

## **Problems experienced by nursing students in clinical training during the COVID-19 pandemic: a descriptive study**

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**A** - Conception and study design; **B** - Collection of data; **C** - Data analysis; **D** - Writing the paper; **E** - Review article; **F** - Approval of the final version of the article; **G** - Other (please specify)\

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### **ABSTRACT**

**Objective:** In this study, the attitudes of nursing students towards Covid-19 disease and the problems they experienced in the clinical learning environment during the pandemic were examined.

**Material and Methods:** The research was a descriptive study. The population of the research is 2nd-3rd-4th-year students (n=264) studying at the nursing school who clinical placement during the pandemic. Data was collected online at the end of the clinical placement period (August 1-30,2021) using the "Student Information Form", "Questionnaire Form for Identifying Problems in Clinical Practice" and "Multidimensional Covid-19 Scale". Number and percentage calculation, t-test and one-way analysis of variance were used in data analysis.

**Results:** It was determined that the students got high scores from the Multidimensional Covid-19 Scale (Mean=79.44±16.87). Mean scores were high for

students who had lost their families due to COVID-19; who were worried about their patients having COVID-19; and who were directed to the care of COVID-infected patients without adequate protective equipment. The difference was statistically significant ( $p<0.05$ ). The most common problems students experienced were related to fear of making mistakes and harming patients (61.7%), fear of being infected with Covid-19 (61.7%), fear that patient has Covid-19 (60.6%), and feelings of inadequacy about entering clinical practice (58.7%).

**Conclusions:** To prepare nursing students for emergencies related to the pandemic and manage similar future situations, nursing schools and hospitals should collaborate to develop strategies and coping mechanisms.

**Keywords:** Clinical placement; Covid-19; Student experience; Nursing students.

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Received: 31.08.2022

Accepted: 11.11.2022

Progress in Health Sciences

Vol. 12(2) 2022 pp 20-28

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## **INTRODUCTION**

As coronavirus disease (Covid-19) increasingly threatened human health all over the world, the World Health Organization (WHO) declared a state of pandemic; this occurred on March 11, 2020 [1].

In April 2020, the Council Higher Education (CoHE) in Turkey [2] recommended that senior students in nursing programs continue their applied education in the academic spring term, and enter clinical training in the summer term. Given the uncertainty of the process, it was not clear that the clinical training would in fact take place in the summer term; as a result, 140 nursing undergraduate programs in Turkey, 99 at state universities and 41 at foundation universities, began developing new strategies for the upcoming education period as appropriate to their institutions [3]. In the nursing school where the present study was conducted, only fourth-year students graduated in the spring semester of 2020 by completing their clinical practice in intensive care units and other clinics. Although students in other classes placed in the clinics in the fall and spring semesters of the 2020-2021 academic year. For this reason, students were placed in hospitals again in the summer term to complete their missing clinical applications. Although some studies in the literature have stated that senior nursing students started working in hospitals to fill the nurse shortage during the pandemic [4–6]. Students in clinics did come into contact with suspected Covid-19 cases, patients who later tested positive.

The clinical learning environment (CLE) permits students to practice their nursing skills [7], within a complex and challenging multi-dimensional process [8]. It is highly stressful environment for nursing students worldwide [9]. A systematic review and meta-synthesis revealed that student nurses in the clinical learning environment, face challenges arising from the existing clinical care culture, personal factors, planning and organization (10). While nursing students have always described clinical placement as quite stressful under normal conditions [11,12], the difficulties caused by the Covid-19 pandemic have compounded this situation; nursing students are among those that faced the most difficulties due to their clinical applied courses [5,13,14]. Most studies in the literature surround the clinical experiences of fourth-year nursing students during the pandemic, and research states that although students saw COVID-infected patient care as an opportunity to learn, they felt vulnerable due to lack of equipment and precarious working conditions and experienced anxiety about what awaited them, their colleagues, and their families (5, 14, 15). These studies found that students did not feel adequately prepared for clinical learning and were afraid of being infected and infecting their families with COVID-19 (5, 16). Fear of infection has caused

high levels of stress and anxiety, especially in nursing students working in intensive care units with Covid-infected patients [15,17,18]. There are one study in Turkey examining the difficulties faced by nursing students placed clinical in hospitals, especially during the period of intense pandemic restrictions. In the study conducted with senior nursing students, 62.1% of the students did not want to do clinical practice during the pandemic, and 78.2% stated that they were concerned about having problems with COVID-19 infection during clinical practices [19]. Understanding students' experiences under the unique circumstances of the Covid-19 pandemic and the fact that nursing schools gain insight about students' clinical experience are the key factor that can help develop better responses in future healthcare crises [7,14]. This research provides data on how students generally experience clinical placement during the Covid-19 pandemic period and can give an idea about the precautions to be taken by nursing educators by noticing these negative experiences of students. Therefore, his study aimed to determine the problems experienced by nursing students who clinical placement during the Covid-19 pandemic.

## **MATERIALS AND METHODS**

This research was planned as a cross-sectional and descriptive study. The STROBE guideline was used during the writing of the article [20].

The study was carried out in the nursing school of a foundation university in Istanbul (Turkey). The population of the study consisted of a total of 300 2<sup>nd</sup>-, 3<sup>rd</sup>- and 4<sup>th</sup>-year nursing students who placed in clinics during the Covid-19 pandemic, only 264 (88%) students volunteered to participate in the study (n=88 2<sup>nd</sup>-year, n=101 3<sup>rd</sup>-year, n=75 4<sup>th</sup>-year students). First-year nursing students were not included in the study because they did not participate in clinical learning. The students were placed in the internal medicine and surgical clinics, obstetrics and pediatrics clinics, intensive care units and emergency services of six state hospitals.

### **Measurement tools**

The data of the study were collected with the "Student Information Form", "Questionnaire Form for Identifying Problems in Clinical Practice" and "Multidimensional Covid-19 Scale". The Student Information Form consists of 9 questions targeting some sociodemographic characteristics of the students, as well collecting information about feeling competent for clinical applications, having Covid-19 disease and getting vaccinated.

The Questionnaire Form for Identifying Problems in Clinical Practice was prepared making use of studies in the literature examining problems experienced by students in clinics [10,21,22]. In our

form, the problems experienced by the students in the clinics were organized under five dimensions: students, trainers, nurses, patients and problems related to the field of practice. The pilot application of the questionnaire was performed with 10 volunteer students from each class and the final version of the form was created.

The Multidimensional Covid-19 Scale was developed by Durak and Ertürk in 2020 and consists of a total of 22 five-point likert type items (1=Strongly Disagree, 5=Strongly Agree). The scale consists of three sub-dimensions: "Feelings and behaviors related to Covid-19", "Thoughts about Covid-19" and "Precautions taken related to Covid-19". For the calculation of item scores, only item 11 is reverse-coded. The Cronbach alpha reliability coefficients of the scale were 0.90 for the total score, 0.88 for the feelings and behaviors related to Covid-19 sub-dimension, 0.77 for the thoughts about Covid-19 sub-dimension, and 0.75 for the precautions taken related to Covid-19 sub-dimension [23]. Questionnaire forms used in data collection were recorded on the "Google-Forms" web site. An invitation link was sent to students' social media accounts (WhatsApp) for form completion. Data was collected between 1-30 August 2021.

#### Data Analysis

Statistical Package for Social Sciences (SPSS) version 20 was used for data analysis. The demographic characteristics of the students and the distribution of the problems they experienced in the

clinics were given as numbers and percentages. Independent Sample t-test, One-Way Analysis of Variance was used for the scores obtained from the Covid-19 scale and the differences between the groups according to some characteristics of the scores obtained. All statistical analyzes were considered significant at  $p < 0.05$ .

#### Ethical approval:

Permission was obtained from the "Non-Interventional Research Ethics Committee" (Date: 28.05.2021 Decision No: 05/39) of university where the study was implemented.

All procedures performed in studies involving human participants were in accordance with the institutional and/or national research committee's ethical standards and with the Helsinki Declaration and its later amendments or comparable ethical standards.

## RESULTS

The mean age of the students participating in the study was  $22.56 \pm 2.85$  years; 80% were female and 17.8% were graduates of healthcare vocational high schools. Only 36.7% felt ready to clinical placement. It was determined that 24.6% of the students had Covid-19 infection, 45.1% were vaccinated against Covid-19, and 23.1% had lost their family members or relatives due to Covid-19 (Table 1).

**Table 1.** Demographic characteristics of students (n=264)

Demographic characteristics		X	SD
Age (Mean ± SD)		22.56	2.85
		n	%
Gender	Female	211	80.0
	Male	53	20.0
Year	2nd Year	88	33.3
	3rd Year	101	38.3
	4th Year	75	28.4
High School Graduated from	Health Vocational High School	47	17.8
	Other	217	82.2
Feeling Ready for Clinical Placemet	Yes	97	36.7
	Partially	42	15.9
	No	125	47.3
Tested for Covid-19	Yes	161	61.0
	No	103	39.0
Having Covid-19 Infection	Yes	65	24.6
	No	199	75.4
Vaccinated against Covid-19	Yes	119	45.1
	No	145	54.9
Loss of Family/Relatives Due to Covid-19	Yes	61	23.1
	No	203	76.9

SD: Standard Deviation

The main problems experienced by students in the study related to their personal fears of making

mistakes and being infected with Covid-19 (61.7%), that the patient they care for has Covid-19 (60.6%)

and that they themselves are inadequate for clinical placement (58.7%). Students said patients did not trust student nurses (59.8%) and rejected student nurses (41.7%). CLE-related problems included

insufficient dressing rooms (68.6%), too many students (43.6%) and insufficient protective equipment (31.1%) in the clinics (Table 2).

**Table 2.** Problems experienced by students clinical placement during the Covid-19 pandemic (n=264)

Problems	Those experiencing problems		Those not experiencing problems	
	n	%	n	%
<b>Student-related problems</b>				
Fearing of making mistakes and harming the patient	163	61.7	101	38.3
Fearing of being infected with Covid-19	163	61.7	101	38.3
Fearing that the patient they care for has Covid-19	160	60.6	104	39.4
Feeling inadequate for clinical placement	155	58.7	109	41.3
Difficulty communicating with the patient	55	20.8	209	79.2
Difficulty in collecting data	85	32.2	179	67.8
Difficulty in making a care plan	64	24.2	200	75.8
Fear of the unconscious patients	29	11.0	235	89.0
Fear of grades/failure	90	34.1	174	65.9
<b>Trainer-related problems</b>				
Having a judgmental attitude	46	17.4	218	82.6
Discrimination against students	27	10.2	237	89.8
Lack of guidance/coaching support	119	45.0	145	55.0
<b>Nurse-related problems</b>				
Not valuing students	83	31.4	181	68.6
Putting pressure	47	17.8	217	82.2
Making requests to do non-nursing jobs	80	30.3	184	69.7
Directing the student to the care of patients with suspected Covid-19 patients	40	15.2	224	84.8
Lack of willingness to teach	86	32.6	178	67.4
<b>Patient-related problems</b>				
Distrust of student nurses	158	59.8	106	40.2
Finding male nurses strange	32	12.1	232	87.9
Not wanting the student nurses	110	41.7	154	58.3
<b>Problems related to CLE</b>				
Too many students in clinics	115	43.6	149	56.4
Lack of adequate protective equipment in clinics	82	31.1	182	68.9
Failure to provide information about suspected Covid-19 patients	72	27.3	192	72.7
Lack of learning opportunities	103	39.0	161	61.0
Performing skills not yet learned	48	18.2	216	81.8
Not enough dressing rooms	181	68.6	83	31.4
Being alienated by other healthcare staff	25	9.5	239	90.5

CLE: Clinical Learning Environment

The frequency of the problems experienced by the clinic students was found to be higher in the 2nd-year students. 86.4% of 2nd-year students are afraid of being infected Covid-19, 63.6% are afraid that the patient they care for has Covid-19; these frequencies do not differ statistically from the problems seen in other classes ( $p > 0.05$ ). But more than other students 2nd-year students showed data collection problems (45.5%), fears surrounding poor grades/failure (17.0%), fears they were receiving inadequate support/guidance/coaching from teaching staff (89.8%) between this class and other classes was statistically significant ( $p < 0.05$ ). Meanwhile only 6.8% of 2nd-year students believed

they were assigned patients with suspected COVID-19 status, a rate lower than in other classes and statistically significant ( $p < 0.05$ ) (Table 3).

Students' Multidimensional COVID-19 Scale total mean score was calculated as  $79.12 \pm 16.39$  (Min: 28–Max: 102). The mean score of the sub-dimension “Feelings and Behaviors related to COVID-19” was  $30.26 \pm 7.60$  (Min: 10–Max: 45), the mean score of the sub-dimension “Thoughts about COVID-19” was  $29.38 \pm 5.56$  (Min: 12–Max: 36) and the mean score of the sub-dimension “Precautions taken related to COVID-19” was  $19.68 \pm 4.91$  (Min: 5–Max: 25). The total scale mean score of the students with family losses due to Covid-19 was

calculated as 84.45±17.18, of those who were afraid of being infected with Covid-19 was calculated as 81.71±17.51, of those who were afraid that the patients they care for has Covid-19 was calculated as 81.93±16.67, of those who were directed by nurses to the care of Covid-infected patients was calculated as 87.45±12.84. In addition, the total scale mean score was calculated as 80.73±16.21 for those who had difficulty in communicating with the patients

and as 86.60±14.50 for those who stated that they were not given adequate protective equipment in the clinics, and it was determined that the difference in scores was statistically significant compared to those who did not have this problem (p<0.05). Again, it scores of students in the same group from the sub-dimensions of the scale were also high and the difference was found to be statistically significant (p<0.05) (Table 4).

**Table 3.** Problems experienced by students clinical placement during the Covid-19 pandemic according to the years of their academic study (n=264)

Problems	2nd-year		3rd-year		4th-year		Test value X <sup>2</sup> / p
	Yes (%)	No (%)	Yes (%)	No (%)	Yes (%)	No (%)	
<b>Student-related problems</b>							
Fearing of making mistakes and harming the patient	65.9	34.1	59.4	40.6	60.0	40.0	.977 / .614
Feeling inadequate for clinical practice	62.4	37.6	60.0	40.0	53.4	46.6	1.632 / .442
Difficulty communicating with the patient	26.7	73.3	22.7	77.3	14.9	85.1	3.930 / .140
Difficulty in collecting data	<b>45.5</b>	54.5	24.8	75.2	26.7	73.3	<b>10.700 / .005</b>
Difficulty in making a care plan	29.3	70.7	25.7	74.3	18.2	81.8	2.942 / .230
Fear of the unconscious patients	12.5	87.5	10.9	89.1	9.3	90.7	.417 / .812
Fearing that the patient they care for has Covid-19	63.6	36.4	60.4	39.6	57.3	42.7	.677 / .713
Fearing of being infected with Covid-19	86.4	13.6	75.5	24.5	70.7	29.3	2.762 / .315
Fear of grades/failure	<b>17.0</b>	83.0	39.6	60.4	46.7	53.3	<b>18.024 / .000</b>
<b>Trainer-related problems</b>							
Having a judgmental attitude	10.2	89.8	19.8	80.2	22.7	77.3	4.997 / .082
Discrimination against students	4.5	95.5	11.9	88.1	14.7	85.3	5.005 / .082
Lack of guidance/coaching support	<b>89.8</b>	10.2	57.4	37.1	14.7	85.3	<b>92.848 / .000</b>
<b>Nurse-related problems</b>							
Not valuing students	17.0	83.0	35.6	64.4	42.7	57.3	<b>13.673 / .001</b>
Putting pressure	10.2	89.8	19.8	80.2	24.0	76.0	5.695 / .058
Making requests to do non-nursing jobs	15.9	84.1	34.7	65.3	41.3	58.7	<b>13.858 / .001</b>
Directing the student to the care of patients with suspected Covid-19	<b>6.8</b>	<b>93.2</b>	18.8	81.2	20.0	80.0	<b>7.178 / .028</b>
Lack of willingness to teach	40.5	59.5	37.6	62.4	41.3	58.7	1.833 / .412
<b>Patient-related problems</b>							
Distrust of student nurses	70.2	29.8	67.3	32.7	69.3	30.7	3.588 / .478
Finding male nurses strange	5.0	95.0	6.0	94.0	4.0	96.0	5.875 / .576
Not wanting the student nurses	<b>52.0</b>	48.0	30.5	69.5	27.3	72.7	<b>11.781 / .003</b>
<b>Problems related to CLE</b>							
Too many students in clinics	54.5	45.5	46.5	53.5	57.3	42.7	.867 / .523
Lack of adequate protective equipment in clinics	35.5	64.5	32.7	67.3	40.0	60.0	.607 / .676
Failure to provide information about suspected Covid-19 patients	19.3	80.7	28.7	71.3	34.7	65.3	4.980 / .083
Lack of learning opportunities	35.2	64.8	40.6	59.4	41.3	58.7	.806 / .668
Performing skills not yet learned	12.5	87.5	18.8	81.2	24.0	76.0	3.643 / .162
Not enough dressing rooms	75.5	24.5	75.2	24.8	78.7	21.3	2.655 / .324
Being alienated by other healthcare staff	4.5	95.5	10.9	89.1	13.3	86.7	4.033 / .133

Bold numbers: Statistically significant.

**Table 4.** Comparison of Multidimensional Covid-19 Scale Scores according to students' socio-demographic information and problems they experience in clinics

		Total Scale Score		Feelings and Behaviors Related to Covid-19		Thoughts About Covid-19		Precautions Against Covid-19	
		X	SD	X	SD	X	SD	X	SD
<b>Scores Obtained from the Scale</b>		79.12	16.39	30.26	7.60	29.38	5.56	19.68	4.91
<b>Demographic Information</b>									
Losing someone from the family due to Covid-19	Yes	84.45	17.28	32.78	8.22	31.14	5.91	21.01	0.54
	No	77.94	16.49	29.50	7.26	29.16	5.62	19.29	0.35
Test Value		t= 2.676 <b>p= .008</b>		t=3.001 <b>p= .003</b>		t= 2.461 <b>p= .015</b>		t= 2.425 <b>p= .016</b>	
<b>Problems experienced in the clinical practice</b>									
Being afraid of being infected with Covid-19	Yes	81.71	17.51	31.54	7.88	29.88	5.77	20.28	4.99
	No	75.78	15.16	28.18	6.66	28.87	5.59	18.72	4.65
Test Value		t= 2.814 <b>p= .005</b>		t= 3.562 <b>p= .000</b>		t= 1.401 <b>p= .162</b>		t= 2.539 <b>p= .012</b>	
Being afraid that the patients they care for has Covid-19	Yes	81.93	16.67	31.40	7.54	31.29	5.70	20.23	4.70
	No	75.62	16.54	28.50	7.41	28.26	5.53	18.84	5.14
Test Value		t= 3.012 <b>p= .003</b>		t= 3.064 <b>p= .002</b>		t= 2.350 <b>p= .013</b>		t= 2.263 <b>p= .024</b>	
Being directed by nurses to the care of Covid-infected patients	Yes	87,45	12,84	32,95	8,21	32,45	3,36	22,05	2,20
	No	78,01	17,13	29,78	8,21	28,96	5,89	19,26	5,14
Test Value		t= 3,317 <b>p= .001</b>		t= 2,449 <b>p= .015</b>		t= 3.629 <b>p= .000</b>		t= 3,359 <b>p= .001</b>	
Having difficulty communicating with the patient	Yes	80.73	16.21	30.77	7.56	29.87	5.41	20.08	4.59
	No	74.56	18.53	28.32	7.54	28.05	6.59	18.18	5.78
Test Value		t= -2.434 <b>p= .016</b>		t= -2.133 <b>p= .034</b>		t= -2.116 <b>p= .035</b>		t= -2.582 <b>p= .010</b>	
Being given inadequate protective equipment in the clinics	Yes	86.60	14.50	33.79	6.93	32.14	4.17	20.74	3.94
	No	76.43	16.98	28.67	7.37	28.48	5.74	19.21	5.24
Test Value		t= 4.704 <b>p= .000</b>		t= 5.318 <b>p= .000</b>		t= 5.180 <b>p= .000</b>		t= 2.358 <b>p= .019</b>	

t= Independent Sample t test X: Arithmetic Mean SD: Standard Deviation Bold numbers: Statistically Significant.

## DISCUSSION

### Problems related to individual characteristics of students

In our study, the personal problems that students experience include the fear of making mistakes, the fear of being infected with Covid-19, the fear that the patient they care for has Covid-19, and feeling inadequate for clinical practice, respectively. Although not all of the students participating in the study were directly placed in clinics with Covid-19 infected patients, the high score obtained from the Multidimensional Covid-19 Scale indicates that the fear of being infected with the Covid-19 is also high. Especially those who have lost their family members due to Covid-19, who are

afraid of being infected while working in clinics and that the patient they care for will get Covid-19 has a very high score on the Multidimensional Covid-19 Scale. According to the data obtained by Eweida et al. [25] with the Middle East Respiratory Syndrome Covid-19 Staff Questionnaire, it has been determined that the probability of catching Covid-19 infection from patients and infecting families is the most stressful factor for nursing students. In one study with senior nursing students in our country, the Covid-19 fear level of students during clinical practice was found to be moderate [19].

Due to the pandemic, the students participating in the study could not complete some of the nursing skills laboratory studies face-to-face, and instead theoretical lessons were held in the form of distance education. This made students feel

inadequate for clinical practice. The lack of personal protective equipment in the clinics, the high student numbers, and the inadequacy of the clinical physical conditions triggered fears in students of being infected with the virus, intensifying their feelings of lacking skills. The fact that students do not have sufficient knowledge of clinical skills and do not feel ready causes low self-confidence and fear of making mistakes [24]. It is known that under normal conditions, nursing students experience fear of making mistakes and harming the patients in clinics [11,26,27]. However, the fear of being unprepared for the harsh conditions caused by the pandemic, of being infected with the Covid-19 disease and of infecting their loved ones compound these problems. While the students saw their clinical experience during the pandemic period as a learning opportunity, they also stated that they had a more difficult, insecure and stressful experience than normal, intense feelings of uncertainty and fear included [5,14,28]. Studies have stated that being unprepared for the harsh conditions of the pandemic, lack of knowledge and skills in professional practice, and fear of facing difficult situations beyond their capacity are factors that cause feelings of inadequacy [14,25,28].

#### **Problems related to the teaching staff**

In our study, the majority of the students evaluated the teaching staff's attitude positively. It was determined that 2nd- year students needed educational support more because of their low clinical experience and professional knowledge. However, they did not receive this support. The high number of students for whom the teaching staff was responsible (one instructor per 15-20 students) and the fact that the students were in different clinics hindered adequate counseling. Some of the teaching staff did not go to the clinic from time to time due to the fear of Covid-19, leaving the students under the supervision of nurses. While the support received from clinical and academic staff and peers in clinical practices supports the adaptation process of nursing students during clinical placement, their negative attitudes are an important source of stress [11,26,29]. The lack of clinical expertise of trainers, their lack of feedback, and the disproportion between the number of students and the teaching staff are stated as problems in clinical education. Students who need more support, especially during the Covid-19 pandemic period, have stated that they sometimes work alone without anyone to support them [5], they have less learning opportunities and they need more supervisor support [7].

#### **Problems related to the nurses**

Nearly half the 4th-year students in our study stated that nurses did not value them, were reluctant to guide students, and wanted to use the students for non-nursing tasks; some students stated that they

were directed to the care of Covid-infected or suspected Covid patients. The scores of the students who stated that they were directed to the care of Covid-infected patients from the Multidimensional Covid-19 Scale were quite high. In particular, the negative attitude shown to senior students by nurses may cause students to become alienated from the profession and even leave the profession [10,21,24].

The pandemic period caused intense stress for both nurses and nursing students, they had to adapt to new protocols, their workload and intensity increased a lot [25,30]. This limited the time of nurses to guide students [28]. In the studies conducted, students drew attention to the lack of supervision or less supervision than normal [5], and stated that they were not included in the team, and expressed that they experienced lack of information and integration [7]. In some studies, however, students made a strong connection with the team and felt like a member of the team [14,28].

#### **Problems related to patients**

In our study, although the rate was low, some students reported that the patients did not trust the students and rejected them. Students who stated that they had difficulty in communicating with patients scored high on the Multidimensional Covid-19 Scale. Due to infection risks, patients were generally isolated in their rooms, visitors were not allowed, and very few personnel were in contact with patients. Covid-19 patients and healthcare teams did not consider it appropriate for students to be sent into patient rooms. Ewida et al. stated that students reduced their contact with Covid-infected patients due to fear of being infected and workload, and this was due to the fact that students were not mentally ready to deal with critical situations [25]. Nevertheless, patients and their relatives valued the work of students and nurses and expressed their gratitude [14].

#### **Problems related to the clinical learning environment**

Students often experienced problems due to the inadequacy of dressing rooms in clinics, the presence of too many students, lack of sufficient protective equipment and limited learning opportunities. Students who stated that they were not provided with adequate protective equipment in the clinics scored quite high on the Multidimensional Covid-19 Scale. Large numbers of students in clinics is a major challenge for clinical teaching and learning [11,26].

This situation causes nurses and teaching staff to interact with students and the time allocated to students is less [22].

In studies conducted during the pandemic period have stated that students complained about poor working conditions, lack of equipment and having to re-use and re-wear the same personal

protective equipment many times, leading to fears of being infected [5,7,15].

One of the important findings of this study is that students stated that they had less learning opportunities during the pandemic period. In one study, students stated that they could not practice some technical nursing skills due to insufficient support by their teachers and fewer learning opportunities, and they feared that the pandemic period would have an impact on their competencies [7]. Nursing students' efforts to cope with the difficult conditions of the pandemic on top of the unfamiliar environment of the clinic and the difficulties of working with unfamiliar healthcare team members have negatively affected learning.

## LIMITATIONS

There are limitations to this study. First, since it was conducted only with nursing students studying at a nursing school, the results and conclusions of this study cannot be generalized to the whole population. The aim was not to generalize the results, but to encourage reflection on the clinical implications of nursing education during the pandemic. Another limitation of this study is that the majority of the students participating in the study went to their clinical practice without being vaccinated because they were included in the vaccination program late. This may have affected the results since measurements and assessments of fears and feelings were based on student self-reporting.

## CONCLUSIONS AND SUGGESTIONS

Nursing students have experienced many problems during clinical placements in the Covid-19 pandemic. Developing educational strategies to consider, prevent and manage the problems experienced by students during clinical practice is highly important for nursing schools. Supportive measures are necessary, such as accessible online support applications and academic and clinical counseling for students and reaching out to students who are less likely to seek help. Hospitals and nursing schools should cooperate to give adequate attention to the health and well-being of students and identify strategies for improvement. Hospitals should consider the presence of students while procuring supplies, provide personal protective equipment, and nursing schools should monitor students' vaccination status and establish the necessary protocols for vaccines for students.

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## Conflict of interest

The authors declare they have no conflict of interest.

## Financial Disclosure/Funding

This study did not receive any funding

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