

ORIGINAL RESEARCH ARTICLE

Psychological burden, stress, depression, and
resilience among midwives: An epidemiological
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Abstract

The coronavirus disease 2019 (COVID-19) pandemic has profoundly affected the mental health of health-care professionals, including midwives. This study assessed stress, depression, and psychological resilience among midwives in the Thessaly region of Greece and identified associated demographic, socioeconomic, and occupational factors. Between February and March 2021, data were collected from 102 midwives using the Spielberger State-Trait Anxiety Inventory, Connor-Davidson Resilience Scale, and Beck Depression Inventory. Overall, 79.4% of participants feared contracting COVID-19 at work, and 90.2% feared transmitting the virus to family members. While 63.0% showed no depressive symptoms, 15.0% reported mild symptoms. Poor or moderate self-reported health, reduced time spent with patients, employment in the public sector, longer years of service, and concern about transmitting the virus were significantly associated with worse mental-health outcomes. High stress levels correlated with increased depression risk, while higher psychological resilience was protective. In conclusion, midwives in Thessaly experienced a considerable psychological burden during the COVID-19 pandemic, highlighting the need for targeted mental health interventions.

Keywords: Midwives; Coronavirus disease 2019; Stress; Depression; Resilience; Mental health***Corresponding author:**Aikaterini Sousamli
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1. Introduction

In December 2019, a potentially dangerous respiratory disease emerged in Wuhan, Hubei province, China. On December 31, 2019, China notified the World Health Organization (WHO) of several cases of unusual pneumonia caused by an unknown virus, likely linked to the city's wet market.¹ The illness was later named coronavirus disease 2019 (COVID-19). Within 4 months, despite repeated WHO warnings and guidance, the virus spread rapidly within China and internationally, overwhelming health-care systems that struggled with poor planning, lack of preparedness, organizational challenges, and insufficient stocks of essential medical supplies to protect healthcare workers, thereby triggering a global ethical crisis in public health and bioethics.^{2,3} COVID-19 soon became

one of the most significant global health threats in recent history.⁴ Its association with frontline healthcare workers, who provided critical care, was profound.^{5,6} Among these professionals, midwives occupied a special role; often hailed as heroes, they continued to support childbirth and prenatal care even amid extraordinary adversity.²

Health-care professionals faced unprecedented levels of psychological strain – defined as chronic stress with serious physical, mental, social, and economic consequences.⁷ Anxiety, burnout, and depression became daily realities for those delivering patient care,⁸ although mental resilience enabled many to withstand these pressures more effectively.⁹ Within health sciences, midwifery is uniquely trusted and valued for supporting women and families during one of life's most emotionally significant moments.⁹ Midwives serve not only as birth attendants but also as counselors on childbirth and neonatal health, contributing to the continuation and well-being of future generations.

The COVID-19 pandemic placed enormous psychological burdens on the general population and intensified these pressures for midwives. However, research remains sparse, with most studies focusing on medical and nursing staff and far fewer targeting midwives. A global meta-synthesis of midwives' pandemic experiences underscored severe physical, psychological, and relational strain and highlighted ongoing risks such as burnout and moral distress.¹⁰ A UK consensus further emphasized the need to embed psychological support and well-being planning into midwifery practice during and after the pandemic.¹¹⁻¹³ In addition, scoping reviews published in 2024 – 2025 reported high levels of stress and burnout in maternity staff across diverse settings worldwide, reinforcing calls for institutional strategies to sustain midwives' mental health.^{2,11} The complex interaction between stress and coping mechanisms helps contextualize these findings.

Stress and anxiety are closely intertwined: stressors can activate the hypothalamic-pituitary-adrenal axis, increasing emotional reactivity and anxiety symptoms.¹³ In turn, individuals with high trait anxiety often perceive events as more threatening, further intensifying stress.¹⁴ Resilience functions as a psychological buffer, promoting adaptive appraisal, emotional regulation, and coping flexibility, and enabling individuals to manage adversity more effectively.¹⁵

This study, therefore, examined the levels and predictors of psychological distress and resilience among midwives in Thessaly, Greece, during the COVID-19 pandemic – addressing a critical gap in the literature concerning this population. The study focused specifically on midwives – key frontline health-care providers; whereas global studies have increasingly examined healthcare workers' mental health during COVID-19, data on midwives – especially in

Greece – remain scarce. By quantifying depression, anxiety, stress, and psychological resilience, and by examining how demographic, socioeconomic, and workplace factors influence mental health, the study sought to identify specific risk and protective factors. The resulting evidence may guide tailored interventions to support midwives' psychological well-being during ongoing and future public health emergencies.

Focusing on midwives in Thessaly is particularly important because the region's health-care infrastructure, resource limitations, and sociocultural dynamics may influence both the experience and impact of pandemic-related stressors. Thessaly's diverse mix of urban and rural environments offers a nuanced perspective on how varying conditions affect midwives' psychological resilience and vulnerability. Thus, locally relevant evidence can inform health-care policies and support systems tailored to midwives' needs in Greece. This localized focus not only addresses a critical research gap but also contributes to broader international efforts to safeguard maternal health professionals in times of crisis.

2. Materials and methods

2.1. Study design, population, conceptual framework, and ethical considerations

This cross-sectional observational study was conducted to evaluate the psychological burden experienced by midwives in the Thessaly region of Greece during the COVID-19 pandemic. Thessaly was selected due to its heterogeneous health-care settings, which include both urban centers and rural areas, providing a representative context to explore the diverse professional and personal challenges faced by midwives amid the pandemic. In addition, existing research on the mental health of Greek midwives is scarce, making this region a critical site for addressing local needs and informing targeted interventions.

Participants were midwives currently practicing in Thessaly. Recruitment was conducted using a convenience sampling approach, whereby midwives were invited to participate through professional networks, the Midwives Association of Thessaly, and relevant social media groups. Random sampling was not feasible due to constraints imposed by the pandemic and the need for timely data collection. Eligible participants were licensed midwives actively working in public or private health-care settings in Thessaly during the study period. Midwives not currently practicing or working outside the region were excluded.

Data were collected through an anonymous online questionnaire (Google Forms) between February and March 2021. The study was structured around a stress–

vulnerability–resilience framework, which conceptualizes psychological outcomes – such as anxiety and depression – as emerging from the dynamic interaction between external stressors (e.g., occupational exposure to COVID-19), individual vulnerability factors (e.g., sociodemographic and health characteristics), and protective factors (e.g., psychological resilience). This guided both the examination of risk and protective pathways in mental health outcomes and the selection of variables and analytical strategies. A set of sociodemographic and professional parameters was collected, including age, gender, marital status, level of education, presence of chronic or acute health conditions, number of children, years of work experience, and type of health-care institution (public or private). COVID-19-related exposure data, reflecting participants' degree of contact with infected individuals or high-risk environments, were also collected.

To operationalize this conceptual framework, a four-phase methodological model was developed and implemented. The first phase involved the conceptualization and design of the study, including the selection of the theoretical framework, identification of outcome variables, use of validated psychometric tools, and development of the online data collection instrument. The second phase focused on sampling and recruitment, wherein the target population was defined, and a convenience sampling method was employed to reach eligible midwives through digital networks and professional associations. The third phase comprised data collection and scoring, during which the questionnaire was distributed, responses were scored in accordance with standardized scoring procedures, and data were cleaned and prepared for statistical analysis. The fourth and final phase included statistical analysis and interpretation. This model ensured logical alignment between the study's theoretical framework, measurement instruments, sampling approach, and statistical analyses, thereby supporting a comprehensive and hypothesis-driven examination of psychological burden and resilience among midwives.

The study received ethical approval from the Scientific Council of the Midwives Association of Thessaly (Protocol Number 4/2021, dated May 2, 2021). Participation was entirely voluntary, and informed consent was obtained electronically. To protect participant confidentiality, the questionnaire was anonymous and did not collect any identifying information.

2.2. Literature search

A targeted literature review was conducted to identify previous findings on psychological distress among healthcare workers during COVID-19, with a focus on midwives. The search terms “COVID-19,” “mental health,”

“midwives,” “resilience,” “anxiety,” and “depression” were applied to PubMed, MEDLINE, and PsycINFO databases.

2.3. Research instruments

Psychological burden was assessed using three validated psychometric tools: the Spielberger State-Trait Anxiety Inventory (STAI) for anxiety, the Beck Depression Inventory (BDI) for depression, and the 25-item Connor–Davidson Resilience Scale (CD-RISC-25) for resilience. The sociodemographic and professional parameters, as well as the COVID-19 exposure data, were examined as independent predictors in regression models designed to test associations with anxiety, depression, and resilience, in line with the stress–vulnerability–resilience framework. The entire questionnaire was administered via online. The structured questionnaire of the study included four parts, as described in the following sections.

2.3.1. Demographic and professional characteristics

Participants provided self-reported information on the following potential vulnerability or exposure factors: gender; age (years); marital status (single, married, or divorced); educational level (primary, secondary, or tertiary); health history (chronic and acute conditions); number of children; years of professional experience as a midwife; type of employing institution (public or private); and degree of exposure to COVID-19 (e.g., direct contact with infected patients or working in high-risk settings). All variables were treated as independent variables in the statistical analyses.

2.3.2. STAI

The STAI is a widely used psychometric instrument measuring two distinct components of anxiety: state anxiety (temporary, situational) and trait anxiety (a general tendency toward anxiety). It contains 40 items – 20 for state anxiety (items 1 – 20) and 20 for trait anxiety (items 21 – 40) – rated on a 4-point Likert scale from 1 (“Not at all”) to 4 (“Very much so”). Item scores were summed for each subscale (range 20 – 80), with higher totals indicating greater anxiety. Reverse coding was applied as specified in the STAI manual (state items 1, 6, 7, 10, 13, 16, 19; trait items 21, 26, 27, 30, 33, 36, 39). The Greek version, validated by Fountoulakis *et al.*,¹⁵ shows high internal consistency (Cronbach's $\alpha > 0.90$). In this study, STAI scores were analyzed as continuous outcome variables in descriptive, bivariate, and multivariable models.

2.3.3. CD-RISC-25

The CD-RISC-25 is a validated psychometric instrument designed to assess psychological resilience, defined as the ability to cope with and recover from stress and adversity. The scale consists of 25 items, each rated on a 5-point

Likert scale ranging from 0 (“Not true at all”) to 4 (“True nearly all the time”). The total resilience score is calculated by summing all item responses, yielding a range of 0 – 100, with higher scores indicating greater resilience. In this study, the Greek-validated version of the CD-RISC-25 was utilized,¹⁵ which has demonstrated high internal consistency and construct validity (Cronbach’s $\alpha = 0.89$). Resilience scores were treated as continuous variables and included in descriptive analyses, correlation assessments, and multivariate regression models to investigate their potential buffering effect against psychological distress.

2.3.4. BDI

The BDI is a widely used self-report instrument that assesses the presence and severity of depressive symptoms. It comprises 21 items, each scored on a 4-point scale (0 – 3), with higher scores reflecting more severe symptoms. The total score ranges from 0 to 63. The BDI has been extensively validated across diverse populations, including Greek samples, where it demonstrates good internal consistency and reliability (Cronbach’s $\alpha = 0.84$).¹⁶ Total depression scores were treated as continuous variables in the statistical analysis, and established clinical cut-offs were used to interpret the severity of depressive symptoms and identify participants at risk of clinically significant depression.

2.4. Data collection and scoring procedures

All psychometric tools (STAI, CD-RISC-25, and BDI) were scored according to their standardized protocols. STAI responses were summed separately for state and trait subscales, accounting for reverse-coded items. CD-RISC-25 scores were calculated by summing all 25 items (range: 0 – 100), with higher values indicating greater resilience. For the BDI, total scores were derived by summing responses to all 21 items and interpreted using established clinical thresholds. Data were extracted, cleaned, and processed using SPSS version 22.0. Statistical significance was set at $p < 0.05$. Cases with missing data were excluded using listwise deletion.

2.5. Statistical analysis

Descriptive and inferential statistics were conducted to assess prevalence rates and explore associations between key variables. Normality of continuous variables was assessed with the Kolmogorov–Smirnov test. Descriptive statistics were reported as means $\pm$ standard deviations or medians with interquartile ranges for continuous variables, and frequencies with percentages for categorical variables. Bivariate analyses were conducted using Student’s t-test or Mann–Whitney U test (for comparisons between two groups) and analysis of variance or Kruskal–Wallis test (for comparisons among three or more groups), with

Bonferroni correction applied for multiple comparisons. Correlations between quantitative variables were assessed with Pearson’s or Spearman’s correlation coefficients (r), interpreted as: low ($r = 0.1 - 0.3$), moderate ($r = 0.31 - 0.5$), and high ($r > 0.5$). To identify independent predictors of psychological outcomes, stepwise linear regression was applied. Resilience and depression scores were log-transformed due to non-normal distribution. Regression models included demographic, professional, and exposure-related predictors aligned with the conceptual framework. Internal consistency of psychometric scales was verified using Cronbach’s alpha. β (beta coefficient) represents the strength and direction of the relationship between an independent variable and the dependent variable in the regression model, standard error indicates the precision of the estimated beta coefficient; smaller values suggest greater confidence in the estimate, while p (p -value) reflects the statistical significance of the observed relationship; a $p < 0.05$ was considered statistically significant.

3. Results

This study assessed the psychological burden experienced by midwives in the Thessaly region of Greece during the COVID-19 pandemic, focusing on stress levels, occupational exposure, and demographic or occupational risk factors. The final sample comprised 102 midwives. Table 1 and Figure 1 summarize potential vulnerability factors. Overall, 54.9% of participants were younger than 35 years, and 52% had <10 years of professional experience – features that may denote reduced professional resilience during a crisis. Most respondents (82.4%) reported low or moderate financial status, and 14.7% reported a chronic medical condition, both of which are well-known contributors to elevated psychological burden. Nearly one quarter (23.5%) had provided direct care to COVID-19 patients, an occupational exposure likely to elevate stress and burnout. The majority (69.6%) worked in the public sector, and nearly half (49.0%) were employed in primary-care settings – contexts often associated with heavy workloads and resource constraints during the pandemic. These variables were later examined as predictors of psychological outcomes.

Table 2 and Figure 2 address pandemic-specific psychological distress. Most midwives (79.4%) were afraid of contracting COVID-19 at work, while an even greater proportion (90.2%) feared transmitting the virus to family members – underscoring the emotional toll and mental pressure caused by the pandemic. More than one-third (37.3%) reported reducing the time spent with patients, a potential indicator of stress-related or disrupted clinical care. Only 84.3% felt less stressed knowing that pregnant women were routinely tested for COVID-19, anxiety

Table 1. Demographic and occupational characteristics of the study participants

Characteristic	n	Percentage
Age (years)		
≤35	56	54.9
≥36	46	45.1
Marital status		
Married	86	84.3
Single/divorced	16	15.7
Parenthood		
No	18	17.6
Yes	84	82.4
Chronic disease		
No	87	85.3
Yes	15	14.7
Self-reported health status		
Good/very good	90	88.2
Poor/moderate	12	11.8
Financial status		
High	18	17.6
Low/moderate	84	82.4
Education level		
Undergraduate	68	66.7
Postgraduate	33	32.4
Doctorate	1	1.0
Workplace sector		
Private	31	30.4
Public	71	69.6
Health-care level		
Primary care	50	49.0
Secondary care	34	33.3
Tertiary care	18	17.6
Work experience (years)		
≤10	53	52.0
≥11	49	48.0
Direct care of COVID-19 patients at workplace		
No	78	76.5
Yes	24	23.5

levels nevertheless remained high. These findings provide quantitative evidence of the psychological burden borne by midwives and satisfy the study's second objective.

3.1. Resilience scale

Table 3 presents the participants' scores on the CD-RISC-25. Scores ranged from 7 to 100, with a mean

Table 2. Pandemic-related stress among the participants

Question	Response	n	Percentage
Are you stressed about contracting COVID-19 due to your job?	No	21	20.6
	Yes	81	79.4
Are you stressed about transmitting COVID-19 to a family member due to your job?	No	10	9.8
	Yes	92	90.2
Do you spend less time with patients due to the pandemic?	No	64	62.7
	Yes	38	37.3
Do you feel less stressed knowing that pregnant women are tested for COVID-19 before seeing you?	No	16	15.7
	Yes	86	84.3

of 70.3 ± 18.3 ; higher values indicate greater resilience. The scale demonstrated excellent reliability in this sample (Cronbach's $\alpha = 0.96$).

To explore factors influencing psychological resilience, the resilience scale scores were compared across demographic and occupational characteristics (Table 4) and pandemic-related stressors (Table 5). Figure 3 shows the statistically significant differences ($p < 0.05$) in this dataset. Midwives reporting good or very good health status had significantly higher resilience than those in poor or fair health ($p = 0.007$), highlighting the importance of physical health for psychological coping. Other demographic and occupational factors did not show statistically significant differences, indicating resilience was broadly consistent across age, marital status, education, and work setting. Similarly, analysis of pandemic-related factors revealed that midwives who did not reduce patient-interaction time during the pandemic exhibited significantly greater resilience ($p = 0.019$). This finding suggests that continued professional engagement may bolster resilience. Other stress-related factors, such as fear of contracting or transmitting COVID-19, did not significantly affect resilience scores.

To assess the impact of pandemic-related stressors on midwives' psychological resilience, four COVID-19-specific variables were analyzed: (1) stress related to the possibility of contracting COVID-19 at work, (2) stress about potentially transmitting the virus to family members, (3) changes in the time spent with patients compared to the pre-pandemic period, and (4) anxiety relief from routine testing of pregnant women before appointments. These factors were selected based on their relevance to occupational exposure, perceived risk, and alterations in clinical practice. Table 5 and Figure 4 present the corresponding mean and median resilience scores.

Among the factors examined, only the reduced time spent with patients was significantly associated with

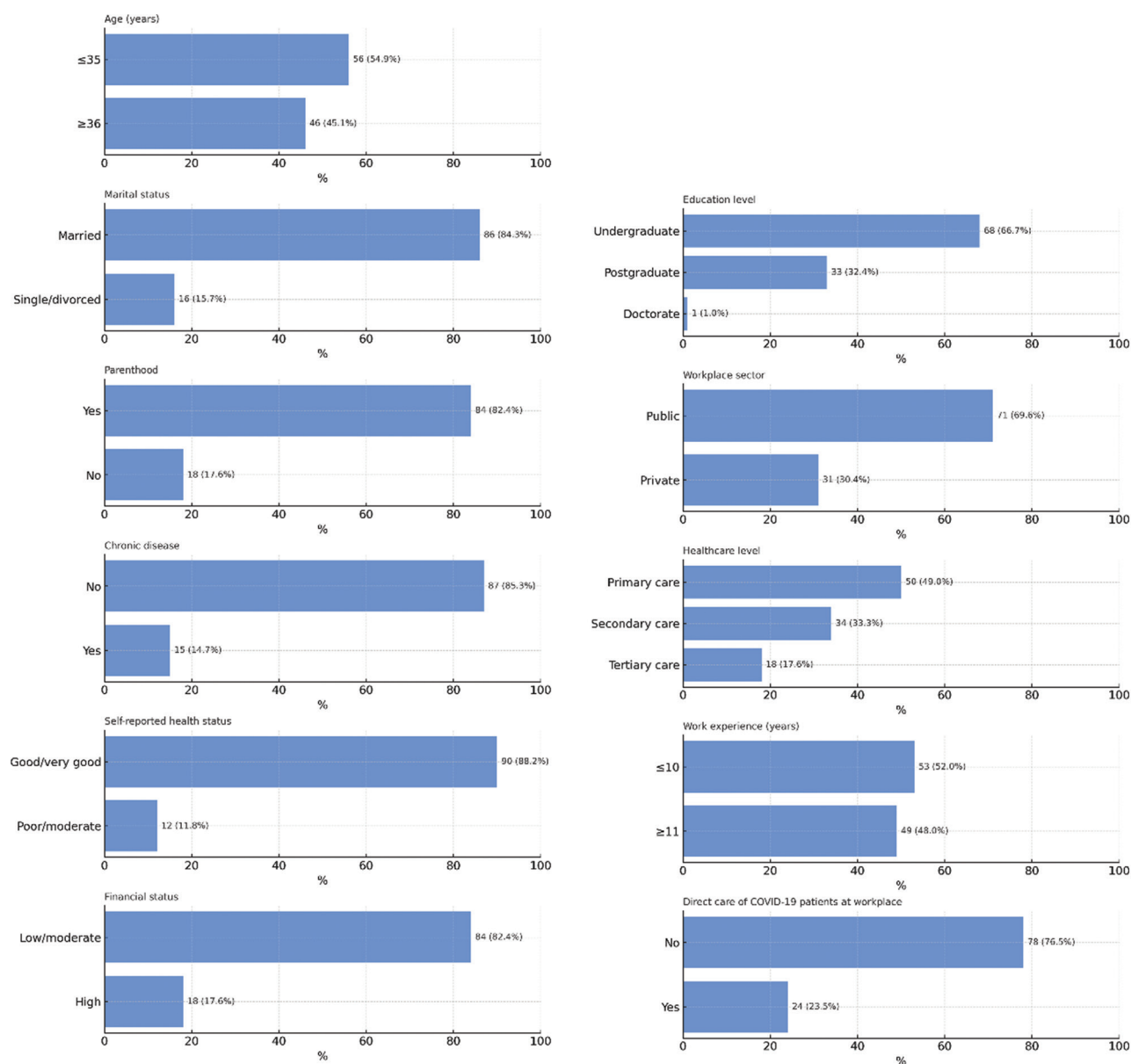


Figure 1. Demographic and occupational characteristics of study participants

Table 3. Resilience scale scores of the participants

Scale	Minimum score	Maximum score	Mean (SD)	Median (IQR)	Cronbach's α
Resilience scale	7.00	100.00	70.3 (18.3)	73 (62 – 83.5)	0.96

Abbreviations: IQR: Interquartile range; SD: Standard deviation.

lower resilience scores ($p=0.019$). Midwives who curtailed patient interaction reported a lower mean resilience score (63.8 ± 21.6) compared to those whose contact remained unchanged (74.2 ± 14.8). This finding suggests that professional disengagement or reduced clinical interaction may negatively influence psychological resilience,

possibly due to a diminished sense of purpose, reduced interpersonal connection, or loss of routine clinical affirmation. Other COVID-19-related stressors, such as fear of infection ($p=0.737$), concern about infecting family members ($p=0.164$), or reassurance from testing protocols ($p=0.145$), were not significantly associated with resilience

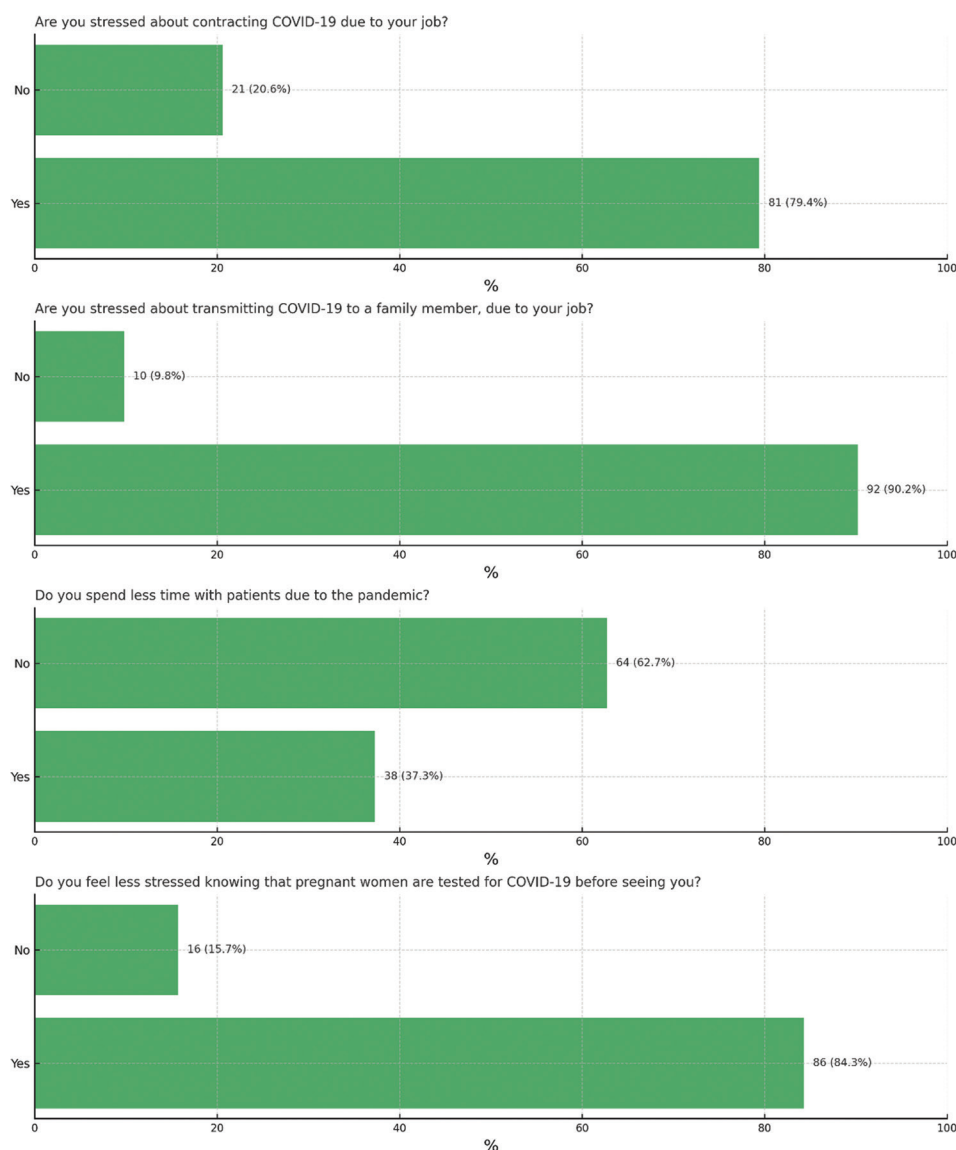


Figure 2. Stress related to the COVID-19 pandemic among midwives

scores. These results underscore the nuanced impact of pandemic-related experiences on resilience. Generalized stress about infection risk may not directly decrease resilience, but disruptions to key aspects of professional identity, such as patient contact, are likely to have a greater psychological impact.

A multivariate linear regression analysis was subsequently conducted using logarithmic transformations and a stepwise inclusion-exclusion method. This approach enabled the isolation of independent variables that significantly influenced resilience, controlling for potential confounders. Table 6 presents the findings of the analysis, identifying two

independent predictors: Health status and changes in time spent with patients.

Midwives reporting poor or moderate health had significantly lower resilience scores compared to those in good or very good health ($\beta = -0.19$, $SE = 0.05$, $p < 0.001$). Those who spent less time with patients due to the pandemic had lower resilience scores compared to those who maintained patient interaction ($\beta = -0.09$, $SE = 0.03$, $p = 0.004$). These findings suggest that both physical health and continuity in professional duties, rather than subjective fears, play a central role in shaping midwives' resilience during the pandemic, highlighting potential targets for interventions to support workforce well-being.

Table 4. Resilience scores based on demographic and occupational characteristics of the midwives

Characteristic	Resilience score		<i>p</i> -value
	Mean (SD)	Median (IQR)	
Age (years)			
≤35	71.1 (16.6)	73.5 (62 – 83)	0.716
≥36	69.2 (20.2)	71.5 (61 – 84)	
Marital status			
Married	70.2 (18.3)	72.5 (62 – 83)	0.884
Single/divorced	70.4 (18.7)	74 (57 – 85)	
Parenthood			
No	71.1 (14.3)	74 (65 – 80)	0.989
Yes	70.1 (19.1)	72 (62 – 84)	
Chronic illness history			
No	70.6 (17.6)	73 (62 – 84)	0.988
Yes	68.3 (22.4)	75 (64 – 82)	
Health status			
Good/very good	72.5 (16)	74 (63.5 – 84)	0.007
Poor/fair	53.5 (25.1)	52 (38 – 72.5)	
Financial status			
High	66.4 (20.4)	67.5 (50 – 80)	0.272
Low/Moderate	71.1 (17.8)	74.5 (63 – 84)	
Education level			
Undergraduate	70.3 (19.1)	74 (62 – 84)	0.708
Postgraduate/doctorate	70.3 (16.9)	72 (61 – 82)	
Workplace sector			
Private	70.4 (17.1)	73 (61 – 84)	0.826
Public	70.2 (18.9)	73 (62 – 83)	
Health-care level			
Primary	73.8 (14.3)	74.5 (64.5 – 84)	0.453*
Secondary	68.1 (17.6)	72.5 (54 – 82)	
Tertiary	64.8 (26.5)	71.5 (49 – 85)	
Work experience (years)			
≤10	73.2 (14.7)	75 (68 – 84)	0.177
≥11	67.2 (21.1)	70 (54 – 81)	
Direct care of COVID-19 patients at workplace			
No	72.1 (15.4)	73.5 (62.5 – 83.5)	0.355
Yes	64.5 (24.8)	71.5 (47.5 – 83)	

Notes: Bold *p*-values indicate statistical significance at $p < 0.05$, as determined by the Mann–Whitney test; * Kruskal–Wallis test was applied due to a three-category comparison.

Abbreviations: IQR: Interquartile range; SD: Standard deviation.

3.2. Depression levels

BDI scores ranged from 0 to 61, with a mean score of 9.7 ± 11.6 (Table 7). The high internal consistency of the instrument (Cronbach's $\alpha = 0.95$) suggests the scale's reliability for use in this population. Higher scores indicate more severe depressive symptoms.

When depression severity was categorized, 63.0% of participants reported no depressive symptoms, whereas 37.0% exhibited minimal-to-moderate levels of depression, demonstrating that a considerable proportion of midwives experienced psychological burden during the pandemic (Table 8).

Table 5. Resilience scores based on pandemic-related factors

Question	Response	Resilience scale		<i>p</i> -value
		Mean (SD)	Median (IQR)	
Are you stressed about contracting COVID-19 due to your job?	No	71.8 (18.9)	74.5 (59 – 86)	0.737
	Yes	69.9 (18.2)	72.5 (62 – 83)	
Are you stressed about transmitting COVID-19 to a family member due to your job?	No	79.6 (13)	75 (70 – 92)	0.164
	Yes	69.3 (18.5)	72 (61 – 83)	
Do you spend less time with patients due to the pandemic?	No	74.2 (14.8)	75 (65 – 84)	0.019
	Yes	63.8 (21.6)	70 (50 – 77)	
Do you feel less stressed knowing that pregnant women are tested for COVID-19 before seeing you?	No	61.3 (24.7)	70 (60 – 77)	0.145
	Yes	71.8 (16.6)	74 (62 – 84)	

Note: Bold *p*-values indicate statistical significance at $p < 0.05$, as determined by the Mann–Whitney test.

Abbreviations: IQR: Interquartile range; SD: Standard deviation.

To explore the interaction between depressive symptoms and psychological resilience, the Spearman's rank-order correlation test was conducted (Table 9). The analysis revealed a significant negative correlation between the BDI and CDRISC25 scores ($r = -0.42, p < 0.001$), indicating that higher resilience is moderately associated with lower depressive symptomatology. This finding suggests that resilience functions as a psychological buffer against depression.

In addition to the correlation analysis, depression scores were examined across various demographic and occupational variables to identify subgroups at elevated risk (Table 10 and Figure 5). The analysis showed that health status was significantly associated with depression scores ($p = 0.001$), with midwives reporting poor or moderate health exhibiting higher levels of depressive symptoms. This supports the well-established link between physical and mental health, reinforcing the need for holistic well-being support. A statistically significant association was also observed for employment sector ($p = 0.050$), with midwives employed in the public sector reporting greater depressive symptoms than those in the private sector, potentially due to differences in systemic support, workload, and pandemic-response infrastructure.

Other variables – such as age, marital status, educational background, financial status, years of experience, parental status, and assignment to COVID-19 wards – did not

show significant associations with depression scores. This suggests that, in the context of the COVID-19 pandemic, depressive burden among midwives was driven chiefly by health and work-related stressors rather than by demographic background.

The negative correlation between resilience and depression ($r = -0.42, p < 0.001$; Table 9) confirms that higher resilience is significantly associated with fewer depressive symptoms, supporting the notion that resilience functions as a protective psychological factor in high-stress environments. To further investigate how specific pandemic-related experiences influenced depressive symptoms, participants reported their perceptions and concerns regarding infection risk, changes in patient contact, and institutional safety protocols. Their responses were analyzed to BDI (Table 11).

The fear of transmitting COVID-19 to a family member was significantly associated with higher levels of depression ($p = 0.013$), reflecting the emotional burden of balancing professional responsibilities with concern for loved ones. Similarly, lack of reassurance about institutional safety protocols – specifically, uncertainty over routine COVID-19 testing of pregnant women – was significantly linked to higher depression scores ($p = 0.042$); midwives lacking the reassurance reported more depressive symptoms, suggesting that perceived inadequacy in workplace safety measures may increase psychological vulnerability. By contrast, other concerns, such as fear of personal infection and reduced patient-contact time, were not significantly associated with depression. These findings indicate that depression among midwives was most strongly influenced by anxiety over potential harm to others and by perceived gaps in protective health measures, rather than by their personal risk alone or reduced clinical interaction. This aligns with prior findings (Table 10), where demographic characteristics such as age, marital status, and education showed no significant associations with depression. Taken together, depression in this appears to be driven chiefly by perceived occupational risk and institutional safety gaps rather than by general background or lifestyle characteristics. This reinforces the need for resilience-building interventions and organizational support strategies aimed at reducing emotional strain, enhancing perceived safety, and promoting mental well-being during public health crises.

Table 12 presents the results of a multivariate linear regression model examining the independent associations between depression and several variables while controlling for potential confounders. Logarithmic transformation normalized skewed variables, and stepwise selection retained only statistically and clinically meaningful predictors, ensuring robust, independent associations. The analysis revealed resilience as a protective factor ($\beta = -0.01$,

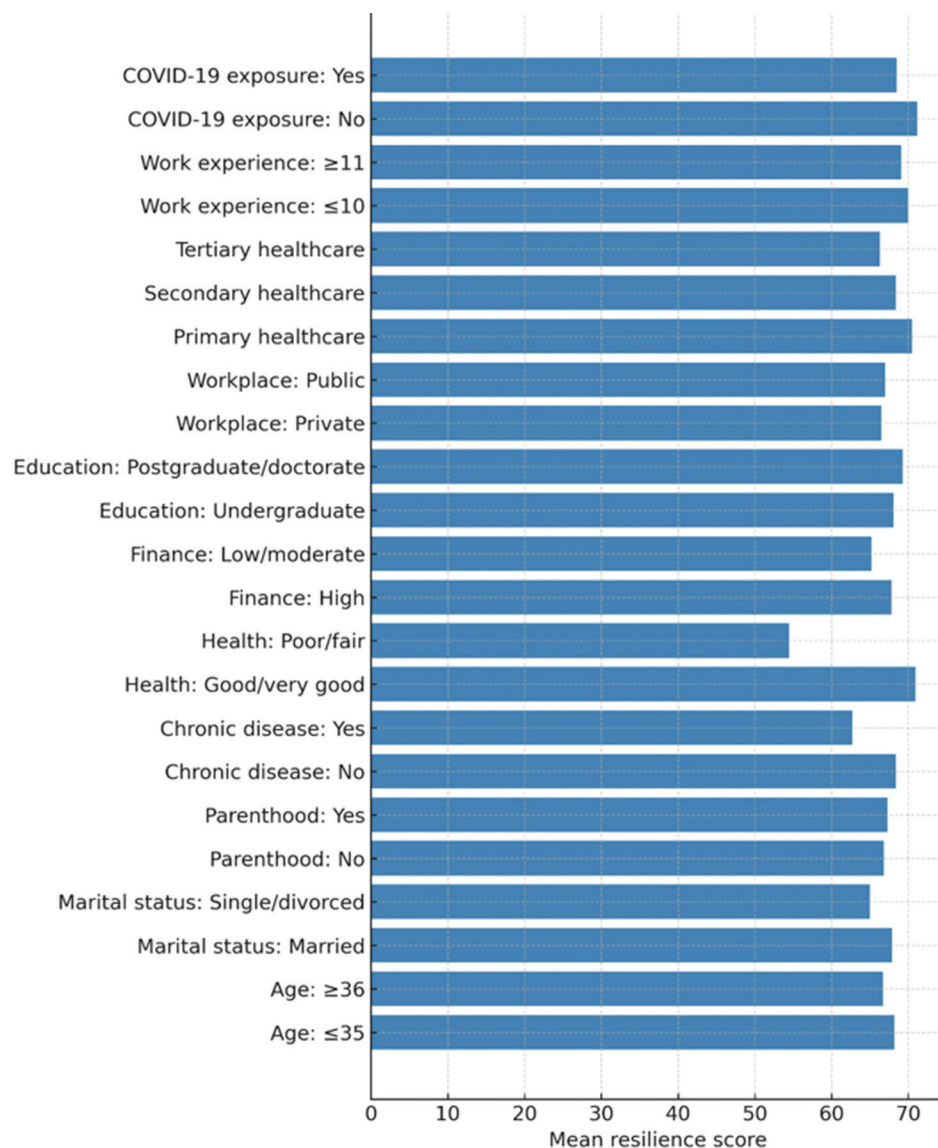


Figure 3. Mean resilience scores across participant groups. Statistically significant differences between groups ($p < 0.05$) are marked with an asterisk (*).

SE = 0.00, $p < 0.001$), with higher resilience scores significantly associated with fewer depressive symptoms. Conversely, employment sector was identified as a risk factor ($\beta = 0.24$, SE = 0.10, $p = 0.014$); working in the public health-care sector was significantly associated with higher depression scores, suggesting that organizational factors (e.g., heavier workload, greater exposure) within the public sector may contribute more heavily to psychological distress than private-sector conditions.

3.3. State and trait anxiety scales

Anxiety symptoms were assessed using the STAI, which distinguishes between transient, situation-specific

anxiety (state anxiety) and a stable predisposition to anxiety (trait anxiety). As shown in Table 13, midwives reported moderate anxiety, with a mean state-anxiety score of 42.5 ± 11.3 and a mean trait-anxiety score of 41.9 ± 11.7 . These findings indicate that midwives experienced a considerable level of psychological distress during the pandemic.

Correlational analysis (Table 14) revealed a strong, statistically significant negative relationship ($p < 0.001$) between resilience and both types of anxiety: $r = -0.52$ for state anxiety and $r = -0.56$ for trait anxiety. This finding confirms resilience as a potential protective factor.

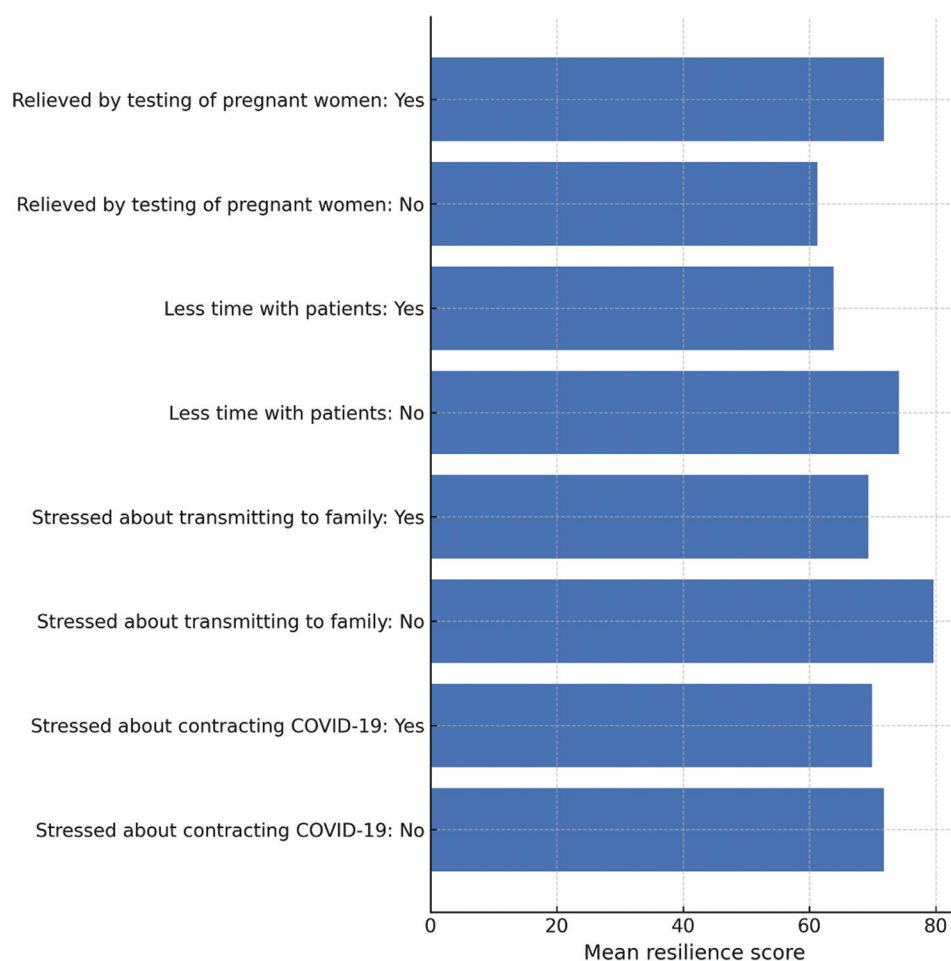


Figure 4. Resilience scores by COVID-19-related factors among participants

Table 6. Logarithmic transformations and the stepwise inclusion-exclusion method, with resilience score as the dependent variable and demographic, occupational, and pandemic-related factors as the independent variables

Parameter	β	SE	<i>p</i> -value
Health status			
Good/very good (reference)			
Poor/moderate	-0.19	0.05	<0.001
Due to the pandemic, do you spend less time with patients compared to before?			
No (reference)			
Yes	-0.09	0.03	0.004

Abbreviation: SE: Standard error.

Subsequent bivariate analyses were conducted to examine the association between anxiety levels and a range of demographic, occupational, and pandemic-related variables (Tables 15 and 16). Among demographic and work-related factors, self-reported health status emerged as

a key determinant: midwives with poor or moderate health recorded significantly higher state (mean = 53.2) and trait (mean = 53.3) anxiety scores ($p < 0.001$). In addition, work experience was found to be significantly associated with trait anxiety ($p = 0.018$), with midwives having 11 or more years of experience reporting higher anxiety levels, potentially reflecting the cumulative psychological toll. Although other demographic variables such as age, marital status, parenthood, education, and the health-care sector did not reach statistical significance, their inclusion helped refine the multivariate model to control for potential confounders.

Among pandemic-related stressors, spending less time with patients reported significantly higher trait anxiety scores ($p = 0.045$), indicating that disrupted professional routines may contribute to psychological distress. Though some variables – such as fear of contracting or transmitting COVID-19 – were not statistically significant ($p > 0.05$), they trended toward higher anxieties.

Table 7. Beck depression inventory scores of the participants

Scale	Minimum score	Maximum score	Mean (SD)	Median (IQR)	Cronbach's α
Depression scale	0.0	61.0	9.7 (11.6)	6 (1 – 14.5)	0.95

Abbreviations: IQR: Interquartile range; SD: Standard deviation.

Table 8. Depression levels of the participants

Depression level	<i>n</i>	Percentage
None	63	63.0
Minimal	15	15.0
Mild	11	11.0
Moderate	11	11.0

Table 9. The Spearman correlation coefficient between the depression scale and the resilience scale of the participants

Variable	Depression scale
Resilience scale	
<i>r</i>	–0.42
<i>p</i> -value	<0.001

Significant predictors identified in the bivariate analyses – health status, work experience, and reduced patient contact – and resilience were entered into multivariate linear regression analyses to quantify the independent effect of each factor on state and trait anxiety and confirm whether resilience remained a protective factor after adjustment. The findings are presented in [Tables 17 and 18](#).

[Table 17](#) presents the model with state-anxiety score as the dependent variable. Two variables remained independently associated: self-reported health status and resilience scores. Midwives reporting poor or moderate health had significantly higher state anxiety scores – by an average of 6.55 points ($SE = 3.07$, $p=0.036$) compared to those with good or very good health. This suggests that perceived physical well-being is a critical factor influencing acute psychological distress. Resilience scale score showed a strong, negative association with state anxiety ($\beta = -0.29$, $SE = 0.05$, $p<0.001$), indicating that participants with higher resilience experienced fewer temporary anxiety symptoms. Taken together, the findings emphasize the importance of strengthening individual resilience and implementing systemic psychological support to mitigate acute anxiety and promote mental well-being in midwifery practice.

[Table 18](#) presents the model for trait anxiety, and the same two independent predictors were identified. Participants with poor or moderate health had trait anxiety scores 6.40 points higher than their healthier counterparts ($SE = 3.04$, $p=0.038$). Resilience remained a significant

protective factor ($\beta = -0.34$, $SE = 0.05$, $p<0.001$), with higher resilience associated with lower trait anxiety symptoms.

Taken together, [Tables 13-18](#) demonstrate that anxiety among midwives during the pandemic stemmed from a complex interplay of psychological resources (resilience), individual health perception, professional experience, and pandemic-specific disruptions. The progression from descriptive statistics through bivariate testing to multivariate modeling offers a rigorous, data-driven understanding of both the prevalence and predictors of anxiety. These insights underscore the need for targeted mental health strategies – such as resilience training, institutional well-being supports, and measures to sustain professional continuity – during and beyond public health crises.

4. Discussion

The identification of high stress levels coupled with low psychological resilience among midwives in Thessaly is both concerning and instructive. Midwives occupy a uniquely demanding role, balancing the physical demands of childbirth support with the emotional responsibility of guiding women and families through one of life's most vulnerable moments. Elevated stress in this population can have profound consequences, not only for their own mental and physical health but also for the quality and safety of care provided to mothers and newborns.¹⁷

Severe stress in midwives often manifests as emotional exhaustion, irritability, and decreased job satisfaction, which may lead to burnout and attrition – factors that further strain already overstretched maternity services.¹⁸ Low resilience limits the ability to adapt or recover from ongoing pressures, increasing vulnerability to anxiety and depression.¹⁹ This psychological burden is particularly critical in a pandemic context where midwives face intensified workloads, fear of infection, and rapidly changing clinical protocols.²⁰

Comparative studies worldwide reveal similar trends. For example, research from the United Kingdom and Australia during the COVID-19 pandemic documented elevated burnout and stress among midwives, linked to inadequate protective equipment, staffing shortages, and disruptions to normal care routines.²¹ Similarly, studies from Italy and Brazil highlighted moral distress caused by ethical dilemmas, such as limiting family presence during labor or balancing infection control with compassionate care.²² These global findings align with the present study,

Table 10. Depression scores based on demographic and occupational characteristics

Characteristic	Depression score		<i>p</i> -value
	Mean (SD)	Median (IQR)	
Age (years)			
≤35	9.3 (10.3)	6 (1 – 6)	0.950
≥36	10.1 (13.1)	5.5 (2 – 14)	
Marital status			
Married	8.4 (10.2)	5 (1 – 12.5)	0.179
Single/divorced	16 (16.3)	8.5 (2 – 33)	
Parenthood			
No	12.7 (12.1)	9 (5 – 17)	0.112
Yes	9 (11.5)	5 (1 – 12)	
Chronic disease			
No	8.7 (10.3)	5 (1 – 12)	0.119
Yes	15 (16.9)	11 (3 – 19)	
Health status			
Good/very good	7.7 (8.8)	5 (1 – 11)	0.001
Poor/moderate	24 (18.6)	20.5 (9.5 – 39.5)	
Financial status			
High	15.2 (14.8)	11 (4 – 20)	0.064
Low/moderate	8.4 (10.5)	5 (1 – 13)	
Education level			
Undergraduate	9.5 (11.8)	6 (1 – 13)	0.892
Postgraduate/doctorate	10 (11.4)	6 (1 – 15)	
Workplace sector			
Private	8.4 (12.2)	3 (0 – 14)	0.050
Public	10.2 (11.4)	7 (3 – 15)	
Health-care level			
Primary	6.5 (5.7)	5.5 (1 – 11)	0.422*
Secondary	11.6 (13.1)	6 (0 – 18)	
Tertiary	14.5 (17.4)	6 (1 – 27)	
Work experience (years)			
≤10	7.8 (8.7)	5 (1 – 12)	0.351
≥11	11.6 (13.9)	6 (2 – 15)	
Direct care of COVID-19 patients at workplace			
No	8.4 (9)	6 (1 – 2.5)	0.629
Yes	13.5 (17.2)	5 (1 – 26)	

Notes: Bold *p*-values indicate statistical significance at $p < 0.05$, as determined by the Mann–Whitney test; * Kruskal–Wallis test was applied due to a three-category comparison.

Abbreviations: IQR: Interquartile range; SD: Standard deviation.

reinforcing that midwives' mental health challenges during pandemics are pervasive and multifactorial.^{23,24}

In Thessaly, as in many regions, health-care systems faced logistical difficulties – including insufficient staffing, lack of clear communication, and resource scarcity – that magnified stress. Pandemic-related disruptions to routine

services forced midwives to adapt quickly, often without adequate support or training. Because midwives strive to provide holistic, woman-centred care, restrictions such as limiting birth companions or altering birthing plans may conflict with professional values, generating moral distress that erodes resilience.

Table 11. Depression score based on pandemic-related factors

Question	Response	Depression score		<i>p</i> -value
		Mean (SD)	Median (IQR)	
Are you stressed about contracting COVID-19 due to your job?	No	8.9 (13.5)	4 (0 – 8.5)	0.195
	Yes	9.9 (11.2)	6 (2 – 15)	
Are you stressed about transmitting COVID-19 to a family member due to your job?	No	5.7 (13.6)	0 (0 – 1)	0.013
	Yes	10 (11.4)	6 (2 – 15)	
Do you spend less time with patients due to the pandemic?	No	9 (10.6)	6 (1 – 11)	0.772
	Yes	10.7 (13.3)	5.5 (1 – 17)	
Do you feel less stressed knowing that pregnant women are tested for COVID-19 before seeing you?	No	14.9 (15)	11 (4 – 19)	0.042
	Yes	8.7 (10.8)	5 (1 – 12)	

Note: Bold *p*-values indicate statistical significance at $p < 0.05$, as determined by the Mann-Whitney test.

Abbreviations: IQR: Interquartile range; SD: Standard deviation.

Table 12. Logarithmic transformations and the stepwise inclusion-exclusion method, with the depression score as the dependent variable and the participants' demographic and occupational characteristics, pandemic-related factors, and resilience score as independent variables

Parameter	β	SE	<i>p</i> -value
Resilience scale	−0.01	0.00	<0.001
Health-care sector of employment			
Private (reference)			
Public	0.24	0.10	0.014

Table 13. State and trait anxiety scale scores of the participant

Scale	Minimum score	Maximum score	Mean (SD)	Cronbach's α
State anxiety scale	23.00	73.00	42.5 (11.3)	0.92
Trait anxiety scale	20.00	76.00	41.9 (11.7)	0.93

Abbreviations: SD: Standard deviation.

Fear of contracting COVID-19 or transmitting it to patients and family is a constant stressor, exacerbated by shortages of personal protective equipment (PPE) and evolving safety

Table 14. Spearman correlation between anxiety and resilience scales of the participants

Variable	State anxiety scale	Trait anxiety scale
Resilience scale		
<i>r</i>	−0.52	−0.56
<i>p</i> -value	<0.001	<0.001

guidelines. Increased work demands and emotional strain can spill over into personal life, reducing opportunities for rest and social support – both critical for resilience. In this study, 79.4% of participants reported anxiety about contracting COVID-19 at work, and 90.2% were concerned about potentially transmitting the virus to family members.

Interestingly, despite mandatory COVID-19 testing of pregnant women before visits, 15.7% of midwives did not feel less anxious, underscoring that protective measures alone could not fully alleviate fear. Regarding depressive symptoms, 63.0% of participants showed no signs of depression and only 15.0% exhibited mild depression – rates notably lower than those reported in comparable studies from Iran, China, India, and Italy.⁸ Furthermore, associations between gender, younger age, and higher depression or anxiety levels previously reported by Shaukat *et al.*⁵ were not observed here, suggesting possible regional or occupational differences in vulnerability. Overall, these findings indicate a moderate psychological burden among Thessalian midwives during the pandemic, despite their increased exposure risk. Their dual role – providing both clinical care and emotional support – likely contributes to this complex psychological profile.

Psychological resilience emerged as a critical protective factor in this study, showing a strong negative correlation with symptoms of depression, anxiety, and stress. Midwives with higher resilience consistently reported better mental health outcomes, supporting prior research by Greenberg *et al.*,⁸ lower resilience was observed among those reporting poorer overall health and among those who spent less time with patients, suggesting that both physical well-being and sustained clinical engagement may enhance psychological coping capacity. Moreover, depressive symptoms were significantly higher among those working in the public sector and in those expressing fear of transmitting COVID-19 to family, highlighting workplace and psychosocial stressors that are particularly relevant in the context of a pandemic. Notably, midwives who remained anxious despite institutional testing protocols exhibited increased depressive symptoms, indicating that implemented safety measures alone were insufficient to fully alleviate emotional strain. Anxiety outcomes revealed that midwives with poor or moderate health experienced higher levels of both state

Table 15. State and trait anxiety scores according to demographic and occupational characteristics

Characteristics	State anxiety	<i>p</i> -value	Trait anxiety	<i>p</i> -value
	Mean (SD)		Mean (SD)	
Age (years)				
≤35	41.8 (10)	0.521	39.9 (10.6)	0.063
≥36	43.3 (12.7)		44.3 (12.5)	
Marital status				
Married	42 (11.6)	0.356	41.4 (11.8)	0.274
Single/divorced	44.9 (9.8)		44.9 (10.9)	
Parenthood				
No	45.6 (8.4)	0.203	45.6 (7.8)	0.141
Yes	41.8 (11.8)		41.1 (12.2)	
Chronic disease				
No	41.8 (10.2)	0.175	41.2 (10.6)	0.125
Yes	46.1 (16)		46.2 (16.2)	
Health status				
Good/very good	41 (10.5)	<0.001	40.4 (10.8)	<0.001
Poor/moderate	53.2 (11.6)		53.3 (11.6)	
Financial status				
High	46.5 (11.6)	0.095	44.4 (10.9)	0.328
Low/moderate	41.6 (11.1)		41.4 (11.8)	
Education level				
Undergraduate	42.1 (10.5)	0.647	41.3 (11.1)	0.415
Postgraduate/doctorate	43.2 (13)		43.3 (12.7)	
Workplace sector				
Private	42 (10)	0.782	41.4 (10.8)	0.752
Public	42.7 (11.9)		42.2 (12.1)	
Health-care level				
Primary	41.1 (11.2)	0.352+	40 (11.1)	0.192+
Secondary	42.7 (9.8)		42.8 (10.8)	
Tertiary	45.6 (14.1)		45.6 (14.1)	
Work experience (years)				
≤10	40.6 (9.8)	0.100	39.3 (10.1)	0.018
≥11	44.4 (12.5)		44.7 (12.6)	
Direct care of COVID-19 patients at workplace				
No	42.2 (10.6)	0.716	41.5 (10.9)	0.530
Yes	43.2 (13.5)		43.3 (13.9)	

Note: Bold *p*-values indicate statistical significance at $p < 0.05$, as determined by Student's *t*-test; + analysis of variance test was applied due to a three-category comparison.

Abbreviation: SD: Standard deviation.

and trait anxiety. Furthermore, those with over 11 years of professional experience and those who reduced patient contact due to the pandemic reported higher trait anxiety. These findings echo the observations of Oates *et al.*,¹¹ suggesting that prolonged exposure to professional stress and underlying health issues can increase vulnerability during health crises.

Taken together, these findings emphasize the vital role of psychological resilience in mitigating mental health challenges among midwives. Addressing both mental and physical health is crucial to ensure that midwives can continue providing high-quality care during crises. Untreated psychological distress among health-care professionals carries risks of burnout, reduced job

Table 16. State and trait anxiety scores according to pandemic-related factors

Question	Answer	State anxiety	<i>p</i> -value	Trait anxiety	<i>p</i> -value
		Mean (SD)		Mean (SD)	
Are you stressed about contracting COVID-19 due to your job?	No	38.1 (11.4)	0.053	37.9 (13.4)	0.083
	Yes	43.6 (11.1)		43 (11)	
Are you stressed about transmitting COVID-19 to a family member due to your job?	No	36 (11.8)	0.072	36 (14.3)	0.109
	Yes	43.1 (11.1)		42.5 (11.3)	
Do you spend less time with patients due to the pandemic?	No	40.8 (11)	0.060	40.1 (11.4)	0.045
	Yes	45.2 (11.4)		44.9 (11.6)	
Do you feel less stressed knowing that pregnant women are tested for COVID-19 before seeing you?	No	46.7 (11.4)	0.114	45.5 (12.8)	0.197
	Yes	41.7 (11.2)		41.3 (11.4)	

Notes: Bold *p*-values indicate statistical significance at $p < 0.05$, as determined by Student's *t*-test.

Abbreviation: SD: Standard deviation.

Table 17. Stepwise inclusion-exclusion method with the dependent variable, the temporary anxiety score, and the independent variables, including demographic and occupational characteristics of the participants

Parameter	β	SE	<i>p</i> -value
Health status			
Good/very good (reference)			
Poor/moderate	6.55	3.07	0.036
Resilience scale	-0.29	0.05	<0.001

Notes: *Regression coefficient; **Standard error of coefficient.

Table 18. Stepwise inclusion-exclusion method with the dependent variable, the permanent anxiety score, and the independent variables, including demographic and occupational characteristics of the participants

Parameter	β	SE	<i>p</i> -value
Resilience scale	-0.34	0.05	<0.001
Health status			
Good/very good (reference)			
Poor/moderate	6.40	3.04	0.038

performance, and long-term health deterioration. To sustain health-care services and protect midwives' well-being, health-care systems must implement comprehensive support mechanisms. These should include accessible psychological and pharmaceutical care, as well as individual and group psychotherapy offered through digital platforms to accommodate social distancing restrictions. In addition, establishing effective communication channels between healthcare workers and mental health institutions is essential to facilitate timely support and reduce stigma. These recommendations are consistent with guidance from the WHO, which emphasizes the protection of health workers' mental well-being during emergencies through institutional

support, regular psychological screening, and stigma reduction strategies. Furthermore, the Greek National Strategic Plan for Public Health (2021 – 2025) highlights mental health as a key priority and calls for the integration of psychosocial support services within occupational health-care structures. Aligning midwifery-specific initiatives with these national frameworks can enhance implementation feasibility and ensure policy-level sustainability.

Health-care institutions should establish regular mental health training programs focused on stress management, coping skills, and resilience-building tailored specifically for midwives. Support groups or peer counseling sessions can provide safe spaces for midwives to share experiences, reduce feelings of isolation, and foster mutual support. In addition, offering flexible scheduling and ensuring adequate rest periods may help reduce burnout and improve overall well-being. Policy improvements at the organizational and governmental levels, such as maintaining optimal staff-to-patient ratios and mandating access to confidential psychological services, are essential to prevent excessive workloads and manage stress during and beyond public health emergencies. These services should be developed in accordance with the guidelines of the Hellenic Ministry of Health on occupational mental health. Collaborations with local midwifery associations, such as the Panhellenic Midwives' Association, which has advocated psychosocial care for midwives in frontline settings, can further drive these reforms.

By focusing on midwives in Thessaly, this study provides context-specific evidence to inform regional mental health strategies. The findings – highlighting elevated levels of anxiety and depressive symptoms alongside the protective role of resilience – make clear the need for practical, multi-level interventions. These interventions are critical not only for midwives' personal well-being but also for maintaining high-quality maternal and neonatal care. Psychological burden and burnout among midwives can lead to reduced

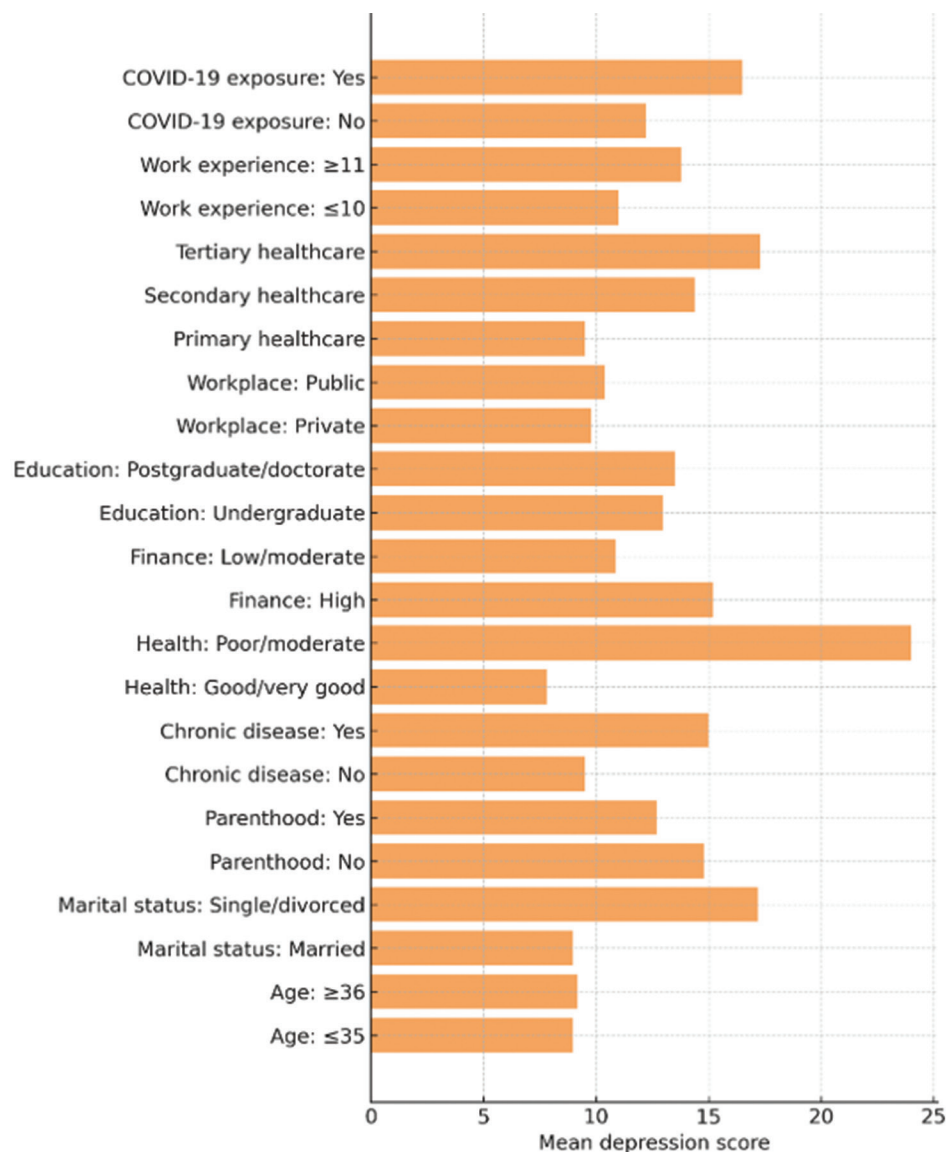


Figure 5. Depression scores by demographic and occupational characteristics of patients

job satisfaction, increased absenteeism, and compromised patient care outcomes. Therefore, long-term workforce planning must integrate mental health resources and preventive strategies as foundational elements to support a resilient and effective midwifery workforce capable of meeting ongoing and future health-care challenges.

4.1. Strengths and limitations

This study offers valuable insights into the psychological burden and resilience of midwives in the Thessaly region of Greece during the COVID-19 pandemic. Its strengths include a timely focus on a professional group that has been largely underrepresented in psychological research both globally

and within Greece. Whereas most studies concentrate on physicians and nurses, this work highlights midwives' unique occupational stressors and emotional labor, thereby filling an important knowledge gap. Moreover, the inclusion of a range of demographic and occupational variables – such as years of experience, institution type, health status, and COVID-19 exposure – allows a multidimensional exploration of mental health determinants, moving beyond the narrow scope of many earlier works. Validated psychometric instruments were used, ensuring robust measurement and enabling comparison with international findings. Furthermore, situating the study within a stress–vulnerability–resilience framework adds theoretical depth that is often absent from prior descriptive studies of healthcare workers' mental health.

Nevertheless, several limitations should be acknowledged. First, the cross-sectional design captures only a snapshot, precluding causal relationships between pandemic-related stressors and psychological outcomes. Longitudinal studies are needed to track mental health trajectories over time. Second, reliance on self-reported data introduces potential recall and social-desirability biases, an issue also prevalent in many other related studies. Third, convenience and snowball sampling through digital platforms limit representativeness; digitally connected midwives may have been over-sampled, while more burdened or less accessible individuals may have been missed.

The modest sample size and geographic restriction to Thessaly further limit generalizability, although focusing on one region – encompassing both urban and rural settings – offers context-specific depth often lacking in broader surveys. The study could not differentiate pre-existing psychological conditions from those triggered by the pandemic, a common shortcoming in COVID-19 mental-health research. Moreover, the gender imbalance inherent in the midwifery profession constrained analysis of gender-related differences. Finally, the umbrella term “psychological burden” encompasses a range of mental-health symptoms that may benefit from more precise delineation in future work.

Despite these limitations, the study makes a meaningful contribution by spotlighting midwives – a workforce whose psychological well-being directly affects maternal and neonatal outcomes – and by offering empirically grounded evidence to inform context-specific support interventions. It thus enriches the global discourse on healthcare worker mental health during health emergencies and highlights the need for tailored approaches, rather than generic strategies.

5. Conclusion

This study highlights the considerable psychological burden experienced by midwives in the Thessaly region of Greece during the COVID-19 pandemic. Many participants reported elevated stress and depressive symptoms, particularly related to fears of contracting and transmitting the virus. Nonetheless, overall resilience scores were moderate, suggesting some adaptive coping capacity.

Resilience was higher among midwives with better self-rated health and those who maintained regular patient contact, underscoring the value of both physical well-being and sustained clinical engagement. Targeted mental health support and workplace interventions – such as improved working conditions, adequate protective measures, resilience-training programs, peer support, and accessible psychological services – are essential. Future longitudinal research is recommended to track long-term outcomes and inform policy and institutional responses.

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Conflict of interest

The authors declare that they have no competing interests.

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Ethics approval and consent to participate

Ethical approval was granted by the Scientific Council of the Midwives Association of Thessaly (Protocol Number 4/2021, May 2, 2021). Data were collected anonymously via Google Forms, complying with privacy standards. No personal or institutional information was requested. Participants were informed about the study's purpose, assured of data confidentiality and voluntary participation, and advised of their right to withdraw at any time.

Consent for publication

Written informed consent was obtained from all participants for inclusion and publication of anonymized data.

Availability of data

Data are available from the corresponding author upon reasonable request.

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