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Research Article

Prevalence of Fear of COVID-19 and Its Impact on Mental Health in Post-Pandemic Turkey: A Cross-Sectional Study

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Background

COVID-19 has significantly affected mental health worldwide. However, limited evidence exists regarding the prevalence of COVID-19 fear and its psychological impact in post-pandemic Turkey.

Objective

This research examines the prevalence of fear of COVID-19 in Turkey during the post-pandemic phase and explores its potential impact on various aspects of mental health.

Methods

In this study, 768 participants (60.3% female) completed online questionnaires assessing fear of COVID-19, depression, anxiety, stress, life satisfaction, and mental well-being.

Results

A high level of fear of COVID-19 was identified in 56.2% of participants. Logistic regression analyses revealed that being female, middle-aged, having a low perceived socioeconomic status, and a prior COVID-19 diagnosis significantly increased the likelihood of experiencing high levels of fear of COVID-19. However, losing someone due to COVID-19 was not significantly associated with fear levels. High levels of fear of COVID-19 were significantly associated with increased likelihood of depression and anxiety. A one-unit increase in fear of COVID-19 was associated with 2.60-fold higher odds of mild depression and 3.87-fold higher odds of moderate depression. Similarly, the odds of experiencing mild anxiety and moderate anxiety increased by 4.05 and 6.45 times, respectively. No significant associations were found between fear of COVID-19 and life satisfaction or mental well-being.

Conclusion

This study demonstrates that, in the post-pandemic period, the psychological legacy of the outbreak continues to influence individuals' emotional states. These findings emphasize the importance of COVID-19-related psychological support services for high-risk groups to mitigate the enduring mental health impacts of the pandemic.

1. INTRODUCTION

The COVID-19 pandemic, recognized as one of the most severe global health crises of the 21st century, has profoundly influenced the physical and psychological well-being of populations worldwide.[1,2] During this period, the simultaneous presence of multiple stressors—including uncertainty, high transmission risk, fear of death, and enforced social isolation—has contributed to the emergence of various mental health challenges across all segments of society.[3,4] While the World Health Organization officially ended COVID-19's global health emergency status on May 5, 2023[5], the pandemic's lingering effects continue

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to be observed across multiple areas of daily life. COVID-19 remains a public health concern and continues to require long-term management in the post-pandemic period. The post-pandemic period refers to the process through which societies re-adjust in health, psychological, social, and economic domains following the end of the acute phase of a pandemic. This process is not limited to controlling the spread of the disease; it also encompasses adaptation to the changes experienced during the pandemic, societal restructuring, and individual recovery processes.[6]

In Turkey, the COVID-19 pandemic began with the detection of the first case on March 11, 2020, and comprehensive measures were taken shortly thereafter. The process, which began with the closure of all public spaces on March 16, 2020, was expanded with the implementation of restrictions on going out for individuals aged 65 and over and those with chronic illnesses on March 19, and for individuals under 20 on April 3. On April 10, 2020, a 48-h curfew was declared covering 30 metropolitan cities and the province of Zonguldak, and this measure was continued to cover weekends from April 13 onwards. The full lockdown period implemented across Turkey between April 29, 2020, and May 17, 2021, included 24-h curfews on both weekdays and weekends and restricted inter-city travel, constituting the phase in which the strictest pandemic measures were implemented. With the decrease in case numbers and the increase in vaccination rates, restrictions were gradually lifted starting in June 2022, and a controlled normalization process began.[7] The endpoint of the pandemic varied according to its definition and regional context.[5] In this context, the present study defines the "post-pandemic period" as the timeframe from 2023, during which pandemic-related restrictions in Turkey have been largely lifted, social life has been restructured, and society has entered a process of health, social, and economic adaptation.

There is growing concern that the mental health challenges associated with COVID-19 may persist into the post-pandemic period.[8,9] A decrease in infection rates and the lifting of restrictions do not necessarily imply that the psychological consequences of the pandemic have disappeared. Factors such as the ongoing presence of the virus, the possible emergence of new variants[10], and the widespread circulation of conspiracy theories about vaccines[11] continue to generate uncertainty and anxiety within communities. These factors indicate that COVID-19 may remain a psychological stressor even beyond its acute phase. Recent research supports the view that the pandemic's mental health effects may have long-term consequences. For example, Kiviruusu *et al*.[12] found that the adverse psychological impact of the pandemic on late adolescents persisted into the post-pandemic phase. Similarly, Macalli *et al*.[13] reported that among university students, depressive symptoms increased by approximately 50%, while suicidal ideation nearly doubled after the pandemic. A longitudinal study of 475 individuals hospitalized with COVID-19 revealed that, three years after diagnosis, more than half reported mild depression, anxiety, and subjective cognitive decline, whereas about one-quarter experienced severe depression and cognitive impairment.[14] Following the COVID-19 quarantine period, post-traumatic stress disorder was found to be prevalent among Chinese healthcare workers and significantly correlated with depression, anxiety, and fear of COVID-19.[15] Furthermore, meta-analytic findings have shown that symptoms of depression, anxiety, and post-traumatic stress disorder are the most commonly reported persistent psychological problems in the post-COVID-19 period.[16] Collectively, these findings suggest that COVID-19 may continue to exert negative effects on individuals' mental health even after the pandemic has subsided, underscoring the need for further investigation across diverse cultural contexts to determine the universality of these effects.

A review of the literature reveals that most previous research was conducted during the peak of the pandemic, when its negative consequences were most pronounced. While such studies offer valuable insights into the short-term psychological repercussions of COVID-19, they provide a limited understanding of its long-term impact and the evolving dynamics of mental health, particularly in the post-pandemic period. Key questions remain unanswered, such as how psychological outcomes shift over time, how individuals adapt, and which mental health difficulties are likely to persist. In this regard, examining the influence of fear of COVID-19 on mental health in the post-pandemic phase is crucial to comprehending the pandemic's psychological legacy.

Despite this importance, relatively few studies have examined the relationship between fear of COVID-19 and mental health beyond the peak of the pandemic. Moreover, to the best of our knowledge, the prevalence of COVID-19 fear and its impact on mental health during the post-pandemic period have not been investigated in Turkey. Addressing this gap, the present study seeks to contribute empirical evidence to both national and international scholarship. Such findings are expected to inform the reconfiguration of psychosocial support services to align with post-pandemic needs and to aid in developing preventive strategies for future global health emergencies.

Guided by this objective, the present research investigates the prevalence of fear of COVID-19 during the post-pandemic period and examines its potential impact on mental health in Turkey. Specifically, it addresses the following research questions:

(i) Research question 1: What is the prevalence of fear of COVID-19 in the Turkish general population during the post-pandemic period?
(ii) Research question 2: How is fear of COVID-19 associated with negative mental health outcomes (e.g., depression, anxiety, & stress) and positive mental health indicators (e.g., life satisfaction & mental well-being)?
(iii) Research question 3: Which demographic factors (e.g., age, gender, perceived socioeconomic status, COVID-19 diagnosis history, & COVID-19-related bereavement) are linked to fear of COVID-19?
(iv) Research question 4: What is the likelihood of experiencing negative mental health outcomes (anxiety, depression, & stress) and positive mental health indicators (life satisfaction & well-being) according to individuals' levels of COVID-19 fear (low vs. high)?

2. METHOD

2.1. STUDY DESIGN

This research employed a cross-sectional, descriptive design to investigate the study variables at a single point in time.

2.2. PARTICIPANTS

The sample of this study consisted of 768 individuals (age range = 14–73 years; mean age = 22.40, standard

deviation = 7.89), whose socio-demographic characteristics are presented in Table 1. Participants were recruited using a convenience sampling method. More than half of the participants were young adults (*n* = 420, 54.7%) and women (*n* = 462, 60.2%), and reported their perceived socioeconomic status as "medium" (*n* = 458, 59.6%). A total of 36.5% (*n* = 280) of the participants stated that they were diagnosed with COVID-19 during or after the pandemic, and 26.0% (*n* = 200) stated that they lost a relative or acquaintance due to COVID-19. In addition, when the COVID-19 fear levels of the participants were analyzed, more than half of them (*n* = 432, 56.2%) experienced a high level of fear of COVID-19.

Table 1. Characteristics of participants

Characteristics	*n*	%
Gender		
Male	306	39.8
Female	462	60.2
Age		
14–19	306	39.8
20–40	420	54.7
≥41	42	5.5
Perceived socioeconomic status		
Low	116	15.1
Medium	458	59,6
Good	178	23.2
Very good	16	2.1
COVID-19 diagnosis status		
Diagnosed	280	36.5
No diagnosis	488	63.5
Loss of someone's life due to COVID-19		
Yes	200	26.0
No	568	74.0
Fear of COVID-19 prevalence		
Above the cutoff score (≥16.5)	432	56.2
Below the cutoff score (≤16.4)	336	43.8

research. Participants answered the survey questions after approving the informed consent form. Participation in the research was voluntary, and no financial incentives were offered to participants.

2.4. ETHICAL CONSIDERATION

This study was approved by the Ethics Committee of Bingöl University (Approval no: 30.12.2024-E.190142). All procedures adhered to established ethical guidelines.

2.5. MEASURES

2.5.1. FEAR OF COVID-19 SCALE

The Fear of COVID-19 scale was originally developed by Ahorsu *et al*.[17], and its Turkish adaptation was validated by Satici *et al*.[18]. Fear of COVID-19 was assessed using seven items that constitute a single factor. The Turkish adaptation has shown robust psychometric properties.[18]

2.5.2. DEPRESSION ANXIETY STRESS SCALE-21

The Depression Anxiety Stress Scale-21 (DASS-21) scale was developed by Lovibond and Lovibond.[19] The DASS-21 was adapted into Turkish by Sariçam.[20] The DASS-21 consists of 21 items measuring three factors. The Turkish adaptation has shown robust psychometric properties.[20]

2.5.3. LIFE SATISFACTION SCALE

This scale was developed by Diener *et al*.[21] and adapted to Turkish by Dağli and Baysal.[22] Life satisfaction is assessed using five items that constitute a single factor. The Turkish adaptation has shown robust psychometric performance.[22]

2.5.4. WARWICK–EDINBURGH MENTAL WELL-BEING SCALE

The Warwick–Edinburgh Mental Well-being scale was developed by Tennant *et al*.[23] The Turkish adaptation was carried out by Keldal.[24] Mental well-being is assessed using 14 items that constitute a single factor. The Turkish adaptation has shown robust psychometric performance.[24]

2.6. STATISTICAL ANALYSIS

Data were screened for normality by assessing skewness and kurtosis values. Harman's single-factor test was applied to evaluate common method variance, and descriptive statistics, including means and standard deviations, were calculated for all variables. Pearson correlation analyses were used to assess bivariate relationships among study variables. Subsequently, binary logistic regression analyses were conducted to determine (i) demographic predictors of COVID-19 fear and (ii) whether fear levels were associated with an increased likelihood of negative mental health outcomes. Results were presented as odds ratios (OR) with 95% confidence intervals (CI). All statistical procedures were performed using the Statistical Package for Social Sciences software version 25, and significance was established at the 0.05 level.

3. RESULTS

3.1. TEST OF COMMON METHOD BIAS

Given that the study utilized self-reported data, the potential for common method bias was examined. Harman's single-factor analysis showed that the first factor accounted for 30.54% of the total variance. Since this value falls below the 40% cutoff suggested by Jakobsen *et al.*[25], common method bias is unlikely to have substantially affected the results of this study.

3.2. DESCRIPTIVE STATISTICS AND CORRELATION ANALYSIS

Table 2 presents the descriptive statistics (mean, standard deviation, skewness, & kurtosis values) as well as the correlation coefficients indicating the relationships between the variables. The skewness (range = −0.52 to 0.71) and kurtosis (range = −0.50 to 0.41) values calculated for the research variables showed that the score distributions of all variables met the assumption of normality. All measurement tools used in the study were found to have adequate reliability. Correlation analyses revealed significant positive relationships between the fear of COVID-19 and depression (r = 0.43, p < 0.01), anxiety (r = 0.48, p < 0.01), and stress (r = 0.45, p < 0.01). However, no significant relationship was found between fear of COVID-19 and life satisfaction (r = −0.04, p > 0.01) and mental well-being (r = −0.01, p > 0.01). Additionally, high correlations were observed among the variables of depression, anxiety, and stress. While this suggests that these constructs may share common components of psychological distress, it may also indicate a potential methodological issue related to multicollinearity. However, multicollinearity diagnostics (variance inflation factor & tolerance values) revealed that the variables were within acceptable limits. Furthermore, the results of the confirmatory factor analysis demonstrated a good model fit for the three-factor structure of the DASS-21, indicating that depression, anxiety, and stress are related yet distinct constructs. Therefore, analyzing each variable separately is considered a theoretically and statistically appropriate approach.

3.3. LOGISTIC REGRESSION ANALYSIS

Binary logistic regression analyses were conducted to identify demographic factors influencing fear of COVID-19 and to examine the likelihood of experiencing negative mental health outcomes in the post-pandemic period. The results are presented in Tables 3 and 4. Before the analysis, variables were coded as follows: gender (male = 0, female = 1), age (14–19 = 0, 20–40 = 1, ⩾41 = 2), socioeconomic status (very good = 0, good = 1, average = 2, low = 3), COVID-19 diagnosis status (no diagnosis = 0, diagnosed = 1), and experience of loss due to COVID-19 (no loss = 0, yes loss = 1). To determine participants' levels of COVID-19 fear, the cutoff score (⩾16.5) proposed by Nikopoulou *et al.*[26] was used; scores below this threshold were classified as "low," while those above it were classified as "high." Since the Turkish version of the scale does not specify a cutoff score, this value, validated in the Greek population, was used as a reference. The geographic proximity of Turkey and Greece, along with shared cultural characteristics, provides

Table 2. Descriptive statistics and correlation analysis

Variables	1	2	3	4	5	6
Fear of COVID-19	-					
Depression	0.43**	-				
Anxiety	0.48**	0.83**	-			
Stress	0.45**	0.86**	0.85**	-		
Life satisfaction	−0.04	−0.33**	−0.21**	−0.29**	-	
Mental well-being	−0.01	−0.36**	−0.28**	−0.31**	0.61**	-
Mean	17.54	6.16	5.18	6.31	14.03	48.30
Standard deviation	6.36	4.66	4.20	4.65	4.55	11.34
Skewness	0.20	0.51	0.71	0.57	0.05	−0.52
Kurtosis	−0.50	−0.14	0.41	0.20	−0.50	0.11
α	0.893	0.882	0.862	0.887	0.860	0.928

Note: ** indicates p < 0.01.

a reasonable rationale for applying this cutoff score to the Turkish population. This approach allowed for a meaningful distinction between high and low levels of COVID-19 fear. Additionally, participants' depression, anxiety, and stress scores were categorized according to established cutoff values as normal, mild, moderate, severe, or extremely severe.[27] Since life satisfaction and mental well-being were not found to be significantly associated with COVID-19 fear, they were excluded from the analysis.

The findings presented in Table 3 indicate that gender, age, perceived socioeconomic status, and prior COVID-19 diagnosis have significant effects on levels of COVID-19 fear. In other words, the likelihood of experiencing high levels of fear is greater among women, adults, those with low socioeconomic status, and those with a prior COVID-19 diagnosis. In contrast, experiencing a loss due to COVID-19 was not found to have a significant effect on COVID-19 fear. Furthermore, the demographic variables explained 20% of

Table 3. Logistic regression analysis of the factors affecting the fear of COVID-19

Explanatory variables	Beta	Standard error	Wald	Degrees of freedom	*p*	Odds ratio (ExpB)	95% confidence interval
Gender							
Male							
Female	1.50	0.17	80.52	1	0.001	4.49	(3.24–6.25)
Age							
14–19			11.92	2	0.003		
20–40	0.42	0.17	5.91	1	0.015	1.53	(1.08–2.15)
⩾41	1.24	0.40	9.61	1	0.002	3.46	(1.58–7.58)
Socioeconomic status							
Very good			7.48	3	0.058		
Good	1.15	0.80	2.06	1	0.151	3.15	(0.66–15.04)
Medium	1.45	0.79	3.45	1	0.063	4.34	(0.92–20.45)
Low	1.69	0.81	4.32	1	0.038	5.40	(1.10–26.48)
COVID-19 diagnosis status							
No diagnosis							
Diagnosed	0.36	0.17	4.51	1	0.034	1.44	(1.03–2.00)
Loss of someone's life due to COVID-19							
No							
Yes	0.24	0.19	1.68	1	0.195	1.27	(0.88–1.84)

Table 4. Logistic regression analysis on the effect of fear of COVID-19 on negative mental health outcomes

Explained variables	Beta	Standard error	Wald	Degrees of freedom	*p*	Exp (Odds ratio)	95% confidence interval		Nagelkerke R^2
							Lower	Upper	
Depression									
Normal			30.11	3	0.001				
Mild	0.96	0.22	18.38	1	0.001	2.60	1.68	4.02	0.058
Moderate	1.35	0.36	13.89	1	0.001	3.87	1.90	7.88	
Severe	0.66	0.87	0.56	1	0.448	1.93	0.35	10.64	
Extremely severe	–	–	–	–	–	–	–		
Anxiety									
Normal			65.50	4	0.001				
Mild	1.40	0.25	32.13	1	0.001	4.05	2.50	6.57	0.142
Moderate	1.86	0.30	37.93	1	0.001	6.45	3.56	11.67	
Severe	1.06	0.60	3.16	1	0.075	2.89	0.90	9.34	
Extremely severe	-	-	-	-	-	-	-		
Stress									
Normal			6.62	2	0.036				
Mild	0.89	0.48	3.48	1	0.062	2.44	0.96	6.21	-
Moderate	1.40	0.78	3.24	1	0.072	4.06	0.88	18.66	
Severe	–	–	–	–	–	–	–		
Extremely severe	–	–	–	–	–	–	–		

the variance in COVID-19 fear (Nagelkerke R^2 = 0.20).

The findings presented in Table 4 indicate that, in the post-pandemic period, fear of COVID-19 has significant positive effects on depression and anxiety, but no significant effect on stress. Higher levels of COVID-19 fear were associated with an increased likelihood of experiencing depression and anxiety. A one-unit increase in COVID-19 fear increased the likelihood of mild depression by 160% (OR = 2.60, 95% CI: 1.68 to 4.02), and moderate depression by 287% (OR = 3.87, 95% CI: 1.90 to 7.88). Similarly, the likelihood of experiencing mild anxiety symptoms increased by 305% (OR=4.05, 95% CI: 2.50 to 6.57), and moderate anxiety symptoms by 545% (OR = 6.45, 95% CI: 3.56 to 11.67). Additionally, fear of COVID-19 explained approximately 6% of the variance in depression and 14% of the variance in anxiety in the post-pandemic period.

4. DISCUSSION

The primary aim of this study was to investigate the prevalence of COVID-19 fear in Turkey during the post-pandemic period and to examine its potential associations with mental health outcomes. The findings revealed that, despite the decline in the pandemic's immediate impacts, fear of COVID-19 remains at a notable level within the population. This persistence suggests that such fear constitutes a lasting psychological imprint of the pandemic, warranting attention in public health discourse.

Our results indicate that both demographic and experiential variables play a substantial role in shaping levels of COVID-19 fear. Specifically, being a female, being an adult, perceiving a low socioeconomic status, and being diagnosed with COVID-19 during or after the pandemic emerged as significant risk factors. These patterns highlight that the experience of COVID-19 fear is not uniformly distributed across society; rather, certain subgroups are more vulnerable. For instance, higher fear levels among women and adults may stem from differences in perceived vulnerability, access to health-related information, or pre-existing health conditions. Similarly, individuals with lower perceived socioeconomic status may face additional pandemic-related stressors—such as financial instability and limited healthcare access—that heighten fear. Experiencing the illness firsthand may understandably contribute to heightened fear through the direct physical and psychological consequences of the disease. These findings underscore the need for targeted public health and psychological interventions aimed at addressing the distinct needs of these at-risk populations.

One notable and unexpected finding of our study is that experiencing a loss due to COVID-19 did not have a statistically significant effect on COVID-19 fear. This result reflects complex psychological processes that cannot be understood as a simple direct relationship. One possible explanation involves the unique psychological dynamics of the grief process; individuals who have experienced a loss may develop emotional adaptation and coping mechanisms over time, which could help regulate their fear levels. Furthermore, the relationship between these variables may be influenced by more complex pathways involving potential mediating and moderating factors, such as social support, psychological resilience, or prior trauma experiences. This finding holds significance within trauma psychology and post-disaster mental health research, highlighting the necessity for more holistic and multidimensional approaches to understanding the psychological effects of adverse life events.[28] Future studies should examine the relationship between loss experiences and COVID-19 fear while considering potential mediating and moderating variables. Such research would provide a more comprehensive understanding of how pandemic-related losses shape individuals' psychological responses.

A further important finding is that fear of COVID-19 continues to have a negative impact on mental health even after the acute phase of the pandemic. The findings indicate a significant positive relationship between COVID-19 fear and symptoms of depression, anxiety, and stress. Individuals reporting high levels of fear were found to be at least 1.5 times more likely to experience depression and anxiety compared to those reporting lower levels of fear. This aligns with earlier studies demonstrating the enduring psychological effects of pandemic events.[15,16] Taken together, these results suggest that fear and anxiety associated with COVID-19—exacerbated by uncertainty, loss, and social isolation—remain linked to long-term emotional difficulties. Moreover, although a significant correlation was found between stress and COVID-19 fear, individuals' levels of COVID-19 fear did not have a statistically significant effect on their stress levels. This suggests that while fear and stress may co-occur, other factors—such as coping strategies, social support, or psychological resilience—may play a role in determining stress. This result underscores the intricate and multifaceted nature of stress reactions in the aftermath of the pandemic.

Another noteworthy outcome was the absence of a significant association between COVID-19 fear and measures of life satisfaction or mental well-being. Studies conducted in Turkey during the period when the negative impacts of the pandemic were most pronounced reported that heightened COVID-19 fear was associated with lower life satisfaction.[18,29] In contrast, our findings suggest a different pattern, indicating that individuals may have gradually developed adaptive strategies throughout the pandemic, allowing them to maintain their daily routines in the post-pandemic period despite persistent COVID-19-related fear. Although counterintuitive, this could be explained by a gradual adaptation process. Over time, individuals may have developed strategies to coexist with the ongoing presence of COVID-19, shifting from acute fear toward maintaining daily routines. Such adaptation might enable them to sustain a certain level of overall well-being despite lingering fear. Nevertheless, alternative explanations should also be considered. First, life satisfaction and psychological well-being capture different dimensions of well-being (cognitive & affective components) and may not be directly influenced by COVID-19-specific fear. Second, the scales used may not have been sensitive enough to detect pandemic-related distress. Finally, unmeasured mediating variables (e.g., social support, coping strategies, resilience) may have buffered the impact of COVID-19 fear on overall well-being. Future longitudinal studies and more sensitive, context-specific scales could help clarify these complex relationships.

Although the study offers valuable insight into the psychological aftermath of COVID-19 in Turkey, several limitations should be acknowledged. First, the cross-sectional design prevents causal interpretation of the observed associations. Future longitudinal studies are recommended to clarify the temporal dynamics and causal mechanisms linking fear and mental health outcomes. Second, the convenience sampling method, which primarily included young adults and women, limits the generalizability of findings to other demographic groups. Third, reliance solely on

self-report instruments may introduce potential biases, such as socially desirable responding. Incorporating multiple data sources or mixed-method approaches would strengthen future research. Furthermore, the relatively small number of participants reporting very high socioeconomic status may have reduced statistical power for analyses involving this group. Finally, the cutoff value used for the Fear of COVID-19 scale was derived from a Greek validation study and has not yet been formally validated in Turkey; therefore, interpretations based on this criterion should be approached with caution.

5. CONCLUSION

The findings of this study demonstrate that, in the post-pandemic context, fear of COVID-19 remains unevenly distributed across different demographic and experiential groups, with women, adults, individuals reporting lower socioeconomic status, and those diagnosed with the disease showing higher levels of fear. This underscores the importance of developing targeted public health and psychological interventions tailored to the needs of these vulnerable populations. Moreover, elevated fear of COVID-19 was linked to increased likelihood of experiencing depression and anxiety, suggesting that the psychological consequences of the pandemic persist beyond its acute phase. The continued presence of fear and anxiety related to COVID-19 highlights the need to maintain and adapt mental health services in the post-pandemic era.

Additionally, the non-significant relationship between fear of COVID-19 and indicators of life satisfaction or mental well-being calls for further investigation, particularly into possible adaptive mechanisms. Future studies should also examine the nuanced psychological effects of pandemic-related bereavement and the broader role of fear in shaping long-term well-being. Overall, these findings point to the enduring nature of the pandemic's psychological footprint and the necessity of sustained, evidence-based responses at the societal level.

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CONFLICT OF INTEREST

The author declares that he has no competing interests.

AUTHOR CONTRIBUTIONS

This is a single-authored article.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

The study protocol was approved by the Social and Human Sciences Scientific Research and Publication Ethics Committee of Bingöl University (Approval No: 30.12.2024-E.190142). All participants provided informed consent to participate via an electronic consent form.

CONSENT FOR PUBLICATION

All participants provided their informed consent for publication through an electronic consent form.

DATA AVAILABILITY STATEMENT

The data for this study are available from the corresponding author upon reasonable request.

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