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CLINICAL STUDY

The effect of COVID-19 fear on midwifery students anxiety, self-confidence

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ABSTRACT
BACKGROUND: Several studies have investigated independently of clinical education, it has been emphasized that students experience fear, anxiety, sadness and uncertainty during the pandemic.
AIM: This study aimed to investigate the effect of fear of COVID-19 on the level of anxiety and self-confidence of midwifery students who did their clinical internship during the pandemic.
METHODS: Convenience sampling yielded 181 senior midwifery students who had experienced clinical internships during the COVID-19 pandemic. Two state universities conducted an online cross-sectional predictive study from February to June 2021. Data were collected by an Information Form, the COVID-19 Fear Scale, the State-Trait Anxiety Inventory, and the Self-Confidence Scale.
RESULTS: The study findings were that the students' fear of COVID-19 (16.72 ± 4.89), state anxiety (52.65 ± 8.41), and trait anxiety (48.66 ± 6.80) were above average, and their self-confidence was moderate. The result indicated that midwifery students' fear of COVID-19 increased, their state anxiety increased ($p < 0.01$), and their self-confidence decreased ($p < 0.01$). Fear of COVID-19 accounted for 47% of state anxiety, 6% of trait anxiety, and 22% of self-confidence.
CONCLUSION: The level of COVID-19 fear of midwifery students who did clinical internships during the pandemic negatively affected their anxiety and self-confidence levels *(Tab. 4, Ref. 34)*. Text in PDF *www.elis.sk*
KEY WORDS: pandemic, midwifery, fear of COVID-19, anxiety, self-confidence.

Introduction

The world has faced unprecedented challenges with the COVID-19 pandemic (1). After the rapid spread of the disease in many countries, preventive measures were taken, and higher education institutions started to offer distance education (2, 3). Face-to-face education (formal education) has been replaced by distance education, which has affected the students of applied sciences the most (4). Midwifery is one of the fields of applied sciences which has been negatively affected by this process (2, 5, 6). Students must meet worldwide accreditation standards to graduate from the midwifery program (7). In line with these standards, students are expected to have a minimum number of clinical practice experiences, including 100 prenatal and 100 postnatal caregiving, 40 deliveries, and 100 newborn assessments (8). However, the cancellation of clinical internships due to the increasing number of cases during the pandemic has created difficulties for midwifery students to meet these standards. Following the start of the vaccination program in Turkey in parallel with the vaccination studies carried out for COVID-19 in the world, it was possible for midwifery students who completed the vaccination protocol recommended by the Ministry of Health to start their clinical internship (9).

Clinical internship practices are considered to be one of the most anxiety-inducing components of education by midwifery students (10, 11). It is stated that self-confidence, which is seen as one of the main components and important indicators of professional competence, is affected by the level of anxiety (12–14). The inability to have clinical internship during the pandemic caused students to not meet the minimum requirements to graduate from midwifery programs, leading to intense anxiety in students (15). Clinical internship practices were resumed with the start of the vaccination program; however, the fear of being infected with COVID-19 or transmitting the virus to patients and their own families emerged as factors that increased students' level of anxiety (16, 17).

To the best of our knowledge, no studies have yet investigated the COVID-19 fear, anxiety, and self-confidence levels of midwifery students during their clinical internship practice in the pandemic. In studies conducted independently of clinical education, it has been emphasized that students experience fear, anxiety, sadness and uncertainty during the pandemic (18, 19). It is important to know whether the pandemic has affected the fears, anxiety and self-confidence of midwifery students during their clinical internship. Thus, the current study aimed to investigate the effect of fear of COVID-19 on the level of anxiety and self-confidence

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of midwifery students who did their clinical internship during the COVID-19 pandemic. It is anticipated that the results of this study will help educators plan and manage clinical education, given that the effects of the pandemic will continue for many years.

Research question

In line with the aim of the study, answers to the following questions were sought:

1) What is the COVID-19 fear level of midwifery students doing clinical internship during the COVID-19 pandemic?
2) What is the level of anxiety of midwifery students doing clinical internship during the COVID-19 pandemic?
3) What is the self-confidence level of midwifery students doing clinical internship during the COVID-19 pandemic?
4) Does the fear of COVID-19 have an effect on the level of anxiety?
5) Does the fear of COVID-19 have an effect on self-confidence?

Materials and methods

Research Pattern

The study was conducted between February and June 2021 as an online cross-sectional predictive study with midwifery students who did their clinical internship during the COVID-19 pandemic.

The research sample

The study was carried out with senior midwifery students of two state universities providing four-year midwifery undergraduate education and clinical internships. One of the criteria that midwifery students in Turkey must meet in order to graduate with a bachelor's degree is to successfully complete their clinical internship, which lasts for three months, in the last semester of their education, by taking responsibility and performing 40 vaginal deliveries. Due to the COVID-19 pandemic, fourth-year clinical internship programs were postponed. It was decided to include midwifery students in the vaccination program of the Ministry of Health of the Republic of Turkey and to resume clinical internship practices after the vaccination of the students was completed. In line with this decision, clinical internship practices were carried out for the first time during the pandemic (February–June 2021).

The convenience sampling method was used to select participants for the study. The inclusion criteria of the study were identified as being a senior student at the universities where the research was conducted, having the clinical internship for a month in an uninterrupted manner, and volunteering to participate in the research. The exclusion criteria were being diagnosed with COVID-19 within the first month of the clinical internship and being absent for various reasons within the first month of the clinical internship. A total of 230 senior midwifery students from both universities performing their clinical internships were invited to the study. Five of these students were diagnosed with COVID-19 within the first month of the clinical internship; 14 students were absent within the first month of the clinical internship, and 34 students did not accept to participate in the study. The research was completed with 181 students. The response rate was 79%.

Data collection

The Sociodemographic Information Questions, the Fear of COVID-19 Scale, the State-Trait Anxiety Inventory, and the Self-Confidence Scale were used to collect data.

Data collection forms

Sociodemographic information questions

The form was prepared by the researchers by reviewing the literature and consists of 7 questions to reveal the descriptive characteristics of the students (age, economic status, who they live with, and whether they have been affected by COVID-19).

The fear of COVID-19 scale

The scale developed by Ahorsu et al was used to determine the level of fear students experienced during the pandemic (20). The Turkish validity and reliability study of the scale was conducted by Satici et al. The scale includes 7 items under one factor. The items are rated on a five-point Likert type scale (21). The minimum score that can be obtained from the scale is 7 and the maximum score is 35. High scores indicate high fear of COVID-19 (20, 21). The Cronbach's alpha of the original scale was 0.82 (20). The Cronbach's alpha was found to be 0.79 in this study.

The state-trait anxiety inventory

The inventory was developed by Spielberger et al and it was used to determine the anxiety level of the students (22). Öner and Le Compte carried out a validity and reliability evaluation of the inventory in Turkey (23). There are 40 items in the inventory that individuals can use to express their feelings, and these items are presented in two ways: direct statements expressing negative emotions, and inverted statements expressing positive emotions. The total score that can be obtained from both parts of the inventory varies between 20 and 80. Higher scores indicate a high level of anxiety, while lower scores indicate a low level of anxiety. The Cronbach's alpha of the trait anxiety scale is between 0.83 and 0.87. The Cronbach's alpha of the state anxiety scale is between 0.94 and 0.96 (22, 23). In this study, the Cronbach's alpha of the trait and state anxiety scales were 0.89 and 0.87, respectively.

The self-confidence scale

The scale developed by Akin is used to determine the self-confidence level of the students (24). The scale consists of 33 items on a five-point Likert scale under two sub-dimensions: inner self-confidence and external self-confidence. The inner self-confidence sub-dimension consists of 17 items and the external self-confidence sub-dimension consists of 16 items. The lowest and highest scores that can be obtained from the scale are 33 and 165, respectively. Higher scores indicate higher levels of self-confidence. The self-confidence level of the individual is determined by dividing the total score obtained from the scale by the number of items. A score below 2.5 indicates low self-confidence; a score between 2.5 and 3.5 indicates medium level of self-confidence, and a score of 3.5 and above indicates high self-confidence. The Cronbach's alpha of the original scale is 0.83 (24). The Cronbach's alpha was found to be 0.99 in this study.

Tab. 1. Demographic characteristics of the students (n = 181).

Descriptive characteristics	n	%
Age M±SD 22.29±1.21		
Who the student lives with		
Alone	19	10.5
Parents	135	74.6
Friends	27	14.9
Diagnosed with COVID-19		
The participant	33	18.2
At least one family member	65	35.9
At least one of the relatives	155	85.6
At least one of the friends	150	82.9
Death due to COVID-19		
At least one family member	4	2.2
At least one of the relatives	70	38.7
At least one of the friends	3	1.7
Nobody	77	42.5

Data collection

Before starting their clinical internship, the students were informed about the research in the online classroom environment by the researchers. After the online face-to-face briefing, the students were sent an email containing information about the purpose of the research and they were ensured that all data to be obtained from the research would be anonymous and confidential, and access to the data would be limited to researchers only. In addition, they were asked to reply with their written informed consent. One month after the start of the clinical internship practice, the link of the data collection tools created with the Google form was sent to the e-mails of the students who gave written informed consent. The link did not include a question that would necessitate the students to share their identity information, and the data was collected anonymously. It took approximately 10–15 minutes for the students to fill in the data collection forms. The reporting of the data was carried out by the third researcher, who works in a different institution from the universities where the research was conducted and who has no relationship with the students.

Data analysis procedures

Data analysis was performed using SPSS version 20.0 (Chicago, IL, USA). Descriptive statistics were used to explain the sample and the scores obtained from the scales. The Pearson correlation analysis was used to reveal the relationship between students' fear of COVID-19 and their state and trait anxiety and self-confidence. The extent to which students' fear of COVID-19 predicts their state-trait anxiety and self-confidence was evaluated using the regression analysis. The multiple correlation analysis was performed to decide whether the variables would be included in the regression model. The variables with a VIF value below 10 and a tolerance value above 0.2 were included in the model to perform regression analysis in the multiple correlation test. The significance level was set at 0.05.

Ethical procedures

The study was approved by Selcuk University Ethics Committee (Decision no: 2021/591 Date: 31.03.2021), in accordance with the Declaration of Helsinki and current legislation. All students were informed that participation in the study was voluntary, that it would not affect their grades at all, and that they could withdraw from the study at any stage. Online written informed consent was obtained from all students.

Results

Table 1 shows that the mean age of the students was 22.29 ± 1.21 years and 74.6% (n = 135) lived alone. 85.6% (n = 155) reported that at least one of their relatives was diagnosed with COVID-19. 42.5% of the students stated that no one around them died due to COVID-19, while 38.7% reported that at least one of their relatives died due to COVID-19.

As seen in Table 2, the majority of the students reported that during the COVID 19 pandemic they experienced negative changes in the following aspects of their lives: 51.9% (n = 94) in their body, 79.0% (n = 143) in their emotions, 68.5% (n = 124) in their thoughts, 48.1% (n = 87) in their spiritual life, 79.6% (n = 144) in their social relationships, 34.3% (n = 62) in family relations, 47.0% (n = 85) in their friendship relations, 53.6% (n = 97) in their future plans, and 65.7% (n = 119) in using social institutions.

As seen in Table 3, the mean scores the students obtained from the scales used in the study are as follows: fear of COVID-19 16.72 ± 4.89, state anxiety 52.65 ± 8.41, trait anxiety 48.66 ± 6.80, self-confidence 3.35 ± 1.17, inner self-confidence sub-dimension 3.31 ± 1.22, and external self-confidence sub-dimension 3.37 ± 1.37.

Tab. 2. Changes during the COVID-19 pandemic from students' perspective (n = 181).

Opinions about the Changes Experienced	No change		Positive change		Negative change	
	Number	Percentage	Number	Percentage	Number	Percentage
In the body	73	40.3	14	7.7	94	51.9
In emotions	26	14.4	12	6.6	143	79.0
In thoughts	28	15.5	29	16.0	124	68.5
In spiritual life	39	21.5	55	30.4	87	48.1
In social relationships	21	11.6	16	8.8	144	79.6
In family relations	73	40.3	46	25.4	62	34.3
In friendship relations	63	34.8	33	18.2	85	47.0
In future plans	42	23.2	42	23.2	97	53.6
In using social institutions	35	19.3	27	14.9	119	65.7

The first model examines the effect of fear of COVID-19 on the level of state anxiety. In the model, $\beta = 1.178$, $R^2 = 0.47$, $r = 0.685$, $F = 157.872$, and $p < 0.01$. Students' fear of COVID-19 accounts for 47% of their state anxiety level. The rise in fear of COVID-19 increases the level of state anxiety 1.178 times.

The second model examines the effect of fear of COVID-19 on the level of trait anxiety. In the model, $\beta = 0.366$, $R^2 = 0.06$, $r = 0.263$, $F = 13.281$, and $p < 0.01$. Students' fear of COVID-19 explains 6% of their trait anxiety level. The rise in fear of COVID-19 increases the level of trait anxiety 0.366 times.

The third model examines the effect of fear of COVID-19 on the level of self-confidence. In the model, $\beta = -0.111$, $R^2 = 0.22$, $r = 0.466$, $F = 49.671$, and $p < 0.01$. Students' fear of COVID-19 accounts for 22% of their self-confidence level. The increase in fear of COVID-19 reduces the level of self-confidence 0.111 times.

The fourth model examines the effect of fear of COVID-19 on the level of inner self-confidence. In the model, $\beta = -0.122$, $R^2 = 0.24$, $r = 0.488$, $F = 56.050$, and $p < 0.01$. Students' fear of COVID-19 explains 24% of their self-confidence level. The increase in fear of COVID-19 reduces the level of self-confidence 0.122 times.

The fifth model examines the effect of fear of COVID-19 on the level of external self-confidence. In the model, $\beta = -0.110$, $R^2 = 0.23$, $r = 0.476$, $F = 52.448$, and $p < 0.01$. Students' fear of COVID-19 accounts for 23% of their self-confidence level. The increase in fear of COVID-19 reduces the level of self-confidence 0.110 times.

Tab. 3. The level of students' fear of COVID-19, state anxiety, trait anxiety, and self-confidence (n = 181).

Scales	Mean	SD	Minimum and maximum scores to be obtained from the scales
Fear of COVID-19	16.72	4.89	10–35
State Anxiety	52.65	8.41	24–74
Trait Anxiety	48.66	6.80	25–75
Self Confidence	3.35	1.17	1.36–5
Inner Self Confidence	3.31	1.22	1–5
External Self Confidence	3.37	1.37	1.38–5

Discussion

The COVID-19 pandemic, which affected the whole world, has not only threatened people's lives, but also affected people's health psychologically and socially (25). All institutions of the society were influenced by quarantine and mandatory closures during the pandemic. One of the biggest effects of the pandemic was undoubtedly on education (2, 4). With the pandemic, as for all the students, the method of education changed for nursing and midwifery students as well and distance education methods were adopted (6, 26). In this process, both instructors and students tried to adapt to distance education in a short time, and this rapid and compulsory change in the education system created anxiety in students (27).

This study was carried out to investigate the effect of the fear of COVID-19 on the anxiety and self-confidence of midwifery students who did clinical internship during the COVID-19 pandemic. The findings revealed the COVID-19 fear levels of the students to be moderate. There is no study in the literature that investigated the level of anxiety of midwifery students during clinical internship practice; however, one study conducted in Wuhan, China reported that the anxiety levels of nurses were low during the pandemic (13). Another study conducted in Turkey found the COVID-19 fear levels of nurses to be moderate, in parallel with the results of the current study (28). One study conducted with midwifery students in Turkey showed that only 5% of the students had moderate and high anxiety levels (29). A study carried out with nurses and nursing students in the early period of the pandemic (February 1-20, 2020) in China revealed that the participants experienced serious fear, anxiety, and anger, and a significant relationship was found between the fear and anxiety levels of the participants (30). The findings of our study indicate that the COVID-19 fear levels of actively working nurses and nursing and midwifery students are different. This difference is thought to be caused by personal characteristics and the intensity of the pandemic in the regions where the studies were conducted. The current study showed that students' fear of COVID-19 affected their state and trait anxiety levels. The pandemic and the fact that students had to complete their internships in health institutions that had the highest risk in terms of COVID-19 might have increased students' fear of

Tab. 4. Effect of Fear of COVID-19 on the Anxiety and Self-Confidence Levels of Midwifery Students.

Dependent Variables	Unstandardized coefficients		B	R^2	r*	F *	t*
	B	SE					
Model 1							
State Anxiety	1.178	0.094	0.685	0.47	0.685*	157.872*	12.565*
Model 2							
Trait Anxiety	0.366	0.100	0.263	0.06	0.263*	13.281*	3.644*
Model 3							
Self-confidence	-0.111	0.016	-0.466	0.22	0.466*	49.671*	-7.048*
Model 4							
Inner Self-confidence	-0.122	0.016	-0.488	0.24	0.488*	56.050*	-7.487*
Model 5							
External Self-confidence	-0.110	0.015	-0.476	0.23	0.476*	52.448*	-7.247*

*$p < 0.01$

COVID-19 and their anxiety levels. It is important for midwifery students to control their fear and anxiety levels for the development of clinical decision-making skills (31). For this reason, midwifery students' awareness of individual coping mechanisms can be increased by supporting them to cope with their fears and control their anxiety levels.

The study further revealed that midwifery students had moderate levels of self-confidence, inner self-confidence, and external self-confidence during the pandemic. The increase in students' COVID-19 fear levels decreased their self-confidence, inner self-confidence, and external self-confidence. Although there is no study in the literature in midwifery students who did their clinical internship during the pandemic, one study conducted with nurses during the pandemic reported that the self-confidence levels of nurses affected their anxiety levels (13). Özkan et al found that nursing students experienced anxiety about losing their care skills and self-confidence due to the lack of clinical practices in the distance education process (32). Self-confidence is important for increasing work efficiency and motivation and improving work attitude (33, 34). People with a strong sense of self-confidence have the courage to overcome difficulties and display healthy behavioral and emotional states (13). For this reason, it is important that future midwives, who will serve both in the clinic and in the field, have a high level of self-confidence. It is recommended to carry out studies to investigate the self-confidence levels of midwifery students who participate in clinical practices today, when the effects of the pandemic still continue, and the factors affecting the self-confidence levels.

Limitations

The findings of the study are valid for the sample studied and thus cannot be generalized to the population. Students' fear, anxiety and self-confidence levels were determined based on students' self-report. In order to objectively identify students' anxiety levels, it is recommended to carry out studies with larger samples and with objective indicators of stress, such as serum cortisol level measurement. The majority of the studies in the literature focused on the fear and anxiety levels of nurses and nursing students during the pandemic. Despite the limitations of the study, it is thought that the findings present valuable evidence on the relationship between fear of COVID-19 and anxiety and self-confidence levels of midwifery students during the pandemic.

Conclusion

This study showed that the fear of COVID-19 experienced by midwifery students has affected their anxiety and self-confidence levels. In order to increase the generalizability of the results, it is recommended to replicate the study by selecting samples from the midwifery departments in different regions of Turkey. In addition, academicians working in midwifery departments can contribute to reducing students' fear and anxiety levels and increasing their self-confidence levels by encouraging and supporting them during difficult periods. Investigating variables such as fear, anxiety, and self-confidence which are related to the mental health of midwifery students who are the representatives of maternal and child health of the future can guide educators in planning and managing clinical internship practices today, when the effects of the pandemic still continue.

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