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Evaluation of anxiety, psychological resilience and codependency in nurses during the COVID-19 pandemic

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ABSTRACT

Aims: In this study, it was aimed to evaluate anxiety levels in nurses during the COVID-19 pandemic and to examine the relationship between psychological resilience and codependency levels and anxiety levels.

Methods: The study was conducted on 152 nurses actively working in a pandemic hospital during the COVID-19 outbreak. Sociodemographic Information Form, Beck Anxiety Inventory, Spann-Fischer Codependency Scale, Brief Resilience Scale were used as data collection tools.

Results: As a result of the study, anxiety and codependency scores of nurses working in high-risk pandemic units during the pandemic were higher and psychological resilience scores were lower than those working in low-risk units. When the relationship between anxiety, psychological resilience and codependency in the research group was examined; a negative and highly significant relation was found between psychological resilience and anxiety and between psychological resilience and codependency, and a positive and highly significant relation was found between anxiety and codependency ($p<0.001$ for all). According to the results of regression analysis, it was found that anxiety levels decreased as psychological resilience levels increased in nurses, and anxiety levels increased as codependency levels increased.

Conclusion: It was concluded that the anxiety levels of nurses working in high-risk units during the COVID-19 pandemic were higher, and the levels of psychological resilience and codependency affected the level of anxiety experienced by nurses. Interventions to increase psychological resilience are important in order to protect nurses, who work with great devotion on the front line during disasters and pandemics, from anxiety and the development of codependency, which is an important problem that reduces the quality of care and decreases work performance.

Keywords: COVID-19, nurse, anxiety, resilience, codependency

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INTRODUCTION

The novel coronavirus disease (COVID-19) pandemic has been reported to have negative effects on the mental health of healthcare workers, leading to various psychological distress such as depression, anxiety, and post-traumatic stress disorder.[1] Nurses are a group of health professionals who have to work in close contact with patients for long periods of time. In the COVID-19 pandemic, nurses were negatively affected by the process due to difficult working hours and conditions, having to stay away from their relatives and families, being in close contact with infected patients, having the risk of disease transmission, and witnessing suffering and dying patients.[2]

Studies have found that nurses exhibited high levels of anxiety during the COVID-19 pandemic.[3,4] Although a small amount of anxiety has protective and motivating beneficial effects, when it becomes excessive and continuous, it has negative effects on people's work performance, psychological and physical health.[2]

Psychological resilience is the ability to overcome negative symptoms that occur in stressful situations and to adapt positively.[5] Psychological resilience is important for individuals to cope with the anxiety and difficulties they experience due to stress factors. Previous studies have shown that resilience in nurses has a protective role in natural disasters and disease outbreaks.[6] Likewise, during the coronavirus pandemic, the importance of psychological resilience in nurses' coping with the stress caused by the pandemic was emphasized.[2,7] Therefore, it is important to take initiatives to increase nurses' resilience in managing and coping with stress in stressful situations such as epidemics.[2] Research has shown that low levels

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of resilience are significantly associated with high levels of anxiety, with a negative relation between them.[8,9] Fradelos et al.[10] reported that anxiety and resilience had a negative, statistically significant correlation in nurses.

Many definitions have been made for the 'codependency', but no clear consensus on the definition has been reached. According to the most widely accepted definition made by the American National Council on Codependence, codependency is a learned behaviour expressed by painful dependence on people and objects other than oneself in an effort to find self-worth, security and identity. Ancel[11] defines codependency as a form of pathological relationship that develops between the person dependent on another person's care and the caregiver, where individuals mutually support, increase and sustain each other's dependence. Codependency, which is emotional and social overdependence on a person who is dependent on someone else's care and characterized with mental occupation can become pathological.[12] Codependency is a trait that can lead to physical and psychological problems. It is reported in the researches performed that codependency is more commonly seen in healthcare workers, especially in nurses than in other occupational groups.[13,14]

It is inevitable that nurses, who work with great devotion on the front line in the struggling against epidemics and disasters, will be psychologically affected in these challenging processes. Hence, it is important to explore anxiety, one of the most commonly observed psychological symptoms during the COVID-19 outbreak, especially in nurses who are in direct contact with coronavirus patients for a long time and to reduce anxiety by determining the factors that may be related. The aim of this study was to evaluate anxiety levels in nurses during the COVID-19 pandemic and to examine psychological resilience and codependency, which are factors associated with anxiety.

METHODS

The study was initiated with the approval of the Amasya University Non-interventional Clinical Researches Ethics Committee (Date: 11.06.2020, Decision No: 44). All procedures were carried out in accordance with the ethical rules and the principles of the Declaration of Helsinki.

This cross-sectional and single center study was conducted between July 2020 and September 2020. The sample of the study consisted of nurses actively working in a pandemic hospital in Turkey during the COVID-19 outbreak. A total of 152 nurses were included in the study. 77 of these nurses were actively working in high-risk pandemic units and 75 were actively working in low-risk pandemic units. Voluntary nurses younger than 55 years of age, without neurological, psychiatric disorder or communication disabilities were included in the study. Nurses with any neurologic, psychiatric disorder or history of psychiatric medication use were excluded from the study. In the data collection phase; Sociodemographic Data Form, Beck Anxiety Inventory, Spann-Fischer Codependency Scale and Brief Resilience Scale were used.

Sociodemographical Data Form

This form created by the researcher and contains 5 questions about age, gender, marital status, years of working in the health field, and whether they worked in the pandemic unit.

Beck Anxiety Inventory (BAI)

The scale was developed by Beck et al.[15] to measure the severity and frequency of anxiety. It was adapted into Turkish by Ulusoy et al.[16] Cronbach's alpha internal consistency score of the scale was 0.93 and it was determined to bear sufficient reliability and validity.[16] The BAI is a 21-item self-assessment scale scored between 0 and 3. A high score on the scale indicates that the level of anxiety felt by the individual is high.

Spann-Fischer Codependency Scale (SFCDS)

It was developed by Fischer, Spann, and Crawford[17] to measure the codependency of individuals. Turkish standardization of the scale conducted by Tanhan and Mukba.[18] It is a scale scored between 1-6 and consists of 16 items. The 5th and 7th items of the scale have the feature of "reverse item". High scores obtained from the scale provide information about the high level of addiction of the person.

Brief Resilience Scale (BRS)

Smith et al.[19] developed the scale in order to measure the self-recovery potential and resilience of individuals, and it was adapted into Turkish by Doğan.[20] It is a 6-item 5-point Likert type self-report scale. In the scale, items 1,3,5 are coded correctly and the other items are coded in reverse. High scores on this scale indicate a high level of psychological resilience, whereas low scores indicate a low level of psychological resilience.

Statistical Analysis

Statistical analysis of data SPSS 23.0 (IBM Corp. Released 2015. IBM SPSS Statistics for Windows,Version 23.0. Armonk, NY: IBM Corp.) statistics package program. Normalization of data distribution was analyzed by Kolmogorov Smirnov test. Categorical variables were analyzed using chi-square test. In the comparison of quantitative data normally distributed according to pandemic risk status, independent two sample t test was used. Pearson correlation test was used in the analysis of

the relation between normally distributed scale scores. Multivariate linear regression model was used to analyse the dependent variables affecting the anxiety scores.The results of the analyses were shown as mean±standard deviation and frequency (percentage). Significance was evaluated at p<0.05 level.

RESULTS

It was found that 50.7% of the nurses worked in high-risk pandemic units, 63.8% were women, 65.8% were married (Table 1). The mean age of all nurses was 36.5±7.9 years, the mean experience in the health sector was 14.3±8.1 years, and the mean total scale scores were 17.4±14.2 for BAI, 19.0±6.0 for BRS, and 52.5±16.5 for SFCDS, respectively (Table 2).

Table 1. Frequency distribution of the nurses (n=152)

	Frequency (n)	Percentage (%)
Pandemic risk state		
High-risk units	77	50.7
Low-risk units	75	49.3
Sex		
Female	97	63.8
Male	55	36.2
Marital status		
Married	100	65.8
Single	52	34.2

Table 2. Descriptive statistics of the nurses

	Mean	SD
Age	36.5	7.9
Years of work in health sector	14.3	8.1
BAI total score	17.4	14.2
BRS total score	19.0	6.0
SFCDS total score	52.5	16.5

BAI: Beck anxiety inventory, BRS: Brief resilience scale, SFCDS: Spann-Fischer codependency scale, SD: Standart deviation

When the relationship between the scale scores for all participants was examined; there was a highly significant negative correlation between BRS and BAI mean scores (r=-0.737, p<0.001), a highly significant positive correlation between SFCDS and BAI scores (r=0.706, p<0.001), and a highly significant negative correlation (r=-0.652, p<0.001) between SFCDS and BRS scores (Table 3).

Table 3. Examination of correlation analysis between scale scores

		BAI total score	BRS total score
BRS total scores	r p	-0.737 <0.001	-0.652
SFCDS total scores	r p	0.706 <0.001	<0.001

BRS: Brief resilience scale, SFCDS: Spann-Fischer codependency scale, r: Pearson correlation coefficient

When the nurses working in high-risk pandemic units and nurses working in low-risk units were compared in terms of scale mean scores, the total scores of anxiety, resilience and codependency of nurses working in high-risk pandemic units were significantly higher than those of nurses working in low-risk units (p<0.001 for all). The findings are presented in Table 4.

Table 4. Comparison of quantitative variables according to working status in the pandemic unit

	High-risk unit Mean±SD	Low-risk unit Mean±SD	p-value
BAI total scores	28.92±9.9	5.6±5.7	<0.001
BRS total scores	15.62±5.33	22.51±4.43	<0.001
SFCDS total scores	63.78±11.83	40.89±12.02	<0.001

BRS: Brief resilience scale, SFCDS: Spann-Fischer codependency scale , SD: Standart deviation

When the effect of the Brief resilience scale and the Spann-Fischer codependency scale scores on Beck anxiety inventory score of nurses was examined by linear regression, the regression model was statistically significant (F=127.756, p<0.001). As the total score of brief resilience scale increases, the anxiety score of nurses decreases, and when the total score of resilience scale increases by one unit, the anxiety score decreases by 1.146 (p<0.001). As the total Spann-Fischer codependency scale score increases, the anxiety score increases, and when the total score of codependency scale increases by one unit, the anxiety score increases by 0.337 (p<0.001) (Table 5).

Table 5. Regression analysis results for the total score of Beck Anxiety Inventory

	Beta*	Standard error	Standardized Beta (%95 CI)	p value
Constant	21.547	5.43	(10.816 - 32.277)	<0.001
BRS total scores	-1.146	0.156	-0.482 (-1.454 - -0.838)	<0.001
SFCDS total scores	0.337	0.056	0.391 (0.225 - 0.448)	<0.001

BRS: Brief resilience scale, SFCDS: Spann- Fischer codependency scale, *Not standardized, F: 127,756, p<0,001, R^2=0,632, Corrected R^2=0,627

DISCUSSION

The objective of the present study was to investigate codependency and psychological resilience, which are factors associated with anxiety in nurses during the COVID-19 pandemic in Turkey. The results showed that nurses working in high-risk pandemic units had high levels of anxiety and codependency compared to nurses working in low-risk pandemic units, and their psychological resilience was lower.

To the best of our knowledge, this is the first study to evaluate codependency among healthcare workers during the COVID-19 pandemic in Turkey. Our study, consistent

with the literature, indicates that the nursing profession is associated with anxiety[21] and additionally, it shows the relationship between the concept of codependency and psychological resilience with anxiety. Our findings highlight that during periods of high stress such as disasters and pandemics, which significantly impact the mental well-being of healthcare workers, especially nurses, anxiety emerges as a crucial psychological issue that needs to be addressed and treated as necessary.

The concept of psychological resilience is the ability to maintain balance in the face of stress and to adapt positively to adversity.[22] Therefore, it is thought to be a concept that should come to mind in terms of protecting the mental health of healthcare professionals working in hospitals and especially in pandemic units during epidemic periods. In this study, a high negative correlation was found between anxiety and resilience in the research group. There are studies compatible with this finding.[23,24] In the present study, it was found that the psychological resilience of all nurses participating in the study was at a moderate level. Similar to studies conducted in Turkey during the COVID-19 pandemic, it has been shown that nurses directly involved in the care and treatment of COVID-19 patients also have a moderate level of psychological resilience.[25,26] Karabulak and Kaya[25] found a significant negative relationship between perceived stress and psychological resilience in nurses working during the COVID-19 pandemic in Turkey. On the other hand, Bayat and Polat Olca[26] reported that the high levels of psychological resilience among nurses play a protective role against depression and anxiety.

The relationship between codependency, which is defined as the learned behavior of excessive emotional and social dependence on external individuals and events, and psychological symptoms is known. One of the psychological symptoms associated with codependency is anxiety. In this study, a highly significant correlation was found between codependency and anxiety. In their study, Cullen and Carr[27] reported that people with high levels of codependency had more anxiety and depressive symptoms. Similarly, Fischer et al.[17] found out that anxiety was positively associated with codependency. The development of codependency is an important problem that can cause burnout in nurses, reduce the quality of care, decrease work performance, and over time result in loss of professional identity and disengagement from work.[12,28,29] Therefore, preventing the formation of codependency in the nursing profession is important in terms of both protecting mental health and sustaining the profession.

The results also revealed the presence of a high level and negative relation between codependency and psychological resilience. In the literature, there is limited data assessing the relationship between psychological resilience and codependency. Knapek et al.[30] reported that codependent individuals had lower resilience scale scores compared to healthy individuals, but they also indicated a higher presence of early maladaptive schemas. Early maladaptive schemas are dysfunctional patterns of memories, sensations, and physical sensations that develop throughout childhood and adolescence and that harm an individual's interpersonal relationship. Psychological resilience is one of the factors that help prevent maladaptive schemas that negatively affect the individual's functionality. Studies have reported that early maladaptive schemas are associated with psychological resilience and an increase in these schemas is linked to a decrease in resilience.[31,32] The inverse relationship between codependency and psychological resilience obtained as a finding of this study can also be explained by the role of early maladaptive schemas. However, more studies are needed to evaluate the relationship between codependency and psychological resilience.

In the present study, it was determined that the levels of psychological resilience and codependency are factors that influence anxiety. The results of the conducted regression analysis revealed that higher levels of psychological resilience were associated with a decrease in anxiety, while higher levels of codependency were associated with an increase in anxiety. These findings are consistent with the literature, which suggests a positive relationship between codependency and anxiety, and a negative relationship between higher resilience scale scores and lower anxiety.[17,33-35] Thus, it is essential to pay special attention to the mental well-being of nurses working on the frontline during situations like a pandemic. A detailed assessment of anxiety and related factors is necessary, and supportive and therapeutic interventions must be provided when needed.

There were some limitations in this study, such as the number of participants and single center experience.

CONCLUSION

The results of this study emphasise that psychological resilience and codependency are associated with the level of anxiety experienced by nurses during the coronavirus outbreak. In this case, the higher the psychological resilience of nurses and the lower their codependency, the lower their anxiety levels will be.

ETHICAL DECLARATIONS

Ethics Committee Approval: The study was initiated with the approval of the Amasya University Non-interventional Clinical Researches Ethics Committee (Date: 11.06.2020, Decision No: 44).

Informed consent: Written consent was obtained from the nurses participating in this study.

Referee Evaluation Process: Externally peer reviewed.

Conflict of Interest Statement: The authors have no conflicts of interest to declare.

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Author Contributions: All the authors declare that they have all participated in the design, execution, and analysis of the paper, and that they have approved the final version.

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