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Anxiety levels and solution-focused thinking skills of nurses and midwives working in primary care during the COVID-19 pandemic: A descriptive correlational study

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Abstract

Aims: To determine the state–trait anxiety levels and solution-focused thinking skills of primary care nurses/midwives during the COVID-19 pandemic, and to evaluate the factors affecting these variables and the determinants of state–trait anxiety levels.

Background: The COVID-19 outbreak has created intense anxiety in nurses/midwives that may affect the care they provide. Nurses and midwives may manage anxiety using solution-focused thinking skills.

Methods: This descriptive correlational study included 170 nurses/midwives at 61 family health centres evaluated from 1 August to 14 September 2020.

Results: The participants' state and trait anxiety scores were above average, indicating a moderate level of anxiety and the mean total solution-focused inventory scores were at a moderate level. It was determined that 47.9% of the variance in state anxiety scores could be explained by trait anxiety, age, years of professional experience, chronic illness, type of work shift during the pandemic, follow-up of patients diagnosed with COVID-19 using computed tomography or a COVID-19 test, and whether the institution was taking necessary measures against COVID-19. There was a negative relationship between state anxiety and solution-focused inventory total score.

Conclusion: Nurses/midwives displayed a moderate level of anxiety and solution-focused thinking skills during the COVID-19 pandemic.

Implications for Nursing Management: Steps should be taken to improve nurses' solution-focused thinking skills to enable them to organise quickly and manage care processes successfully in extraordinary circumstances such as pandemics. Moreover, personal empowerment programmes should be recommended for nurses and midwives to help them cope with anxiety.

KEYWORDS
anxiety, COVID-19, midwives, nurses, primary care, solution-focused thinking skills

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1 | INTRODUCTION

The COVID-19 virus, which has been declared a pandemic, is a public health issue that poses a major threat to global health (World Health Organization [WHO], 2020). Since this virus is new, related data are constantly being updated, and even now, the information we do have may change. Health care workers, especially nurses, who are tasked with providing health care services to people suspected to have or definitively diagnosed with COVID-19 are on the front lines (Labrague & de Los Santos, 2020; WHO, 2020).

The International Council of Nurses (ICN) president, Annette Kennedy, highlighted the leadership roles nurses and nursing care have played during the COVID-19 pandemic with her statement: 'The eyes of the world are on our profession in a way that we could not have anticipated!' (ICN, 2020). During this difficult period, the increased demand for care, risk of infection, lack of equipment, the stress associated with providing medical care and mental support to patients, and the mental stress of working in an infectious environment can negatively affect the work performance of nurses (ICN, 2020; Labrague & de Los Santos, 2020). At this time, it is critically important that international nursing care standards be established for primary, secondary and tertiary health care services, the nursing workforce and professional qualifications (ICN, 2020). Solution-focused thinking skills, which empower individuals to focus on the solution rather than the problem, are gaining importance in the effort to increase the qualifications of nurses. Those who integrate these skills into their behaviours and professional perception have a greater awareness of their strengths and personal resources (McAllister, 2010). Using solution-focused thinking strategies (guiding individuals to objective, activating their internal and external resources, disengaging from the problem, fighting against obstacles) can strengthen communication skills (McAllister, 2013). This approach provides a positive two-way interaction that brings out the strengths of both the caregiver and the care receiver (McAllister, 2010). With this type of interaction, nurses increase their adaptability in care situations, externalize problems and put the solution at the forefront (Evans & Evans, 2013; McAllister, 2010).

Previous studies indicate that solution-focused thinking skills are compatible with the philosophy of nursing (Akgül-Gündoğdu et al., 2016, 2018; McAllister, 2010). However, these skills can be negatively affected in nurses by certain factors and personal characteristics, such as working conditions during the pandemic and the fear of infection for themselves and/or their relatives. These conditions can also increase anxiety levels (Xiang et al., 2020). In the past, it has been shown that a pandemic affects not only individuals who have anxiety disorders and mental problems but also individuals who have never had such complaints insofar as it raises anxiety levels and creates new mental issues (Nicoll et al., 2010; Xiang et al., 2020). While flexible working hours and practices have been introduced to control such problems (Güler et al.,2020), nurses who are actively in close contact with people during the pandemic can nonetheless still experience state or trait anxiety as a result of the mental burden sustained during this process (Alves

Fernandes et al., 2018; Labrague & de Los Santos, 2020). The level of anxiety can be affected by an individual's coping skills, their years of professional experience, type of work shift and the needs of those for whom they provide health care services (Bahadır-Yılmaz & Yüksel, 2020; Çelmeçe & Menekay, 2020; Milgrom et al., 2020). This situation can undermine the positive interaction between the caregiver and the care recipient. Therefore, addressing the anxiety experienced by caretakers is important in terms of keeping their anxiety under control and successfully managing work requirements during the pandemic (Banerjee, 2020).

In studies focusing on nursing and anxiety, issues of self-esteem (Özen-Kutanis & Tunç, 2013) and death anxiety in nurses working in hospital settings have been examined (Yorulmaz & Kurt-Sezer, 2020). In the literature that has emerged during the COVID-19 pandemic, there has been research on the anxiety experienced by health care professionals in hospital settings (Bahadır-Yılmaz & Yüksel, 2020; Çelmeçe & Menekay, 2020; Labrague & de Los Santos, 2020; Milgrom et al., 2020). However, the literature review conducted as part of this study revealed that there are only a limited number of studies specifically analysing the anxiety levels of nurses in primary health care services (Alves Fernandes et al., 2018; Lockwood, 2019; Muşlu et al., 2012). This lack of information exists despite the fact that anxiety, pain and concern are commonly experienced by primary care nurses due to the physical and mental fatigue caused by the greater performance demands in their work environments (Alves Fernandes et al., 2018; Lockwood, 2019). The relevant literature shows that the anxiety experienced by primary care nurses negatively affects the care they provide (Alves Fernandes et al., 2018). Accordingly, the crisis created by the global COVID-19 pandemic negatively affects caregivers and care receivers alike (WHO, 2020). A study found that nurses working in environments with a risk of virus infection were worried about their health and that of their families. The nurses also stated that they could barely spend time with their family due to the isolation rules, and thus, they generally failed to keep in touch with their family members (Maben & Bridges, 2020). The WHO has warned that the coronavirus may never be eliminated, which suggests that this struggle will continue to be difficult (WHO, 2020). It has been emphasized that during this struggle, controversial areas, such as prevention of the disease, diagnosis and treatment, should be analysed by primary care research activities with limited resources (Chinedu Michael & Aliyu, 2020). The main responsibilities of nurses in these areas are the protection of the health of individuals, the identification of risk groups and the planning of need-based health education (Aston, 2018; Kulbok & Ervin, 2012).

High-quality primary care data are needed to monitor the COVID-19 pandemic (Dambha-Miller et al., 2020), as accurate data serve as a guide for understanding the course of the disease, its early detection and monitoring (Chu et al., 2020; de Lusignan et al., 2020). The key to developing such a guide is the optimization of nurses'/midwives' communication skills through the use of solution-focused thinking strategies (McAllister, 2013). These communication skills facilitate crisis and anxiety management. In the literature, there are no descriptive correlational studies investigating the anxiety levels

of primary care nurses, in conjunction with solution-focused thinking skills, and the factors affecting them. The results from this study will serve to create a database for and gain insight into primary care nursing practices. As such, this study aimed to determine the state–trait anxiety levels and solution-focused thinking skills of primary care nurses and midwives during the COVID-19 pandemic and to evaluate the factors affecting these variables and the determinants of state–trait anxiety levels. To accomplish the goals of the study, we sought answers to several questions, specifically:

1. What are the state–trait anxiety levels and solution-focused thinking skills of nurses/midwives?
2. Do the state–trait anxiety levels and solution-focused thinking skills of nurses/midwives change according to their sociodemographic characteristics?
3. Do the state–trait anxiety levels and solution-focused thinking skills of nurses/midwives change according to characteristics related to the COVID-19 pandemic?
4. What are the determinants of the state anxiety level?
5. Is there a relationship between state anxiety level and solution-focused thinking skills?

2 | METHODS

2.1 | Design, participants and sample size

This study, conducted using a descriptive correlational design, was carried out with nurses and midwives working in the 61 family health centres located in the two central districts of Kahramanmaraş, Turkey. Central district A has 37 family health centres, and central district B has 24 family health centres, each with 3–5 doctors and nurses/midwives. A family doctor and a nurse/midwife working at these centres provide routine protective health care (health education, immunization, fetal monitoring and follow-up care for babies) and therapeutic services to 3500–4000 people on average. Throughout the pandemic, nurses/midwives have participated in all processes of health services from triage to contact tracing and diagnosis to treatment.

A total of 210 nurses/midwives work in the family health centres. The sample size was calculated using the G*power 3.1.9.2 statistical software program. Based on 90% power, a 95% confidence interval and 0.27 effect size taking the mean state anxiety score (51.51 ± 9.94) in the study of Bahadır-Yılmaz and Yüksel (2020) into account, a sample size of 170 was determined as sufficient. A total of 172 nurses/midwives met the study inclusion criteria that they work in primary health care services during the COVID-19 pandemic and agree to participate in the study. Inclusion criteria were to be working in primary health care services during the COVID-19 pandemic and to agree to participate in the study. Nurses/midwives diagnosed with a psychiatric condition or on administrative leave during the pandemic (those who had chronic diseases or were pregnant) were

excluded. The final study group consisted of 170 participants (participation rate 98.8%).

After obtaining written permission from the Local Public Health Authority and the Ministry of Health, a Google Forms link was sent to the WhatsApp groups in which nurses and midwives working on primary health care services were included. Participants received a reminder each week to complete the online participation. The study data were collected from the participants between 1 August 2020 and 14 September 2020.

2.2 | Measurements

2.2.1 | The personal information form

A 13-question form was used to evaluate participants' sociodemographic and COVID-19 pandemic-related characteristics.

2.2.2 | Solution-focused inventory

This 6-point Likert-type scale (1 = strongly disagree to 6 = strongly agree) was developed by Grant et al., (2012) to evaluate the ability of an individual's thinking system to construct solutions. The Turkish validity and reliability study of the scale was carried out by Şanal-Karahan and Hamarta (2015). Cronbach's alpha coefficient of the total scale was 0.83. The Solution-focused inventory (SFI) consisted of 12 items arranged under three subscales: problem disengagement (items 1, 2, 4 and 5), goal orientation (items 9, 10, 11 and 12) and resource activation (items 3, 6, 7 and 8). Items 1, 2, 4 and 5 were reverse-scored (Şanal-Karahan & Hamarta, 2015).

2.2.3 | State–trait anxiety inventory

This 4-point Likert-type scale (almost never to almost always) was developed by Spielberger et al., (1971) to measure state–trait anxiety levels. It was adapted to Turkish by Öner and Le Compte in 1985. The scale consists of 20 questions with two types of statements, direct statements that indicate negative feelings and reversed statements that indicate positive feelings. The State Anxiety Inventory is a very sensitive tool for evaluating volatile emotional reactions. The Trait Anxiety Inventory, which is the second part of the inventory, consists of 20 items and aims to measure the continuity of anxiety that an individual generally tends to experience. For both scales, scores range from 20 (low anxiety) to 80 (high anxiety), with higher scores indicating a high level of anxiety and lower scores indicating a low level of anxiety (Öner & Le Compte, 1985). In the Turkish adaptation of the scale, the reliability coefficients determined by alpha correlations were between 0.83 and 0.92 for the state anxiety scale and between 0.83 and 0.87 for the trait anxiety scale (Öner & Le Compte, 1985; Spielberger et al., 1971).

TABLE 1 Sociodemographic and COVID-19 pandemic-related characteristics of participant ($n = 170$)

Characteristics		Number (%)
Gender	Female	164 (96.5)
	Male	6 (3.5)
Marital status	Married	125 (73.5)
	Single	45 (26.5)
Education Level	High school	24 (14.1)
	Associate degree[a]	26 (15.3)
	Undergraduate degree	120 (70.6)
Profession	Nurse	89 (52.4)
	Midwife	91 (47.6)
Chronic illness	Yes	41(24.1)
	No	129 (75.9)
Type of shift during the COVID-19 pandemic	Normal shift	119 (70.0)
	Flexible shifts[b]	51 (30.0)
Follow-up of COVID-19 patients diagnosed with computed tomography	Yes	130 (76.5)
	No	40 (23.5)
Follow-up of patients tested positive with COVID-19	Yes	134 (78.8)
	No	36 (21.2)
Thinking that necessary preventative measures against COVID-19 are being taken in the institution	Yes	51 (30.0)
	Partially	82 (48.2)
	No	37 (21.8)
	Mean (SD)	Min–Max
Age	35.19 (9.42)	21.00–55.00
Total years of professional experience	14.04 (10.75)	1.00–39.00
Years of professional experience in their current institution	6.74 (6.89)	1.00–34.00

[a]Associate degree = two years of education after high school.

[b]Flexible shifts = during the day (working hours at 08.00–12.00 or 13.00–17.00 or working certain days during the week).

2.3 | Ethical considerations

Ethical approval to conduct this study was received from the University Ethics Committee (Ethics No: 2020/12). Institutional permission was obtained from the Provincial Directorate of Health. The informed voluntary consent form was attached to the data collection tools, and participants were required to read and agree to the information on the form as verification of their voluntary participation in the study.

2.4 | Data analysis

Data were analysed using the IBM SPSS Statistics for Windows, Version 22 Armonk, NY: IBM Corp. Summary statistics are presented as number (n), percentage (%), mean (standard deviation), and minimum and maximum values. The normal distribution of the data was evaluated using the Kolmogorov–Smirnov test and Q–Q graph. The t test and one-way ANOVA were used for normally distributed data, while the Mann–Whitney U test, Kruskal–Wallis test and Spearman correlation analysis were used for data not normally distributed. Multiple linear regression analysis was applied for the

determinants of state anxiety level. In the analysis, categorical variables were determined to be 1 for groups with a risk factor. $p < .05$ was considered statistically significant.

3 | RESULTS

3.1 | Sociodemographic and COVID-19 pandemic-related characteristics

Of the participants, 96.5% were female, 73.5% were married, 70.6% had an undergraduate degree, 24.1% had a chronic illness, 70.0% worked normal shifts, 76.5% performed follow-up of patients diagnosed with COVID-19 using computed tomography, and 78.8% performed follow-up of patients who tested positive for COVID-19. In addition, 48.2% reported thinking necessary preventative measures against COVID-19 were only partially taken by their institution. The participants' mean age was 35.19 (±9.42), their mean years of professional experience was 14.04 (±10.75), and their mean years of professional experience in their current institution was 6.74 (±6.89) (Table 1).

TABLE 2 Distribution of participants' state–trait anxiety, solution-focused inventory (SFI) total and subscale mean scores

Characteristics		State anxiety	Trait anxiety	SFI total	Problem disengagement	Goal orientation	Resource activation
Gender	Female	48.73 (11.21)	46.96 (8.02)	48.14 (8.26)	11.48 (4.55)	18.17 (4.18)	18.48 (4.17)
	Male	48.16 (6.79)	45.00 (5.36)	50.16 (4.95)	13.16 (2.99)	18.83 (3.54)	18.16 (3.48)
	Test and p value	$z = -0.199$	$t = 0.594$	$z = 0.634$	$z = -1.156$	$z = -0.449$	$z = -0.488$
		$p = .843$	$p = .554$	$p = .526$	$p = .248$	$p = .653$	$p = .626$
Marital status	Married	48.96 (11.06)	46.68 (7.96)	47.92 (8.45)	11.14 (4.25)	18.52 (4.03)	18.24 (4.10)
	Single	48.00 (11.20)	47.48 (7.94)	49.04 (7.34)	12.66 (5.07)	17.28 (4.41)	19.08 (4.24)
	Test and p value	$z = -0.191$	$t = -0.585$	$z = -0.488$	$z = 1.760$	$z = 1.838$	$z = 1.126$
		$p = .849$	$p = .560$	$p = .626$	$p = .078$	$p = .066$	$p = .260$
Education level	High School	47.50 (9.59)	46.29 (5.54)	47.54 (11.70)	11.70 (4.84)	17.95 (4.95)	17.87 (5.08)
	Associate degree[a]	48.15 (9.75)	47.53 (7.07)	47.42 (9.17)	10.96 (4.74)	18.26 (3.84)	18.19 (4.61)
	Undergraduate degree	49.07 (11.65)	46.87 (8.54)	48.52 (7.32)	11.64 (4.43)	18.23 (4.08)	18.65 (3.85)
	Test and p value	$F = 0.239$	$KW = 0.529$	$KW = 0.293$	$KW = 0.355$	$KW = 0.040$	$KW = 0.213$
		$p = .788$	$p = .768$	$p = .864$	$p = .838$	$p = .980$	$p = .899$
Profession	Nurse	49.47 (10.91)	46.86 (7.88)	48.91 (7.95)	12.15 (4.47)	18.19 (4.25)	18.56 (4.19)
	Midwife	47.87 (11.25)	46.92 (8.05)	47.45 (8.37)	10.87 (4.49)	18.20 (4.07)	18.37 (4.12)
	Test and p value	$t = -0.938$	$z = -0.109$	$z = -0.839$	$z = -1.979$	$z = -0.028$	$z = -0.305$
		$p = .350$	$p = .913$	$p = .402$	**$p = .048$**	$p = .978$	$p = .760$
Chronic illness	Yes	52.92 (12.42)	50.87 (8.59)	46.92 (7.35)	11.63 (4.33)	17.92 (3.56)	17.36 (4.58)
	No	47.37 (10.30)	45.62 (7.31)	48.62 (8.39)	11.51 (4.59)	18.28 (4.33)	18.82 (3.95)
	Test and p value	$z = -3.047$	$t = 3.833$	$z = 1.069$	$z = -0.106$	$z = -1.088$	$z = -1.684$
		$p = .002$	**$p = .000$**	$p = .285$	$p = .916$	$p = .277$	$p = .092$
Type of shift during the COVID-19 pandemic	Normal shift	49.53 (11.41)	46.57 (7.68)	47.15 (8.10)	11.18 (4.38)	18.08 (4.16)	17.88 (4.22)
	Flexible shifts[b]	46.78 (10.07)	47.64 (8.55)	50.70 (7.84)	12.39 (4.76)	18.47 (4.16)	19.84 (3.65)
	Test and p value	$t = 1.483$	$t = 0.922$	$z = -2.392$	$z = -1.393$	$z = -0.775$	$z = -2.798$
		$p = .138$	$p = .420$	**$p = .017$**	$p = .164$	$p = .438$	**$p = .005$**
Follow-up of COVID-19 patients diagnosed with computed tomography	Yes	49.96 (9.92)	47.32 (7.36)	48.60 (7.99)	11.67 (4.53)	18.40 (3.78)	18.53 (3.91)
	No	44.62 (13.54)	45.50 (9.55)	46.95 (8.67)	11.12 (4.50)	17.55 (5.19)	18.27 (4.87)
	Test and p value	$z = -2.428$	$t = 1.272$	$z = -0.679$	$z = -0.357$	$z = -0.356$	$z = -0.024$
		$p = .015$	$p = .205$	$p = .497$	$p = .721$	$p = .722$	$p = .981$
Follow-up of patients tested positive with COVID-19	Yes	49.73 (10.52)	46.97 (7.59)	48.41 (7.95)	11.48 (4.61)	18.43 (3.80)	18.50 (3.99)
	No	44.91 (12.34)	46.61 (9.24)	47.47 (9.00)	11.77 (4.20)	17.33 (5.24)	18.36 (4.72)
	Test and p value	$z = -2.007$	$t = 0.240$	$z = -0.090$	$z = -0.669$	$z = -0.651$	$z = -0.065$
		$p = .045$	$p = .811$	$p = .928$	$p = .503$	$p = .515$	$p = .948$

(Continues)

TABLE 2 (Continued)

Characteristics		State anxiety	Trait anxiety	SFI total	Problem disengagement	Goal orientation	Resource activation
Thinking that necessary preventative measures against COVID-19 are being taken in the institution	Yes	45.21 (10.19)	46.01 (9.39)	49.01 (10.60)	11.54 (4.67)	18.39 (5.11)	19.07 (5.21)
	Partially	49.60 (10.53)	47.32 (7.27)	48.37 (6.15)	12.08 (4.70)	18.03 (3.72)	18.25 (3.28)
	No	51.54 (12.43)	47.13 (7.27)	46.75 (8.27)	10.35 (3.67)	18.29 (3.67)	18.10 (4.22)
	Test and *p* value	*F* = 4.167 **p = .017**	*F* = 0.446 *p* = .641	KW = 2.567 *p* = .277	KW = 4.275 *p* = 118	KW = 2.698 *p* = .260	KW = 4.999 *p* = .082

[a]Associate degree = two years of education after high school.

[b]Flexible shifts = during the day (working hours at 08.00–12.00 or 13.00–17.00 or working certain days during the week).

3.2 | Distribution of state–trait anxiety, SFI total and mean subscale scores

There was no statistically significant difference between the participants' sociodemographic characteristics and their state–trait anxiety, SFI total and SFI subscale scores ($p > .05$). It was found, however, that the mean state anxiety scores of those with a chronic illness, those who performed follow-up of patients diagnosed with COVID-19 using computed tomography and those who performed follow-up of patients who tested positive for COVID-19 were statistically significantly higher ($p < .05$). The mean trait anxiety scores of those with a chronic illness were higher than those without a chronic illness, with a statistically significant difference ($p < .05$). The SFI and resource activation subscale mean scores of the participants who had flexible work shifts during the COVID-19 pandemic were statistically significantly higher as well ($p < .05$) (Table 2).

Overall, the participants' state [48.71 (±11.07)] and trait [46.89 (±7.94)] anxiety scores were above average, indicating a moderate level of anxiety. The mean total SFI scores were 48.21 (±8.16), and the mean resource activation scores [18.47 (±4.14)] were higher than other SFI subscale mean scores (Table 3).

3.3 | Multiple linear regression analysis

Trait anxiety (β = 0.655), age (β = 0.059), total years of professional experience (β = −0.043), years of professional experience at the current institution (β = −0.079), having a chronic disease (β = −0.035), type of work shift during the pandemic (β = −0.108), follow-up of patients diagnosed with COVID-19 using computed tomography (β = 0.002), follow-up of patients who tested positive for COVID-19 (β = −0.163) and thinking that necessary preventative measures were not being taken against COVID-19 by the institution (β = 0.151) accounted for 47.9% (adjusted R^2 = .479) of the state anxiety score (Table 4).

3.4 | Correlation analysis

There was a negative, significant relationship between participants' state anxiety and goal orientation ($r = -.226$, $p = .003$) and resource activation ($r = -.203$, $p = .008$) SFI subscales. There was a positive, significant relationship between state anxiety and the problem disengagement ($r = 0.291$, $p = .000$) subscale. Lastly, there was a negative relationship between mean state anxiety score and mean total SFI score ($r = -0.039$, $p = .611$) but no significant difference (Table 5).

4 | DISCUSSION

High-quality, efficient, health care service must be a priority in the fight against COVID-19, a virus that spreads fast and uncontrollably. When the pandemic first emerged, the primary focus of the health care system was restructuring the capacity of hospital services for critically ill patients (Young & Fick, 2020). There have been many studies on the state–trait anxiety levels of health care professionals working in hospitals during this period (Bahadır-Yılmaz & Yüksel, 2020; Çelmeçe & Menekay, 2020; Milgrom et al., 2020; Sakaoğlu et al., 2020). In a comparative study on this subject, it was reported that the state–trait anxiety levels of health care professionals were higher than those of professionals in other fields of work (Hacimusalar et al., 2020). However, little is known about the anxiety experienced by primary care health care professionals (nurses/midwives) during the pandemic (Halcomb et al., 2020). Therefore, this study aimed to determine the state–trait anxiety levels and solution-focused thinking skills of nurses and midwives in primary care during the COVID-19 pandemic and to evaluate the factors affecting these variables and the determinants of the state–trait anxiety levels.

The discussion that follows is conducted within the framework of state–trait anxiety and solution-focused thinking skills. The current study found that the nurses/midwives had a moderate level of state–trait anxiety. Likewise, in a study evaluating the psychological effects of COVID-19, nurses/midwives were reported to have

moderate state–trait anxiety levels (Erkal-Aksoy & Koçak, 2020). However, the state anxiety levels of the nurse/midwives in the current study were higher, which could be attributed to the fact that the majority of the nurses/midwives in the sample group worked at a hospital, where they are more likely to experience anxiety due to fear of infection when providing close-contact care to patients infected with COVID-19.

There was no difference in terms of sociodemographic characteristics (gender, marital status, education, profession) and mean total scores for state-trait anxiety and SFI. These results align with those reported in studies investigating the state–trait anxiety levels of health care professionals working in a hospital during the pandemic (Erkal-Aksoy & Koçak, 2020; Sakaoğlu et al., 2020). However, some studies have found differences in state (Bahadır-Yılmaz & Yüksel, 2020) and trait (Çelmeçe & Menekey, 2020) anxiety levels based on gender and marital status. These differences could be due to the sample sizes of these studies and/or the collection of the data at different times of the pandemic, as the daily number of cases is constantly changing.

In the current study, the level of state anxiety differed based on the participant variables of chronic illness, performing follow-up for patients diagnosed with COVID-19 according to computed tomography, performing follow-up of patients who tested positive for COVID-19, type of work shift and thinking that necessary preventative measures were not being taken against COVID-19. These variables explained 47.9% of the state anxiety level. The results of previous studies were similar to those found in the current study in terms of these variables (Erkal-Aksoy & Koçak, 2020; Sakaoğlu et al., 2020). In one study, it was determined that nurses had the third-highest anxiety levels among health care professionals. In the same study, multiple regression analysis found a relationship between state anxiety and being a nurse (Milgrom et al., 2020). These results suggest that in times of crisis, anxiety management is an important issue.

The current study found that nurses/midwives with chronic illnesses had high trait anxiety scores and that there was a significant difference between the mean trait anxiety scores of nurses/midwives with and without chronic illnesses. These results indicate that the nurses/midwives with chronic illnesses experienced trait anxiety while providing care to patients with COVID-19. In a study conducted with nurses working in primary care during the COVID-19 pandemic, the nurses reported deficiencies in personal

protective equipment, effective communication, financing, self-care, proper work environment and professional appreciation (Halcomb et al., 2020). These findings could explain the state anxiety levels of the nurses who reported in the current study that necessary measures against the COVID-19 pandemic were not being taken.

During the pandemic, when the number of cases is variable, health care professionals must have strong coping skills to manage state-trait anxiety. It is here that the use of solution-focused thinking skills by nurses/midwives can serve to reduce their anxiety and help them provide quality care for patients. Solution-focused thinking can help nurses manage their anxiety easier and help patients recover because it emphasizes that discovering and developing one's strengths and resources allow them to be motivated, optimistic and focused on the future (McAllister, 2013). This perspective encourages the nurse whose aim is to manage the crisis well to use communication skills to cope with the problems of the patients they provide care for (Franklin et al., 2017). However, in the literature review, there were no studies that investigated state-trait anxiety levels and solution-focused thinking skills of nurses/midwives together. Therefore, the relationship between these variables has been discussed based on the results of the current study. There was a significant difference between the type of work shift and the mean total SFI score and the mean resource activation subscale score, which suggests that when anxiety levels are influenced by the type of work shift, this can affect the solution-focused thinking skills of nurses and midwives. Furthermore, there was a positive significant relationship between the nurses'/midwives' state anxiety and their total scores on the SFI, which indicates that nurses/midwives need solution-focused thinking skills to integrate their professional knowledge into patient care and to activate external resources.

4.1 | Limitations

This study only included nurses/midwives working in the primary care unit of family health centres located in a single region; therefore, the results cannot be generalized to other nurses/midwives nor be accepted as representative of nurses/midwives in other areas. Furthermore, the data obtained in this study were limited to self-reporting by the participants.

5 | CONCLUSION

Our study determined that nurses and midwives had a moderate level of anxiety and solution-focused thinking skills. Trait anxiety and thinking that necessary preventative measures were not being taken against COVID-19 were the determinants of state anxiety levels. There was a negative relationship between state anxiety and SFI total scores. The results highlight the importance of addressing the concerns of health care professionals to ensure the successful continuity of health care services. The results of this study further revealed that the anxiety level of nurses/midwives working in primary

TABLE 3 Participants' state–trait anxiety, solution-focused inventory (SFI) total and subscale mean scores

Characteristics	Mean (*SD*)	Min–Max
Problem disengagement	11.54 (4.51)	4.00–24.00
Goal orientation	18.20 (4.15)	4.00–24.00
Resource activation	18.47 (4.14)	4.00–24.00
SFI total score	48.21 (8.16)	14.00–72.00
State anxiety total score	48.71 (11.07)	25.00–77.00
Trait anxiety total score	46.89 (7.94)	27.00–68.00

TABLE 4 Determinants of state anxiety in participants

Variables	B	t	p	95% confidence interval
Constant		1.273	.205	−5.608–25.970
Trait anxiety	0.656	10,996	.000*	0.751–1.079
Age	0.059	0.389	.698	−0.283–0.422
Total years of professional experience	−0.043	−0.280	.780	−0.357–0.268
Years of professional experience in their current institution	−0.079	−1.030	.305	−0.371–0.117
Chronic illness (1 = Yes)	−0.035	−0.571	.569	−4.051–2.233
Type of work shift during the COVID-19 pandemic (1 = changing shifts)	−0.107	−1.839	.068	−3.309–0.118
Follow-up of COVID-19 patients diagnosed with computed tomography (1 = Yes)	0.002	0.016	.987	−5.842–5.936
Follow-up of patients tested positive with COVID-19 (1 = Yes)	−0.164	−1.442	.151	−10.497–1.639
Thinking that necessary preventative measures against COVID-19 are being taken in the institution (1 = No)	0.154	2.639	.009**	0.374–2.594
	$R^2 = .506$	Adjusted $R^2 = .479$	$F = 18.243$	$p = .000*$

*$p < .01$; **$p < .05$.

TABLE 5 Correlation between state anxiety, solution-focused inventory (SFI) total and subscale mean scores

Variables	1	2	3	4	5
1. State anxiety	r = 1.00				
2. Total SFI	r = −.039	r = 1.00			
3. Problem disengagement	r = .291*	r = .468*	r = 1.00		
4. Goal orientation	r = −.226*	r = .648*	r = −.081	r = 1.00	
5. Resource activation	r = −.203*	r = .642*	r = −.110	r = .410*	r = 1.00

*$p < .01$.

health care service, as well as those working in hospitals, increased during the pandemic. Nurses/midwives working in primary care services should therefore be supported by community mental health nurses and psychiatrists. Finally, programmes should be developed to improve the coping strategies of nurses/midwives and strengthen their psychological endurance during times of crisis, and training programmes that include solution-focused strategies should be planned to improve solution-focused thinking skills.

6 | IMPLICATIONS FOR NURSING MANAGEMENT

Primary health care services play an integral role in providing care to the community and in planning care and crisis management, especially during pandemics. Therefore, in-service training sessions are recommended, as they would serve to improve nurses' solution-focused thinking skills and therefore enable them to organise quickly and manage the care process successfully in extraordinary circumstances such as pandemics. Improving nurses/midwives' solution-focused thinking skills can also improve their communication skills and facilitate teamwork.

Flexible working hours reduce the negative effects related to anxiety and enable nurses/midwives to manage their time with less difficulty. Thus, working hours of nurses/midwives involved in primary health care services should be arranged taking their roles and responsibilities in their daily lives into account, thereby allowing them to manage crises more efficiently. Primary health care facilities should also consider service management programmes and up-to-date information in exceptional circumstances such as pandemics. Service management should be organised based on the priorities of the crisis. The health care manpower in facilities should also be rearranged to accommodate these exceptional situations.

Moreover, personal empowerment programmes should be recommended for nurses and midwives to help them cope with anxiety. These programmes can have a positive impact on the nurses/midwives' crisis and time management skills in exceptional circumstances and increase their work motivation and ultimately patient care.

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