



Self-confidence and Anxiety Levels of Nursing Students in the Decision-Making Process Related to Surgical Patient Care in the COVID-19 Pandemic

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Received 2023 April 05; Revised 2023 June 24; Accepted 2023 June 28.

Abstract

Background: The self-confidence and anxiety levels of nursing students in making clinical decisions about patient care are important.

Objectives: This study aimed to determine the anxiety and self-confidence of nursing students in the clinical decision-making process during the COVID-19 pandemic.

Methods: This descriptive and correlational study was conducted on nursing students in the spring semester of the 2021-2022 academic year at a state university in Turkey during the pandemic period. The research was carried out on 382 students who voluntarily participated. Data was collected using the Introductory Information Form and the Nursing Anxiety and Self-confidence with Clinical Decision-Making Scale (NASC-CDM). The SPSS software version 21.0 was used for data analysis. Independent samples *t*-test and Mann-Whitney U test were used to compare the data of the two groups. In addition, the data were compared between more than two groups by one-way ANOVA and Kruskal Wallis-H test.

Results: We observed that 77.72% of the participants were female, with a mean age of 21.120 ± 1.118 years, and 70.7% were third-year students. More than half of the students reported that preventive measures against COVID-19 were taken sufficiently in surgical clinics. It was found that the mean self-confidence score was 113.68 ± 26.18 (range: 27.00 - 162.00), and the mean anxiety score was 65.53 ± 27.37 (range: 27.00 - 162.00). There was a statistically significant difference between the scale score mean and the characteristics of the students, such as class level, the reason for choosing the department of nursing, the desire for graduate education, COVID-19 history, fear of contracting COVID-19, follow-up of surgical patients with positive COVID-19 test ($P < 0.05$).

Conclusions: Despite the COVID-19 pandemic, it was found that nursing students' self-confidence levels were high, and their anxiety levels were low.

Keywords: Anxiety, COVID-19, Nursing Students, Clinical Decision-Making, Self-confidence

1. Background

Healthcare professionals must continuously develop learning, problem-solving, and clinical decision-making skills simultaneously due to the rapidly changing and developing nature of healthcare technology and needs (1). Clinical decision-making is a complex cognitive process that involves inquiry, observation, analysis, interpretation, evaluation, communication, and experience (2). In nursing, decision-making involves a holistic approach to patients' physical, psychological, and social problems with appropriate nursing care (3). In today's nursing care practices, important and critical decisions are made in clinics, directly affecting patient safety and care

outcomes (2). Therefore, nursing education is important for developing problem-solving and decision-making skills and integrating these skills into clinical practice after graduation (4).

The clinical decision-making skills of nursing students are influenced by various factors, such as knowledge, practice, experience, confidence, communication with healthcare personnel and patients, and understanding of clinical processes. Among these factors, self-confidence and anxiety are the most important (2, 5). Anxiety could adversely affect students' quality of life, education, and clinical practice (6). During the COVID-19 pandemic, education and training were suspended for a while,

and students started distance education. In Turkey, most universities suspended face-to-face education and switched to distance education based on the Internet and technology. In this process, students experienced problems in social, financial, and psychological dimensions and their educational lives (7). A study reported that nursing students experienced anxiety during the COVID-19 pandemic due to diverse reasons, such as economic problems, fear of infection, difficulties with remote education, and lack of personal protective equipment. The prevalence of moderate and severe anxiety among nursing students was reported to be 42.8% and 13.1%, respectively (8). Another study revealed that the most common symptoms reported by nursing students during the COVID-19 process were difficulty concentrating (90%) and feeling anxious or distressed (84%). Most students expressed concern about themselves, a friend, or relatives getting infected with COVID-19. In addition, 62% of students reported difficulty coping with academic workload, and 56% expressed concerns about school performance (9). During the COVID-19 pandemic, it was determined that the mental state of individuals was negatively affected as 28.79% showed symptoms of stress, 45.45% anxiety, and 22.73% depression (10). It has been reported that although the number of cases has decreased over time, individuals continue to experience anxiety related to COVID-19 (11).

It was demonstrated that the COVID-19 pandemic reduced self-confidence in clinical decision-making among senior nursing students. Their inability to practice in the hospital during the pandemic negatively affected their anxiety and self-confidence in clinical decision-making and their motivation to start their profession (12). In a study, it was stated that the pandemic period negatively influenced the educational life of students, and they were unhappy. They could not get enough efficiency from the theory, and practical courses were given by distance education during the pandemic. It was shown that they could not gain professional knowledge and skills, causing them to lack self-confidence and experience intense anxiety about finding a job (13).

It is known that students' clinical decision-making skills improve with clinical experience at every stage of education. It has been stated that nursing students perceive clinical decision-making as a complex conceptual process. At the same time, clinical decision-making was found to be related to knowledge and experience (14). Anxiety and self-confidence issues in clinical decision-making skills in the learning environment may affect nursing students. As a result, the study was planned to determine the effect of the COVID-19 pandemic on the self-confidence and anxiety levels of nursing students'

decision-making process related to surgical patient care.

2. Objectives

The aim of this study was to assess the anxiety and self-confidence of nursing students in the clinical decision-making process during the COVID-19 pandemic.

3. Methods

3.1. Design and Setting

This descriptive cross-sectional study aimed to evaluate the self-confidence and anxiety levels of nursing students regarding the decision-making process related to surgical patient care. The study was conducted on students in the spring semester of the 2021 - 2022 academic year at the Faculty of Health Sciences, Department of Nursing of a state university in Turkey.

3.2. Participants

The study population consisted of nursing students participating in clinical practice in the spring semester of the 2021 - 2022 academic year. The sampling method in this study was convenience sampling. The research was conducted on second-, third-, and fourth-year nursing students with surgical clinical practice experience who agreed to participate. First-year students were excluded from the study as they had not yet begun clinical practice. The inclusion criteria were (1) students who had completed their clinical practice in surgical clinics during the pandemic and afterward and (2) students who agreed to participate in the study.

3.3. Data Collection Tools

The Introductory Information Form, which contains questions about the student's characteristics, was developed by researchers through a literature review (2-8). In addition, the Nursing Clinical Decision-Making Self-confidence and Anxiety Scale (NAS-CDM) was used in the study.

3.3.1. Introductory Information Form

This form includes 15 questions, 11 of which are related to descriptive characteristics (e.g., gender, age, class level, and chronic illness), and four are related to COVID-19 situations.

3.3.2. Nursing Anxiety and Self-confidence with Clinical Decision-Making Scale

The Nursing Anxiety and Self-confidence with Clinical Decision-Making Scale (NASC-CDM) was developed by White in 2011 (5), and its Turkish validity and reliability were established by Bektaş et al. in 2017 (15). The self-confidence dimension of the scale was found to have a Cronbach's alpha of 0.97, and the anxiety dimension had a Cronbach's alpha of 0.969. In this study, the self-confidence dimension of the scale was found to have a Cronbach's alpha of 0.946, and the anxiety dimension had a Cronbach's alpha of 0.967. This scale evaluates the anxiety and self-confidence of nursing students in clinical decision-making. Separate scores for self-confidence and anxiety are obtained from 27 questions. The scale consists of three sub-dimensions for both the self-confidence and anxiety sections: "using resources and listening carefully to obtain information (13 questions)", "using available information to identify the problem (7 questions)", and "knowing and taking action (7 questions)". It is a six-point Likert scale. An increase in scores obtained from the self-confidence and sub-dimensions indicates a rise in students' self-confidence levels in clinical decision-making. High scores obtained from the anxiety section and sub-dimensions indicate high anxiety levels in clinical decision-making. The lowest possible score, obtained from the self-confidence and anxiety sections, is 27, and the highest is 162. According to the cumulative percent distribution calculated by SPSS, the scale cut-off points were determined as 27 - 94 low and 95 - 162 high.

3.4. Data Collection

The research was conducted on volunteer students put into practice in surgical clinics during and after the pandemic in the spring semester of 2021 - 2022. The data were collected from these students after the purpose of the study was explained to them, and verbal and written consent was obtained from them. The students received an explanation about the questionnaire form and were expected to complete it within an average of 10 minutes during their break after class.

3.5. Ethical Consideration

To conduct the research, academic board permission from the Faculty of Health Sciences, ethical permission from Erciyes University Social and Human Sciences Ethics Committee (2022/154), and institutional permission from the Faculty of Health Sciences were obtained. In addition, informed consent was obtained from the nursing students included in the study, and ethical principles were followed at every stage.

3.6. Statistical Analysis

For the statistical analysis of the data, SPSS 21.0 (Statistical Package for Social Science) package program was used. Descriptive statistics were examined, such as arithmetic mean, standard deviation, kurtosis, and skewness. Descriptive statistics were presented as unit number (n) and percentage (%). The data were evaluated at the level of significance $P < 0.05$ with a 95% confidence interval. A normality test (One-sample Kolmogorov Smirnov) was performed to determine whether the data were normally distributed. Independent samples *t*-test and Mann-Whitney U Test were used to compare the data of the two groups. One-way analysis of variance (ANOVA) and the Kruskal Wallis-H test were used to compare the data of more than two groups.

4. Results

The research was conducted on 382 nursing students who volunteered to participate. Descriptive data related to nursing students are given in Table 1. We found that 77.72% of the participants were female, and their mean age was 21.12 ± 1.118 years. Our analysis showed that 73% of the students graduated from Anatolian high schools, 70.7% were in the third year, and 50.5% stayed in student dormitories. The high school graduation average grade category of the students was similar, with 44.8% graduating with a very good degree, and it was found that most of them were among the top ten preferences. Most students did not work anywhere, more than half came to the department of their own will, and 56.3% wanted to pursue postgraduate education. Almost all the participants had no chronic illness, and 58.5% had no COVID-19 history. It was found that 49.2% of the students were not afraid of catching the COVID-19 virus, 61.5% did not follow surgical patients who tested positive for COVID-19, and 48.4% stated that the preventive measures against COVID-19 in surgical clinics were partially sufficient.

The mean score of the self-confidence dimension was 113.68 ± 26.18 . The mean scores of the subdimensions "Using resources to obtain information and listening carefully," "Using available information to identify the problem," and "Knowing and taking action" were 128 ± 54.68 , 28.93 ± 7.11 , and 30.06 ± 6.98 , respectively. The mean score of the anxiety dimension was 65.53 ± 27.37 . The mean score of the subdimension "Using resources to obtain information and listening carefully" was 31.56 ± 13.64 , "Using available information to identify the problem" was 17.59 ± 8.28 , and "Knowing and taking action" was 16.38 ± 7.22 , respectively (Table 2).

Table 1. Descriptive Characteristics of the Students (n = 382)^a

Descriptive Characteristics	Values
Gender	
Female	297 (77.7)
Male	85 (22.3)
Age	21.120 ± 1.118
Graduated high school	
Science high school	35 (9.2)
Anatolian high school	279 (73.0)
Vocational high school/high school	68 (17.8)
Class level	
2	44 (11.5)
3	270 (70.7)
4	68 (17.8)
Grade point average	
1 - 2.00	194 (50.8)
2 - 4.00	188 (49.2)
Preference order for the nursing profession	
1 - 10	298 (78.0)
11 - 20	74 (19.4)
21 - 30	10 (2.6)
High school graduation average	
Moderate	127 (33.2)
Good	84 (22.0)
Very good	171 (44.8)
Employment situation	
Yes	37 (9.7)
No	345 (90.3)
Reason for choosing the Department of Nursing	
Voluntarily	215 (56.3)
At the request of another (family, friend, teacher, etc.)	112 (29.3)
Have job opportunity	55 (14.4)
The desire for graduate education	
Yes	167 (43.7)
No	215 (56.3)
Living environment	
Alone	23 (6.0)
With my family	166 (43.5)
Dormitory	193 (50.5)
Chronic disease	
Yes	27 (7.1)
No	355 (92.9)
COVID-19 history	
Yes	158 (41.4)
No	224 (58.6)
Fear of contracting the COVID-19	
Yes	66 (17.3)
Partly	128 (33.5)
No	188 (49.2)
Follow-up of surgical patients with positive COVID-19 test	
Yes	74 (19.4)
Partly	73 (19.1)
No	235 (61.5)
Adequate preventive measures against COVID-19 in surgical clinics	
Yes	77 (20.2)
Partly	185 (48.4)
No	120 (31.4)

^a Values are expressed as Mean ± SD or No. (%).

A statistically significant difference was found between the mean scores of NASC-CDM and the descriptive characteristics of the students, such as class level, reasons for choosing the nursing department, the desire for postgraduate education, COVID-19 history, fear of contracting COVID-19, follow-up of surgical patients with positive COVID-19 test ($P < 0.05$). There was no statistically significant difference between the mean scores of NASC-CDM and the descriptive characteristics of the students, such as gender, graduated high school, general grade point average, preference order for the nursing profession, high school graduation average, employment situation, living environment, chronic disease, and the level of preventive measures taken against COVID-19 in surgical clinics ($P > 0.05$) (Table 3).

5. Discussion

During the COVID-19 pandemic, our students continued their face-to-face clinical practice using a different application than all other nursing departments in the spring semester of 2020 - 2021. We aimed to determine the levels of self-confidence and anxiety in the nursing students regarding the decision-making process related to surgical patient care during the COVID-19 pandemic.

It was determined that the anxiety scores were low (65.53 ± 27.37). A decrease in the anxiety scores indicates that students' anxiety levels in clinical decision-making have decreased. In a study by Arda Sürücü et al. using the same scale, it was reported that the student's total anxiety score in clinical decision-making was 73.03 ± 24.66 . It was stated that nursing students' anxiety increased in clinical decision-making during the pandemic (12). Another study on nursing students during the pandemic showed that their anxiety levels rose with the pandemic situation (16). During the COVID-19 period, it was stated that the anxiety experienced by nursing students was due to distance learning, homework, workload, clinical practice, fear of infection, and feeling isolated (9, 17). In this study, anxiety levels were found to be low. Anxiety may result from interrupting students' education and transition to online learning, inadequate distance learning strategies, and increased homework and workload. Moreover, the most significant sources of anxiety are thought to be related to the fear of infection and transmission regarding themselves and their loved ones brought by continuing clinical practice, lack of personal protective equipment, and practices required by COVID-19 precautions in clinics (9, 12, 16, 17).

Our results demonstrated that the self-confidence score was high (113.68 ± 26.18) in this study. An increase in

Table 2. Nursing Anxiety and Self-confidence with Clinical Decision-Making Scale Total Scores (n = 382)

Scale	Min-Max	Mean \pm SD
Confidence		
Using resources to obtain information and listening carefully	13.00 - 128.00	128.00 \pm 54.68
Using available information to identify the problem	7.00 - 42.00	28.93 \pm 7.11
Knowing and taking action	7.00 - 42.00	30.06 \pm 6.98
Total	29.00 - 210.00	113.68 \pm 26.18
Anxiety		
Using resources to obtain information and listening carefully	13.00 - 78.00	31.56 \pm 13.64
Using available information to identify the problem	7.00 - 77.00	17.59 \pm 8.28
Knowing and taking action	7.00 - 42.00	16.38 \pm 7.22
Total	27.00 - 162.00	65.53 \pm 27.37

self-confidence scores indicates that the self-confidence levels of students in clinical decision-making have increased. A study reported that the student's self-confidence score in clinical decision-making was 92.97 ± 27.67 . It was found that students' self-confidence in clinical decision-making declined during the pandemic (12). It was stated that the pandemic period negatively affected students' academic life. It has been observed that distance education causes negative results in gaining knowledge and skills professionally as they experience a lack of self-confidence (13). Research reported that nursing students with sufficient self-confidence were the students who made the best use of learning opportunities during clinical practice. Self-confidence was found to have a positive effect on clinical decision-making (5). It is believed that the high self-confidence levels of students may be related to their knowledge level, clinical experience, positive experiences, and positive role models that increased their self-confidence level (5, 12, 13, 18).

We observed a statistically significant difference between the student's class level, reason for choosing the nursing department, desire for graduate education, having COVID-19, fear of catching the COVID-19 virus, following the surgical patient with positive COVID-19 test, and scale mean scores. Our study showed that self-confidence levels increased and anxiety levels decreased as class levels rose. Similar studies have also found that anxiety levels are positively correlated with negative self-confidence levels and positively correlated with class level (2, 12, 19, 20). In the educational process, as the class level of the students increases, their theoretical knowledge and clinical practice experiences decline. Therefore, it is thought that as the grade point average rises, anxiety decreases, and self-confidence is improved. It was determined that the students who chose the nursing

department voluntarily and wanted to get postgraduate education had low anxiety and high self-confidence levels in the clinical decision-making process. Similar studies revealed that the mean self-confidence of those who voluntarily chose the nursing profession was higher (2, 12, 21). As can be understood from the studies, willingly choosing the department where the students study plays a positive role in self-confidence and is a negative triggering factor for anxiety in clinical practice.

It has been determined that students who had been exposed to COVID-19 or were afraid of being exposed to the virus had low self-confidence and high anxiety. Fitzgerald and Konrad (9) showed that 70% of students reported being concerned about being infected with the virus themselves, and 84% reported being worried about a friend or family member. In addition, it was noted that the social stigma associated with getting COVID-19 from peers was a source of anxiety for students. The fear of getting COVID-19 could lead to negative coping mechanisms, which could adversely affect self-confidence. Rajkumar reported that knowing about COVID-19 could reduce fear, improve psychological health, and lead to better-coping strategies (22). A study on students who followed up with surgical patients who tested positive for COVID-19 found that their self-confidence levels were high and their anxiety levels were lower than others. Similar research found that nursing students' motivation for starting their profession was not affected by the pandemic, and their self-confidence levels were significantly higher (12). The literature emphasizes that self-confidence levels in clinical decision-making improve with more extended periods of theoretical knowledge and clinical experience, and positive experiences and role models increase self-confidence levels (5, 15, 23, 24).

Table 3. Comparison of Nursing Anxiety and Self-confidence with Clinical Decision-making Scale (NASC-CDM) Total Scores and Descriptive Characteristics (n = 382)^a

Descriptive Characteristics	Confidence		Anxiety	
	Mean ± SD	Test/P-Value	Mean ± SD	Test/P-Value
Gender		t = -1,125; P = 0.216		t = 0.318; P = 0.065
Female	112.82 ± 25.65		65.77 ± 26.61	
Male	116.69 ± 27.88		64.70 ± 30.01	
Graduated high school		F = 0.726; P = 0.485		F = 0.550; P = 0.578
Science high school	116.97 ± 29.51		62.17 ± 33.01	
Anatolian high school	112.71 ± 25.16		66.40 ± 27.34	
Vocational high school/high school	115.97 ± 28.54		63.73 ± 24.34	
Class level		F = 3.366; P = 0.036		F = 3.496; P = 0.049
2	111.74 ± 26.03 ^A		67.04 ± 21.16 ^A	
3	114.50 ± 19.70 ^A		66.02 ± 26.43 ^A	
4	120.86 ± 29.32 ^A		62.61 ± 34.00 ^A	
Grade point average		t = -0.933; P = 0.961		t = 0.222; P = 0.624
1.1 - 2.00	112.47 ± 26.37		65.84 ± 27.95	
2.1 - 4.00	114.92 ± 25.99		65.22 ± 26.82	
Preference order for the nursing profession		χ ² = 0.189; P = 0.910		KW = 1.377; P = 0.502
1- 10	192.59		194.26	
11 - 20	186.57		184.90	
21 - 30	195.40		157.90	
High school graduation average		F = 1.217; P = 0.297		F = 0.746; P = 0.475
Moderate	112.08		67.09	
Good	112.65		67.05	
Very good	115.86		63.63	
Employment situation		Z = 5972.000; P = 0.466		U = 6217.500; P = 0.796
Yes	204.08			
No	190.15		187.04191.98	
Reason for choosing the Department of Nursing		F = 5.363; P = 0.005		F = 3.981; P = 0.019
Voluntarily	116.66 ± 25.55 ^A		62.30 ± 25.73 ^A	
At the request of another (family, friend, teacher, etc.)	106.97 ± 25.00 ^{A,B}		71.16 ± 29.25 ^{A,B}	
Have job opportunity	115.69 ± 28.81 ^B		66.70 ± 28.17 ^B	
The desire for graduate education		t = 4.096; P = 0.004		t = -2.293; P = 0.826
Yes	119.78 ± 27.40		61.91 ± 26.23	
No	108.94 ± 24.21		68.35 ± 27.95	
Living environment		F = 2.252; P = 0.107		F = 2.276; P = 0.104
Alone	124.91 ± 30.74		55.00 ± 28.68	
With my family	112.45 ± 25.55		67.68 ± 26.14	
Dormitory	113.40 ± 25.97		64.94 ± 28.05	
Chronic disease		Z = 3924.50; P = 0.117		U = 3897.500; P = 0.106
Yes	159.35		224.648	
No	193.95		188.978	
COVID-19 history				
Yes	112.37 ± 29.12	t = -0.821	68.00 ± 29.77	t = 1.482
No	114.60 ± 23.91	t = 0.019	63.79 ± 25.46	t = 0.036
Fear of contracting the COVID-19		F = 4.446; P = 0.012		F = 2.859; P = 0.050
Yes	114.28 ± 28.18 ^A		70.10 ± 30.64 ^A	
Partly	108.31 ± 21.11 ^{A,B}		68.04 ± 23.74 ^{A,B}	
No	117.12 ± 28.03 ^B		65.53 ± 27.37 ^B	
Follow-up of surgical patients with positive COVID-19 test		F = 3.504; P = 0.031		F = 4.806; P = 0.009
Yes	120.89 ± 32.64 ^A		61.91 ± 24.11 ^A	
Partly	11.72 ± 24.01 ^A		74.23 ± 28.84 ^A	
No	112.02 ± 24.20 ^B		65.53 ± 27.37 ^B	
Adequate preventive measures against COVID-19 in surgical clinics		F = 0.664; P = 0.516		F = 0.068; P = 0.937
Yes	115.51 ± 25.58		64.54 ± 29.10	
Partly	112.06 ± 25.12		65.87 ± 25.42	
No	115.00 ± 28.15		65.53 ± 27.37	

Abbreviations: Z, Mann-Whitney U Test; χ², Kruskal Wallis-H Test; F, One-way ANOVA; t, Independent Samples t-test.
^{A,B} shows the group that made the difference (One-way ANOVA and post-hoc Tukey HSD analysis were performed).

5.1. Study Limitations

Despite the strengths of this study, the fact that the study was conducted in a single nursing department is a limitation of the study. It may affect the generalizability of the results. In order to increase the generalizability of the findings, it is recommended that the study be carried out more comprehensively in the nursing departments of the different regions of Turkey.

5.2. Conclusions

According to our results, the clinical practice of nursing students during the COVID-19 process has affected their self-confidence and anxiety in clinical decision-making. Despite the COVID-19 pandemic, it was concluded that students had low anxiety and high self-confidence. This may be associated with the positive image of the nursing profession in coping with the challenges brought by the pandemic.

Acknowledgments

Thank to all students participated to our study.

Footnotes

Authors' Contribution: G.M.: Definition, Conceptualization, methodology, formal analysis, investigation, data curation, writing original draft, review, and editing. H.K.: Formal analysis. Y.S.: Definition, supervision, writing original draft, review, and editing.

Conflict of Interests: The authors declare they have no conflict of interest.

Data Reproducibility: The dataset presented in the study is available on request from the corresponding author during submission or after publication.

Ethical Approval: Ethical approval (Decision no:2022/154) from the Ethics Committee of Erciyes University, academic committee permission (2022/03), study permission from the relevant institution, and oral and written consent from the individuals were obtained.

Funding/Support: The authors received no specific funds for this study.

Informed Consent: The objectives of this study were explained to the participants, and they were assured that their participation was voluntary. Written consent for informed participation was obtained from all participants.

References

- Demir Barutcu C. [The Effect of Problem Solving Skills on the Levels of Clinical Decision Making in Nursing Students]. *J SDU Fac Med*. 2019;**26**(1):22-9. Turkish. <https://doi.org/10.17343/sdutfd.422401>.
- Günerİgök F, Yılmaz Kurt F, Küçükoğlu S. [Determining Nursing Students' Confidence and Anxiety Levels in the Clinical Decision Making Process: Example of Two Different Programs]. *J Anatolia Nurs Health Sci*. 2020;**23**(1):77-94. Turkish. <https://doi.org/10.17049/ataunihem.549320>.
- Kırkbıl İB, Tuğba K. [The Importance of Clinical Decision Support Systems in Nursing Informatics and Decision Making Process]. *J Nurs Sci*. 2020;**3**(3):28-31. Turkish.
- Karacabay K, Savci A, Öztürk B. [Investigation of Self-Learning, Clinical Decision Making and Reflective Thinking Levels of Students Who Take Surgical Diseases Nursing Course]. *J İnönü Univ Vocat Sch Health Ser*. 2022;**10**(2):667-80. Turkish. <https://doi.org/10.33715/inonusaglik.1036039>.
- White KA. Development and validation of a tool to measure self-confidence and anxiety in nursing students during clinical decision making. *J Nurs Educ*. 2014;**53**(1):14-22. [PubMed ID: 24256004]. <https://doi.org/10.3928/01484834-20131118-05>.
- Sanad HM. Stress and anxiety among junior nursing students during the initial clinical training: a descriptive study at College of Health Sciences, University of Bahrain. *Am J Nurs Res*. 2019;**7**(6):995-9. <https://doi.org/10.12691/ajnr-7-6-13>.
- Çubuk B. [Lost Object, Grief, and Depression With COVID-19]. *Yalova J Soc Sci*. 2020;**10**(21):90-9. Turkish.
- Savitsky B, Findling Y, Erel A, Hendel T. Anxiety and coping strategies among nursing students during the covid-19 pandemic. *Nurse Educ Pract*. 2020;**46**:102809. [PubMed ID: 32679465]. [PubMed Central ID: PMC7264940]. <https://doi.org/10.1016/j.nepr.2020.102809>.
- Fitzgerald A, Konrad S. Transition in learning during COVID-19: Student nurse anxiety, stress, and resource support. *Nurs Forum*. 2021;**56**(2):298-304. [PubMed ID: 33484171]. [PubMed Central ID: PMC8014789]. <https://doi.org/10.1111/nuf.12547>.
- Zhang Y, Zhang H, Ma X, Di Q. Mental Health Problems during the COVID-19 Pandemics and the Mitigation Effects of Exercise: A Longitudinal Study of College Students in China. *Int J Environ Res Public Health*. 2020;**17**(10). [PubMed ID: 32466163]. [PubMed Central ID: PMC7277113]. <https://doi.org/10.3390/ijerph17103722>.
- Kleiman EM, Yeager AL, Grove JL, Kellerman JK, Kim JS. Real-time Mental Health Impact of the COVID-19 Pandemic on College Students: Ecological Momentary Assessment Study. *JMR Ment Health*. 2020;**7**(12). e24815. [PubMed ID: 33207308]. [PubMed Central ID: PMC7744138]. <https://doi.org/10.2196/24815>.
- Arda Sürücü H, Sürücü A, Sungur M, Baksı A. Investigation of the Effect of Covid-19 Pandemia Process on Anxiety and Self-Confidence Levels in Clinical Decision Making in Last Class Nursing Students. *GOBEKLITEPE J Health Sci*. 2022;**5**(7):135-47. <https://doi.org/10.55433/gsb.110>.
- İnce SÇ, Bekleviç AÇ. [Views of the Covid-19 Pandemic on the Impact of Operating Room Services Students on Education and Post-Graduation Life: A Qualitative Study]. *Int J Soc Sci Educ*. 2022;**4**(6):177-202. Turkish.
- Garrett B. Student nurses' perceptions of clinical decision-making in the final year of adult nursing studies. *Nurse Educ Pract*. 2005;**5**(1):30-9. [PubMed ID: 19038176]. <https://doi.org/10.1016/j.nepr.2004.03.003>.
- Bektaş İ, Yardımcı F, Bektaş M, White KA. Psychometric properties of the turkish version of nursing anxiety and self-confidence with clinical decision making scale (NASC-CDM-T). *Dokuz Eylul Univ Fac Nurs Electron J*. 2017;**10**(2):83-92.
- Akman Ö, Yıldırım D, Sarıkaya A. The Effect of COVID-19 Pandemic on Nursing Students' Anxiety Levels. *İstanbul Gelişim Univ Sağlık Bilim Derg*. 2020;**(12)**:379-97. <https://doi.org/10.38079/igusabder.757110>.

17. Majrashi A, Khalil A, Nagshabandi EA, Majrashi A. Stressors and Coping Strategies among Nursing Students during the COVID-19 Pandemic: Scoping Review. *Nurs Rep*. 2021;**11**(2):444-59. [PubMed ID: 34968220]. [PubMed Central ID: PMC8608052]. <https://doi.org/10.3390/nursrep11020042>.
18. Garcia-Gonzalez J, Ruqiong W, Alarcon-Rodriguez R, Requena-Mullor M, Ding C, Ventura-Miranda MI. Analysis of Anxiety Levels of Nursing Students Because of e-Learning during the COVID-19 Pandemic. *Healthcare (Basel)*. 2021;**9**(3). [PubMed ID: 33804344]. [PubMed Central ID: PMC8001948]. <https://doi.org/10.3390/healthcare9030252>.
19. Bahcecioglu Turan G, Ozer Z, Ciftci B. Analysis of anxiety levels and attitudes of nursing students toward the nursing profession during the COVID-19 pandemic. *Perspect Psychiatr Care*. 2021;**57**(4):1913-21. [PubMed ID: 33728653]. [PubMed Central ID: PMC8250876]. <https://doi.org/10.1111/ppc.12766>.
20. Alsadi M, Oweidat I, Khrais H, Tubaishat A, Nashwan A. Satisfaction and Self-Confidence among Nursing Students with Simulation Learning During COVID-19. Preprint. *Research Square*. 2023:1-14. <https://doi.org/10.21203/rs.3.rs-2475820/v1>.
21. Açıköz S, Uzun Ş, Arslan F. [Investigation of the relationship between the perception of self-efficacy in nursing students and anxiety and stress related to clinical practice]. *Gülhane Tıp Dergisi*. 2016;**58**(1):129-35. Turkish. <https://doi.org/10.5455/gulhane.169643>.
22. Rajkumar RP. COVID-19 and mental health: A review of the existing literature. *Asian J Psychiatr*. 2020;**52**:102066. [PubMed ID: 32302935]. [PubMed Central ID: PMC7151415]. <https://doi.org/10.1016/j.ajp.2020.102066>.
23. Bektaş İ, Yardımcı F. The effect of web-based education on the self-confidence and anxiety levels of paediatric nursing interns in the clinical decision-making process. *J Comput Assist Learn*. 2018;**34**(6):899-906. <https://doi.org/10.1111/jcal.12298>.
24. Alsolais A, Alquwez N, Alotaibi KA, Alqarni AS, Almalki M, Alsolami F, et al. Risk perceptions, fear, depression, anxiety, stress and coping among Saudi nursing students during the COVID-19 pandemic. *J Ment Health*. 2021;**30**(2):194-201. [PubMed ID: 33978543]. <https://doi.org/10.1080/09638237.2021.1922636>.