

## Determination of Nurses' Self-Confidence and Anxiety Levels in Clinical Decision Making During Covid-19 Pandemic

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### ABSTRACT:

**Purpose:** This study was conducted to determine the self-confidence and anxiety levels of nurses in clinical decision-making in the Covid-19 pandemic.

**Materials and Methods:** This descriptive-cross-sectional study was conducted with nurses working in a state hospital. "Sociodemographic Data Collection Form" and "Nurses' Clinical Decision Making Self-Confidence and Anxiety Scale" were used to collect the study data. The snowball method was used to collect study data. The online data collection form was shared on social media and 449 nurses who voluntarily participated in the study and filled the scales completely and filled out the questionnaire were asked to share the questionnaire on their social media.

**Results:** 49,7% of the nurses who participated in the study were between the ages of 18 and 28,72.4% were women, 50,1% were single, 69,0% were graduates of the language, 70,2% were trained in Covid-19, 71,0% were cared for or diagnosed with Covid-19, and 79.5% were not diagnosed with Covid-19. The score they received from the anxiety sub-scale was 57,65±25,81 and the average score from the self-confidence sub-scale was 108,27±27,34. It explains 5% of the anxiety levels of nurses' self-esteem in clinical decision-making and increased self-confidence in clinical decision-making reduces anxiety level by 0,224 times.

**Conclusion:** During Covid-19 pandemic, it has a significant effect on the anxiety levels of nurses' self-esteem in clinical decision-making. In addition, it was found that as the professional working year increases, it has a statistically significant effect on the self-confidence level.

**Keywords:** Covid-19, Anxiety, Nurse, Clinical decision making, Self confidence

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### INTRODUCTION

Nurses have many roles and functions in the clinical field (Toru, 2020). The roles of nurses can be listed as caregiver, researcher, manager, educator, decision-maker, advocate, comforter, and therapeutic (Aydemir, 2022). Nursing requires a cognitive decision-making process that provides an accurate understanding of the problem of the healthy-sick individual and the selection of optimal nursing behavior (Yoo et al., 2019). Correctly applied good clinical decision-making skills increase the quality of care, reduce the number of medical errors, reduce

the cost of care and treatment with more efficient use of resources, and thus increase both patient satisfaction and nurse motivation (Günerigok et al., 2020). There are some barriers to clinical decision making. Self-esteem and anxiety are two of the most important. It has also been reported that low self-esteem and high anxiety prevent clinical decision-making processes and create emotional barriers (Espinosa Rivera, et al.2019). The reasons why nurses have sufficient self-confidence and low level of anxiety in clinical decision-making processes may be related to their experiences, having sufficient

knowledge about the subject and being open to learning (Espinosa-Rivera et al., 2019). It has been reported that clinical decision-making skills can be supported by increasing the metacognitive awareness of nurses (Bektas, et al. 2021). It is reported that the characteristics of the decision-making environment also affect the decision process of nurses (Phillips, et al., 2019). Although nurses are the most patient-oriented role in the Covid-19 pandemic process, they work at the forefront (Çevirme and Kurt, 2020). Nurses, who are primarily involved in patient care during the pandemic process, experience physical-psychological-social difficulties due to long and fast-paced work (Özden et al., 2018). Working in high-risk areas and contact with infected people is one of the common causes of anxiety, depression and stress (Polat and Çoşkun, 2020). Clinical decision-making skills are very important for professional nurses in this period when the disease is severe. Because nurses are with patients much more than other members of the multidisciplinary team. Often patients are the first to see clues that may warrant clinical decision making. Lack of self-esteem and high levels of anxiety affect clinical decision making, resulting in emotional barriers to clinical decision making (White, 2014). From this point of view, the research was conducted to determine the self-confidence and anxiety levels of nurses in clinical decision-making processes during the Covid-19 pandemic.

## METHOD

This study was conducted in a descriptive design in order to determine the levels of self-confidence and anxiety of nurses in the clinical decision-making process during the Covid-19 pandemic.

**Sample:** Snowball method was used to collect the study data. The online data collection form was created and those who filled out the survey were asked to share the survey on their social media (Facebook, Twitter, Whatsapp... etc.). The research sample consisted of 449 nurses who agreed to participate in the survey sent online on 10-17 January, 2021, where the research data were collected, and filled out the survey without attachment.

**Data Collection Tools:** The study data was collect by using Sociodemographic Form which was prepared by the researchers and which included socio-demographic characteristics such as age and gender of the nurses and "Clinical Decision Making Self-Confidence and Anxiety Scale in Nursing". The NASC-CDM scale, developed by White (2014) in the United States, is designed to assess nurses' perceptions of their self-confidence and anxiety levels during the clinical decision-making process. The scale is appropriate for both student and clinical nurses. Bektas et al. (2017) conducted a validity and reliability study on the scale, reporting Cronbach-Alpha coefficients of .97, .96, .89, and .91 for self-confidence and anxiety sub-dimensions, respectively. This study similarly found high Cronbach-Alpha values for the self-confidence sub-dimension (.88) and the anxiety sub-dimension (.92). The scale features a 6-point Likert-type response format with 27 questions. Self-confidence and anxiety are the two subscales, each with three sub-dimensions: "Using resources to collect information and listening carefully" (13 items), "Using information to see the big picture" (7 items), and "Knowing and acting" (7 items). The first sub-dimension focuses on utilizing resources such as family, instructors, and literature to gather information, as well as active listening and interpreting verbal and nonverbal cues. The second sub-dimension emphasizes identifying patterns in assessment data and determining the relevance of information based on prior experience and knowledge. Nurses can then interpret the data and see the big picture. The third sub-dimension includes analyzing the risk versus benefit of actions in each situation, selecting the best option, and using intuition for decision-making. Scores on the NASC-CDM scale range from 27 to 162, with no cutoff value. High scores indicate high levels of self-confidence and anxiety, while low scores indicate low levels of self-confidence and anxiety. Nurses complete the scale themselves.

**Data Analysis:** Data were evaluated by using SPSS (Statistical Package For Social Sciences) 22.0 package program. For data analysis, values, averages, number and percentage were used. T test was performed in

the examination of bilateral independent groups and groups with normal distribution, and Mann Whitney U test was performed in groups that did not show normal distribution; Kruskal Wallis test was used in more than two independent groups and normal dispersed groups, one-way Anova, more than two independent and normal non-dispersing groups. Findings in the 95% confidence range and  $p < 0.05$  significantness level were evaluated.

**Ethical Consideration:** Written permission from the Ethics Committee of the Faculty of Nursing and written permissions were obtained from the nurses who participated in the research in order to conduct the research.

### FINDINGS

Of the 449 nurses who participated in our study, 49.7% were between the ages of 18 and 28, 72.4% were female, 50.1% were single, 69.0% were language graduates, 70.2% received Covid-19 training, 71.0% cared for patients with suspected or diagnosed Covid-19, and 79.5% were not diagnosed with Covid-19.

Nurses between the ages of 18 and 28 had higher self-confidence scores ( $110.12 \pm 25.07$ ) than other age ranges, men had higher self-confidence scores ( $110.62 \pm 29.77$ ) than women, but the differences were not statistically significant ( $p > 0.05$ ). The average score of nurses with a working time of 20 years or more in the profession ( $109.64 \pm 31.89$ ) is higher than that of nurses with other working years, and the difference is statistically significant ( $p < 0.05$ ). According to the average self-confidence score ( $110.45 \pm 26.11$ ) of those trained on Covid-19 according to the average score of those who did not receive training ( $102.16 \pm 29.73$ ), the mean score of those diagnosed with Covid-19 ( $108.2 \pm 29.01$ ) was also found to be high compared to those who did not receive it, but the differences were not statistically significant ( $p > 0.05$ ). It was found that the average anxiety score of nurses aged 51 and over ( $73.23 \pm 37.42$ ) was higher than other age ranges, while men's anxiety scores ( $62.93 \pm 31.71$ ) were higher than those of women, but the difference was not statistically significant ( $p > 0.05$ ). The mean score of nurses with a working time of 20 years or more

( $68.35 \pm 37.35$ ) was found to be higher than in other working years, but the difference was not statistically significant ( $p > 0.05$ ). The average anxiety score ( $56.79 \pm 25.34$ ) of those trained on Covid-19 was found to be low compared to the mean score of those who did not receive training ( $59.29 \pm 26.65$ ), but the difference was found to be statistically significant on anxiety levels ( $p > 0.05$ ). Those diagnosed with Covid-19 were found to have a high average anxiety score ( $64.56 \pm 30.73$ ) compared to those who did not receive it, and the difference was statistically significant ( $p < 0.05$ ) (Table 1).

The total score average of the self-confidence is  $108.03 \pm 28.26$ , the score average of the sub-size of "using resources to obtain information and listening fully" was  $52.64 \pm 13.78$ , the score average of the "using the information at hand to identify the problem" lower size was  $27.94 \pm 7.33$ , and the score average of the "knowing and acting" sub-dimension was  $27.45 \pm 7.15$ . The total score average of the anxiety was  $57.63 \pm 26.36$ , the score average of the sub-dimension of "using resources to obtain information and listening fully" was  $27.23 \pm 12.82$ , the score average of the "using the information at hand to determine the problem" sub-size was  $15.11 \pm 6.72$ , and the score average of the "knowing and acting" sub-dimension was  $15.29 \pm 6.82$  (Table 2).

Because the meaningfulness level is  $p < 0.05$ , the established regression model makes sense. According to the results of the regression analysis for the exhaustion of the relationship; it is seen that nurses' self-esteem has a very negatively significant effect on their anxiety. The  $R^2$  value expressed as the model's comment strength is calculated as 0.50 ( $R = .224$ ,  $R^2 = .50$ ;  $p < 0.05$ ). This value shows that the anxiety variable is explained by the 5% argument in the model as self-confidence. Beta coefficient of the argument included in the regression analysis  $-.283$  ( $p < 0.05$ ). Accordingly, self-confidence has a significant effect on nurses' anxiety (Table 3).

**Table 1.** Comparison of Self-Confidence and Anxiety Subscale Score Averages with Sociodemographic Characteristics

Characteristics	n	%	Self-Confidence		Anxiety	
			X±SS	Test ve p	X±SS	Test ve p
<b>Age</b>						
18-28	223	49.7	110.12±25.07		54.94±23.65	
29-39	160	35.6	107.67±28.02	t=3.680*	56.10±22.47	t=7.393*
40-50	53	11.8	100.67±33.46	p=0.29	68.94±34.95	p=0.60
51 ve above	13	2.9	104.69±30.97		73.23±37.42	
<b>Gender</b>						
Female	124	27.6	106.96±26.52	t=-1.264	55.48±22.77	t=18222.5**
Male	325	72.4	110.62±29.77	p=0.38	62.93±31.71	p=0.11
<b>Marital Status</b>						
Married	225	50.1	107.27±26.22	t=-.542	29.86±26.37	t=22659.5**
Single	224	49.9	108.68±28.70	p=0.21	55.22±24.93	p=0.64
<b>Having children</b>						
None	70	15.6	108.83±27.52		54.40±22.96	
1	80	17.8	109.47±23.27	t=1.741***	60.41±26.59	t=6.400*
2	33	7.3	108.11±27.94	p=0.15	62.07±28.80	p=0.94
3 ve more	266	59.2	97.57±32.77		65.72±33.33	
<b>Education Level</b>						
High School	310	69.0	109.73±30.40	t=0.922***	65.00±36.49	t=1.532*
Undergraduate	32	7.1	102.89±29.27	p=0.43	64.47±34.14	p=0.67
Postgraduate	65	14.5	108.56±26.48		55.15±21.15	
Master Degree	42	9.4	110.28±29.25		56.81±26.63	
<b>Duration of work</b>						
1-10 year	325	72.4	109.42±25.59	t=3.221***	54.85±22.60	t=5.176*
11-20 year	76	16.9	100.72±31.26	p=0.04	62.19±27.32	p=0.07
20 -over	48	10.7	109.64±31.89		68.35±37.35	
<b>Received Covid-19 training</b>						
Yes	315	70.2	110.45±26.11	t=2.949	56.79±25.34	t=20289.5**
No	134	29.8	102.16±29.73	p=0.42	59.29±26.65	p=0.51
<b>Caring patients with Covid 19</b>						
Yes	319	71.0	108.52±27.43	t=0.663	57.50±24.70	t=19903.0**
No	130	29.0	106.63±27.64	p=0.46	57.63±28.20	p=0.50
<b>Diagnosis with Covid-19</b>						
Yes	92	20.5	108.2±29.01	t=0.089	64.56±30.73	t=14313.5**
No	357	79.5	107.91±27.10	p=0.59	55.70±23.97	p=0.04

\*KW, \*\* MWU, \*\*\*ANOVA

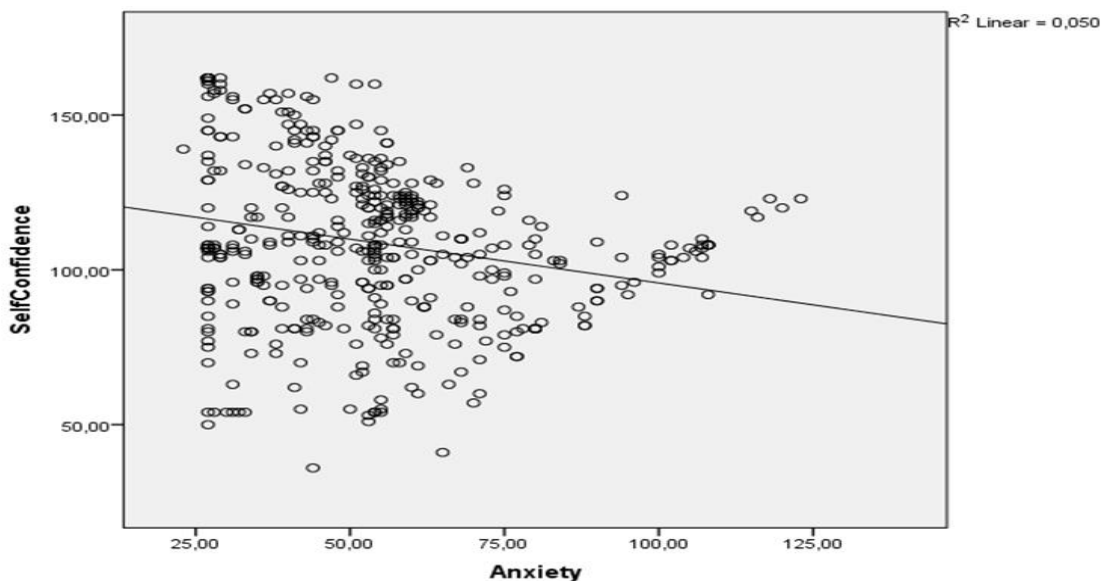
**Table 2.** Total sub-dimensions scores of self-confidence and anxiety

Sub-dimensions	Self-confidence X±SS	Anxiety X±SS
Use resources to obtain information and listen in fully	52.64±13.78	27.23±12.82
Use on-hand information to identify a problem	27.94±7.33	15.11±6.72
Knowing and acting	27.45±7.15	15.29±6.82
<b>Total</b>	<b>108.03±28.26</b>	<b>57.63±26.36</b>

**Table 3.** Regration Analysis of Self-Confidence and Anxiety

Independent Variable	Dependent Variable	B	SS	p	t	R	R <sup>2</sup>	F	p
Self-Confidence	Anxiety	-.283	.058	.000	-4.86	.224	.050	23.63	.000

There was a very weak negative relationship between nurses' self-esteem score averages and anxiety score averages ( $r=-.224;p<0.00$ ) (Graphic 1).



**Graphic 1.** Relationship Between Nurses' Self-Esteem Score Averages and Anxiety

**DISCUSSION**

In this study which aim was to determine the self-confidence and anxiety that affects the clinical decision-making of nurses struggling at the forefront of the Covid 19 pandemic, the total score average of nurses was  $108.03\pm 28.26$  and the average total score of anxiety was  $57.63\pm 26.36$ . The increase in self-confidence supports nurses' ability to manage their roles and identify interventions and solve problems that focus on individual care when making decisions (Dziurka et al., 2022). Anxiety is common in nurses, since they have activities directly on the human, which causes a process of discomfort (Mohamadzadeh Tabrizi et al., 2022). There was no study in the literature investigating the levels of self-confidence and anxiety of nurses in clinical decision making during the pandemic process, and this study is the first study on the subject.

In order to increase professional qualification, it is important for nurses to develop their theoretical knowledge as well as their practical skills (Kalyani et al., 2019). In our study, it was determined that nurses between the ages of 18 and 28 have low self-esteem compared to nurses in other age groups. However, there is no study on the same subject in the

literature, In a study comparing the relationship between self-esteem and anxiety in adults was found that in the 31-40 age range, it had higher self-confidence than other age groups, and the 25-30 age range had the lowest self-confidence. In our study, the anxiety level of nurses aged 51 and over was higher than other age ranges. In some study, it was found that nurses who did not work on the frontal side had higher psychological problems (Zhang et al., 2020). In our study, it can be said that the presence of high anxiety levels of over 51 considers themselves at high risk of infection and that high levels of health anxiety increase their anxiety. In addition, increased experience can be effective in reducing their anxiety with the work of young nurses at less risk of infection in risky areas and exposure to one-on-one patients. In the literature, it is stated that gender directly affects decision-making (Schoeffer et al., 2022.). In our study, men's levels of self-confidence and anxiety in clinical decision-making during the pandemic process were high compared to women and no significant difference was found. In the literature (Öztürk, 2017) found that sex has no effect on self-esteem. A study by Kuku and his friends (2012) on the self-confidence, gender

and academic success of nursing undergraduates found that male students had a higher level of self-esteem than female students (Kukulu et al., 2012). In the pandemic process, due to the status of women in society, the responsibilities that are burdened in home life as a result of working life may be a factor that reduces self-confidence. It can be considered that the high anxiety of men is due to the increased concern of protecting their families during the pandemic process.

As in any profession, self-improvement with education in the professionalism of the nursing profession requires its skill (Kazawa et al., 2022). In our study, it was determined that graduate graduates have high levels of self-confidence compared to other educational situations, while graduates of health vocational high schools have high anxiety. One of the important components of the concept of professional self is self-confidence. In a study by Ak et al. (2018) on the professional attitudes and influencing factors of nursing students, it was determined that the professional attitude score averages of the students who graduated from the health vocational high school were higher than those who graduated from anatolian high school and straight high school (Ak et al., 2018). A study by Holloway (2017) found that self-confidence in management, leadership and practice increases as the level of education increases (Holloway, 2017). In the study of Wilson and Johnson (2015), it was determined that the decision-making, problem solving information, communication, time management and self-confidence of nurses who had master's training increased (Wilson and Johnson, 2015). Clinical decision-making is an integral component of nursing practices and one of the nursing roles and a sub-element of all other nursing roles (López-Medina, et al., 2022). Since the educational situation of nurses in the pandemic process guides critical thinking, clinical decision making and problem solving skills, it can be said that our study is the reason for the increase in the self-confidence levels of graduate nurses.

The high period of professional experience has positive effects in terms of level of professionalism (Xue et al., 2023). Professionalization supports decision-making process, improving patient care

quality and satisfaction (West et al., 2022). In our study, it was determined that nurses whose professional working time was 20 years and above in the pandemic process had high self-confidence compared to other working years and the difference was statistically significant. In addition, it was determined that the high anxiety levels of nurses with a working time of 20 years and above were not statistically significant compared to other working years. When we look at the literature, the study by Espinosa Rivera and his friends (2019) found that 69% of new nursing undergraduate graduates had a high level of self-confidence (Espinosa-Rivera et al., 2019). Meroy (2010) compared the relationship between adult self-esteem and anxiety levels, and found that those in the first 5 years of the profession had lower self-esteem and higher anxiety than other year intervals, while those with a working year of 6-15 years had the most self-esteem and the least anxiety level (Meroy, 2010). As the professional working year of nurses increases, the experience and intuition about existing patient profiles and results increases. Therefore, it may have positively affected self-esteem levels during decision-making, and a virus that has never been encountered before and patient was thought to increase anxiety levels in nurses with advanced occupational working years.

During the Covid 19 pandemic, nurses should be trained in many subjects of personal protective equipment, field disinfection, medical waste management and sterilization of patient care devices and management of occupational exposure (Huang et al., 2020). The best way to prevent the contagion of covid-19 virus is to know the ways of transmission, clinical features and clinical management of the disease (Demirağ, 2020). Nurses who think their knowledge is inadequate feel inadequate and this causes negative emotion situation changes. As the level of knowledge increases, it causes an increase in self-confidence level. In our study, nurses who received training on Covid-19 had low self-esteem and low anxiety, but no statistical difference was found. Nemati et al. (2020) in a study conducted to evaluate the knowledge, attitudes and behaviors of Covid-19-related nurses in Iran; 85.88% of nurses had accurate information about the source of the infection, while 14.12% did not have the correct

information and 56.5% had sufficient information (Nemati et al., 2020). Shi et al. (2020) in a study to assess the knowledge and attitudes of medical personnel at two Chinese mental health centres during the Covid-19 pandemic; 89.51% of the medical staff of the psychiatric hospitals studied had extensive knowledge of Covid-19, and 64.63% were found to have received training on the relevant subject in hospitals and had confidence in knowing how to protect themselves and their patients (Shi et al., 2020). As a result of our study and studies in the literature, it can be said that the training provided by hospitals and related organizations, prevention of infectious diseases, supporting the ability of nurses to obtain and use evidence-based information is effective in increased self-confidence level and decreasing anxiety.

As health workers are in constantly contact with patients during the Covid-19 pandemic, the risks of exposure to the virus increase and this situation causes fear and anxiety. In our study, it was determined that the anxiety level was high in nurses diagnosed with Covid-19 and the difference was statistically significant. In a study conducted by Li et al (2020) in the literature, health personnel were diagnosed with Covid 19 before their emotional state; 31.1% were found to be anxious, 20.4% were optimistic and only a few were found to be fearful or pessimistic, and 88.3% of staff experienced emotional changes such as stress and anxiety during psychological experience isolation periods after diagnosis (Li et al. 2020).

In the pandemic, it can be considered that the fear of having this disease and having its effects, infecting families by working in high-risk areas increases the level of anxiety. In another study conducted by Huang et al. (2020), a study among health professionals at the infectious disease hospital for Covid 19 found that nurses had a higher anxiety insedness than the doctor (Huang et al., 2020). Many nurses diagnosed with Covid 19 during the pandemic process may feel guilty for not working in the isolation process, and the fear that they may have brought the virus home and infected loved ones and family members, elderly parents, newborn babies and relatives with weakened immunity is thought to increase their anxiety.

## CONCLUSIONS

It was found that nurses diagnosed with Covid-19 increased anxiety levels and had a negative impact on clinical decision-making ( $p < 0.05$ ). In addition, it was found to have a statistically significant effect on self-confidence level as the professional working year increased. Nurses need to determine what are the effects that will increase their self-confidence and reduce their anxiety in the working environment and should increase their competence by contributing to their professional knowledge and skills levels in aimed at increasing their self-confidence. Facing a new disease during the Covid-19 can reduce nurses' self-esteem. Lack of knowledge can increase the level of anxiety by causing deadlocks in problem solving and decision-making. Nurses undergoing Covid-19 are in critical areas and in one-on-one contact with patients, which can trigger fear of re-contracting this disease and cause an increase in anxiety. The previous study of this subject limitations the research and it is recommended to support this issue by conducting more extensive research on nurses.

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