Sufficient technological infrastructure is required for the effective participation of university students in distance education.[26,27] Within this context, Zan and Umut[27] analyzed the technological capabilities of students during the COVID-19 pandemic and found that 60.25% of the students had computers or tables but 40.3% had internet connection problems. The study of Li et al.[23] reported self-discipline, frequency to access the internet, support and help from the university and the use of course resources as the facilitators to improve success in the online education of nursing students. Our findings were also consistent with the literature. At this point, the 6 GB package provided by the CoHE to university students was an important institutional support.[28] However, in addition to internet, the need of university students to have computers or tablets might be met by the state or university-sponsored campaigns. In order to cope with internet access problems during synchronous lectures, we recommend that videos and lecture notes be shared before the lecture.[29]

Keskin and Özer Kaya[30] found that the mean internet use of university students increased from 2.98±2.12 hours to 5.27±2.98 hours per day after the COVID-19 pandemic. Armstrong-Mensah et al.[31] also found that daily internet use of university students increased to 4 hours during the COVID-19 pandemic. In our study, the mean internet use of the nursing students was 6.58±0.27 per day. These findings imply that daily internet use may have increased due to the transition to distance education during the COVID-19 pandemic. Various studies which analyzed the skills of using computers and other communication technologies found that university students had moderate or high levels of computer skills.[32-34] Similar to our study, university students in the studies of Düşünceli et al.[26], Abbasi et al.[24] and Karakuş et al.[35] had moderate computer skills. On the other hand, we found that most

of our students had internet access problems and used mobile phones for their distance education. The studies of Düşünceli et al.[26] and Abbasi et al.[24] had similar findings. Consequently, measures to reduce the negative effects of internet outages on distance education, such as asynchronous video lectures, might be taken.

During the COVID-19 pandemic, universities used distance education as a rapid response to cope with the crisis.[30,36] Due to the rapid pace of the transition to distance education, the number of studies on the opinions and attitudes of university students towards this new method of learning is limited.[36] Our study, which aimed to fill this gap, found that the opinions and attitudes of nursing students towards distance education was negative in general. Additionally, we found a positive relationship between the opinions on and attitudes towards distance education. In other words, students with positive opinions on distance education had also positive attitudes towards this education method. There were a number of studies on the opinions on and attitudes towards distance education in the literature. Altuntaş Yılmaz found that attitudes of physiotherapy and rehabilitation students towards distance education during the COVID-19 pandemic were positive.[37] Ali

Table 1. Descriptive characteristics of the participants and the relationship between the scale

Variables	Mean	SD	Total scale score		
Age	21.62	1.90			
Daily internet usage time	6.58	0.27			
	Number	Percentage	Mean (SD)	Test X^2/Z	p
Age group					
20 years and below	69	34.0	86.81±27.26	19.68	0.001
21-22 years	83	40.9	93.19±27.69		
23 years and above	51	25.1	112.00±33.41		
Gender					
Male	71	35	97.89±33.23	0.618	0.537
Female	132	65	94.60±29.11		
Class					
2nd class	71	35	90.45±32.13	4.65	0.098
3rd class	78	38.4	95.83±25.46		
4th class	54	26.6	102.59±34.23		
Owning a computer					
Yes	127	62.6	98.37±31.67	-1.406	0.160
No	76	37.4	91.45±28.35		
Device used in distance education					
Desktop computer	14	6.9	109.57±34.90	2.778	0.249
Laptop	76	37.4	95.51±31.33		
Mobile phone	113	55.7	94.19±39.33		
Computer skills					
Low level	40	19.7	101.33±31.49	8.615	0.035
Moderate level	107	52.7	91.24±28.37		
High level	48	23.6	97.04±31.70		
Advanced level	8	3.9	120.38±36.31		
Internet skills					
Low level	15	7.4	100.33±26.17	3.763	0.288
Moderate level	97	47.8	94.81±30.09		
High level	78	38.4	93.37±30.07		
Advanced level	13	6.4	111.69±39.23		
Daily internet usage time					
3 hours or below	48	23.6	92.77±28.98	2.099	0.350
4-6 hours	76	37.4	100.07±33.52		
7 hours or above	79	38.9	93.41±28.36		
Internet access status					
Hassle-free	52	25.6	108.40±32.65	-3.378	0.001
Problematic	151	74.4	91.39±28.66		

Z: Mann-Whitney U test, X^2: Kruskal-Wallis H test

et al.[38] found a favorable attitude towards e-learning among nursing students. Similarly, Balaman[39] found that vocational school students had positive perspectives on web-based distance education. In contrast to these, other studies reported negative findings. Nursing education, which depends on psychomotor skills, requires lab courses and clinical practices during the undergraduate studies.[40] Especially, existing studies on students of nursing and medicine during the COVID-19 pandemic showed that the students mostly preferred face-to-face learning and believed that distance education was insufficient in terms of lab courses and clinical practices.[24,30,40] Similarly, the university students in the study of Karakuş et al.[35] had negative opinions on distance education. In regards to this negative side, nursing students experienced difficulties in understanding applied courses[13] and expressed that distance education was not suitable for nursing practice and consequently for the department of nursing.[8,40] Based on these findings, we may suggest that measures to prevent infection from COVID-19 might be taken in order to start applied courses as soon as possible. Additionally, students might be informed that so any missed lab or clinical practice might be compensated for via in-person education at a convenient future date. Another reason for the negative opinions and attitudes of university students towards distance education may be related with the lack of necessary internet and communication infrastructure. Additionally, students may not be suited to distance education and may consider it as an ineffective method of learning. Students of health sciences are especially more anxious regarding distance education since they receive online applied courses. In order to overcome this problem, methods other than online courses might be preferred for applied courses and online courses should be supplemented with virtual simulation practice. Simulation in nursing has become one of the alternative methods of learning in nursing education due to the possible restrictions caused by pandemics, such as the COVID-19 pandemic. Simulation programs helps nursing students to analyze clinical cases, plan nursing care and evaluate their own performance.[29] Additionally, we believe that these educations might be complemented with face-to-face courses in order to reach program learning outcomes.

Determining students' opinions and attitudes towards distance education is crucial in order to reveal the factors which may lead to negative perceptions, to make necessary interventions to change these perceptions and to properly design the learning environment.[16] The analysis of the relationship between the descriptive characteristics of nursing students and their attitudes towards distance education in various studies revealed the importance of gender.[34,41,42] This study, which aimed to determine the opinions and attitudes of nursing students towards distance education during the COVID-19 pandemic, found that the mean age of the participants was 21.62±1.90 years and most of them were female. Our findings were consistent with the findings of other studies on nursing students.[8,40,43] Unlike these studies, gender in our study was not an important factor which influenced the attitudes and opinions of the participants. Regarding gender, we only found that female nursing students considered distance education as being more instructive. Additionally, we found that increasing age correlated with more positive opinions and attitudes towards distance education. Similarly, the students in the study of Düşünceli et al.[26] generally considered distance education as being a more effective learning method as their ages increased. In our study, older students considered distance education as personally more suitable, effective and instructive.

Sustaining effective distance education without interruption depends on the computer skills of the students and their access to the internet. In our study, those participants without internet access problems had more positive opinions on and attitudes towards distance education. These students also considered distance education as a personally suitable and effective learning method. On the other hand, those participants with internet access problems considered distance education as an instructive and familiar method. The study of Barış[44] found that university students without internet access problems had positive attitudes towards distance education. We also found that participants with advanced computer skills had more positive attitudes towards distance education and considered it as an effective learning method. Additionally, those participants with high and moderate levels of computer skills believed that distance education was instructive. Ateş and Altun[45] evaluated the effects of various factors on the attitudes towards distance education and found that experience of computer use and perceived computer skills significantly influenced attitudes towards distance education. Therefore, before starting distance education, students might receive courses to improve their computer skills regarding how to use the software for distance education. These courses may contribute to positive opinions and attitudes towards distance education.

Study Limitations

The main limitation of this study was related with the fact that it was conducted on nursing students from a single university. Therefore, our findings may not reflect the opinions and attitudes of all nursing students towards distance education.

CONCLUSION

The opinions and attitudes of nursing students towards distance education in our study was generally negative. These opinions and attitudes improved as the age of students increased, their internet access

Table 2. Opinions on distance education scale and attitude scale towards distance education mean scores of the participants

	Mean (SD)	Min.-max. points
Opinion scale for distance education		
Personal suitability	14.59±0.51	1-30
Effectiveness	10.16±0.41	1-25
Instructiveness	15.07±0.36	1-20
Familiarity	5.70±0.21	1-15
Total score average	45.50±0.77	5-90
Attitude scale towards distance education		
Total score average	95.74±2.15	35-175

SD: Standard deviation, min: Minimum, max: Maximum

Table 3. Relationship between opinions on distance education scale scores and descriptive characteristics of the participants					
	Scale score averages				
	Personal suitability	Effectiveness	Teaching	Predisposition	Total score average
Age					
20 years and below	12.29±5.37	8.04±3.75	16.80±4.18	6.25±3.14	43.38±8.63
21-22 years	13.61±6.80	9.32±5.18	15.25±4.86	5.30±2.82	46.49±10.62
23 years and above	19.29±8.39	14.37±7.12	12.43±5.76	5.57±2.95	51.67±11.98
X^2	21.98	27.89	20.69	4.64	19.65
p	0.001	0.001	0.001	0.098	0.001
Gender					
Male	15.03±8.08	10.92±6.62	13.86±5.56	5.96±3.24	45.76±12.53
Female	14.36±6.91	9.75±5.40	15.71±4.81	5.55±2.83	45.37±9.99
Z	-0.056	-0.825	-2.310	-0.779	-0.243
p	0.955	0.409	0.021	0.436	0.808
Class					
2nd class	13.61±7.09	9.41±5.35	15.82±4.82	5.80±3.44	44.64±9.22
3rd class	13.83±6.68	9.54±5.44	15.44±5.07	5.91±2.87	44.72±11.90
4th class	14.60±8.10	12.04±6.76	13.56±5.43	5.22±2.41	44.78±11.36
X^2	5.81	5.05	5.73	1.58	3.59
p	0.055	0.080	0.057	0.453	0.166
Owning a computer					
Yes	14.85±7.36	10.18±5.78	14.87±5.20	5.58±2.77	45.48±10.94
No	14.17±7.30	10.12±6.06	15.40±5.07	5.87±3.30	45.56±10.96
Z	-0.704	-0.495	-0.654	-0.083	-0.286
p	0.481	0.621	0.513	0.934	0.775
Device used in distance education					
Desktop computer	17.07±8.77	12.36±7.23	14.64±5.60	5.71±3.56	49.79±12.93
Laptop	14.62±6.80	9.96±5.56	14.88±5.02	5.46±2.63	44.92±10.68
Mobile phone	14.27±7.49	10.02±5.90	15.25±5.21	5.84±3.14	45.37±10.80
X^2	1.826	1.815	0.402	0.600	1.612
p	0.401	0.403	0.818	0.741	0.447
Computer skills					
Low level	14.08±7.77	10.08±6.04	14.20±5.61	6.40±3.51	44.75±13.49
Moderate level	14.17±7.04	9.52±5.55	15.49±5.00	5.77±2.85	44.94±10.21
High level	15.04±7.15	10.60±5.74	15.73±4.52	5.23±2.85	46.60±10.23
Advanced level	20.13±8.87	16.38±7.27	9.88±5.62	3.88±1.46	50.25±10.22
X^2	4.121	8.767	8.199	7.184	2.497
p	0.249	0.033	0.042	0.066	0.476
Internet use skill					
Low level	13.47±7.28	9.33±5.52	12.73±5.81	6.33±3.24	41.87±16.90
Moderate level	14.56±7.24	9.95±5.68	15.39±5.02	6.16±3.17	46.06±10.20
High level	14.67±7.31	10.18±5.99	15.55±5.00	5.14±2.63	45.54±10.64
Advanced level	15.69±8.78	12.54±6.70	12.46±5.22	4.69±2.66	45.38±3.79
X^2	0.405	2.487	7.546	7.197	1.310
p	0.939	0.478	0.056	0.066	0.727
Daily internet usage time					
3 hours or below	13.75±6.56	9.06±4.02	14.38±4.45	5.17±2.30	42.35±9.86
4-6 hours	15.77±7.94	11.14±6.30	14.63±5.12	5.86±3.31	47.41±10.73
7 hours or above	13.96±7.10	9.87±5.84	15.91±4.93	5.85±3.00	45.59±11.39
X^2	2.057	3.040	3.519	0.441	5.079
p	0.358	0.219	0.172	0.802	0.079
Internet access status					
Hassle-free	16.98±7.95	12.69±6.41	13.27±5.75	4.65±2.31	47.60±10.42
Problematic	13.77±6.94	9.28±5.42	15.69±4.78	6.05±3.10	44.79±11.26
Z	-2.626	-3.749	-2.694	-2.928	-2.271
p	0.009	0.001	0.007	0.003	0.023
Z: Mann-Whitney U test, X^2:Kruskal-Wallis H test					

Table 4. Correlation between mean opinions on distance education scale and attitude scale towards distance education scores of the nursing students

		Opinion scale for distance education average	Attitude towards distance education scale average score
Opinion scale for distance education average	r	-	0.491(*)
	p		0.001
Attitude towards distance education scale average score	r	0.491(**)	-
	p	0.001	

*Correlation is significant at the 0.05 level (2-tailed), **Correlation is significant at the 0.01 level (2-tailed).

problems decreased and they had higher computer skills. Consequently, in case of the possible extension of distance education in universities due to the COVID-19 pandemic, universities or the government might provide unlimited internet access to university students and initiate programs to increase their computer skills. Asynchronous lectures might be used as an alternative to synchronous lectures in case of internet access problems. In such cases, flipped classroom, lecture videos or discussion platforms may be used to gain access to resources prior to the course. Additionally, the content of applied courses might be enriched and learning methods, such as, virtual reality platforms, digital game-based learning or video-based learning could be used to improve the skills of the students. Given that the course and the length of pandemic is currently unknown, universities might prepare emergency plans in order to cope with possible developments. Curriculum or course plans might be revised in order to compensate for the lab courses and clinical practices postponed due to COVID-19 pandemic, with face-to-face courses once the universities have reopened.

MAIN POINTS

- The opinions and attitudes of nursing students towards distance education in our study was generally negative.
- These opinions and attitudes improved as the age of students increased, their internet access problems decreased and when they had higher computer skills.
- Curriculum or course plans might be revised in order to compensate for lab courses and clinical practices postponed due to the COVID-19 pandemic with face-to-face courses once the universities have reopened.

ETHICS

Ethics Committee Approval: We obtained permission from the Ethical Commission of the Eastern Mediterranean University where this study was conducted (approval number: ETK 00-2020-0245) and institutional permission from the head of the department of nursing.

Informed Consent: All participants were informed before the study and their consent was obtained.

Peer-review: Externally peer-reviewed

Authorship Contributions

Concept: S.C., S.T., S.S.D., Design: S.C., S.T., S.S.D., Data Collection and/or Processing: S.C., S.T., S.S.D., Literature Search: S.C., S.T., S.S.D., Writing: S.C., S.T., S.S.D.

DISCLOSURES

Conflict of Interest: No conflict of interest was declared by the authors.

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