Exploring Prolonged Psychological Distress Induced by the COVID-19 Pandemic: A Public and Clinical Mental Health Perspective

COVID-19 Pandemisi Kaynaklı Uzamış Psikolojik Stres Durumunun İncelenmesi: Halk Sağlığı ve Klinik Perspektifiyle Ruh Sağlığı

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ABSTRACT

Aim: The coronavirus disease-2019 (COVID-19) pandemic has caused widespread psychological distress, with effects persisting into the post-pandemic period. However, there is limited evidence regarding psychological outcomes among patients and their relatives in clinical care settings in Türkiye. This study aimed to assess the prevalence and associated factors of psychological distress among individuals attending a gynecology clinic in Türkiye between 2024 and 2025.

Materials and Methods: A cross-sectional survey was conducted among 528 adults using a structured face-to-face questionnaire. Psychological distress was assessed using the validated Turkish version of the COVID-19 peritraumatic distress index. Socio-demographic characteristics were recorded. Descriptive statistics summarized the data, and univariate and multivariate logistic regression analyses were used to identify predictors of psychological distress. Results were visualized using forest plots.

Results: Among participants, 47% reported severe psychological distress. Female participants had significantly higher odds of distress than males [adjusted odds ratio (OR): 2.82, 95% confidence interval (CI): 1.66-4.78]. Among the 528 participants, 47% exhibited severe psychological distress as measured by the COVID-19 Peritraumatic Distress Index. Psychological distress was significantly more prevalent among women (62.0%) compared with men (36.2%). In multivariate logistic regression analysis, female sex remained a strong predictor of psychological distress (adjusted OR: 2.82, 95% CI: 1.66-4.78). Single individuals demonstrated higher odds of distress than married participants (adjusted OR: 1.92, 95% CI: 1.03-3.58). Participants residing in non-owned housing, such as rental or guest accommodations, had markedly higher risk of distress compared with those living in their own homes (adjusted OR: 3.87, 95% CI: 1.58-9.49). Employment status was also a significant determinant: unemployed participants experienced notably higher distress prevalence (62.1%) relative to employed individuals (37.3%), and unemployment emerged as an independent predictor of distress in the adjusted model. In contrast, education level and income did not demonstrate statistically significant associations with psychological distress after adjustment for other covariates.

Conclusion: Psychological distress remains prevalent among healthcare-seeking individuals in Türkiye during the post-pandemic period. Psychological distress remains a substantial and persistent issue among individuals seeking healthcare services in Türkiye during the post-pandemic period. Women, single individuals, those living in insecure housing conditions, and unemployed participants constitute high-risk groups requiring prioritized attention. These findings underscore the need for integrated and accessible mental health interventions across routine healthcare services. Embedding psychosocial support within general clinical practice may play a critical role in mitigating the long-term psychological consequences of the COVID-19 pandemic and addressing unmet mental health needs in vulnerable populations. Embedding psychosocial support services within general healthcare delivery may help address the ongoing psychological consequences of the pandemic.

Keywords: Adults, COVID-19 aftermath, distress, long-term effects, mental health impact

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ÖZ

Amaç: Koronavirüs hastalığı-2019 (COVID-19) pandemisi, pandeminin sona ermesinden sonraki döneme kadar uzanan yaygın psikolojik strese neden olmuştur. Ancak, Türkiye'deki klinik bakım ortamlarında hastalar ve yakınları arasındaki uzun dönemli psikolojik sonuçlara ilişkin veriler sınırlıdır. Bu çalışma, 2024-2025 yılları arasında bir jinekoloji kliniğine başvuran bireylerde psikolojik stres yaygınlığını ve ilişkili faktörleri değerlendirmeyi amaçlamaktadır.

Gereç ve Yöntem: Kesitsel tasarıma sahip bu araştırmada, yapılandırılmış yüz yüze anket yöntemiyle 528 erişkin bireyden veri toplanmıştır. Psikolojik stres, COVID-19 peritravmatik stres indeksinin Türkçe geçerli ve güvenilir formu kullanılarak değerlendirilmiştir. Katılımcıların sosyo-demografik özellikleri kaydedilmiştir. Veriler tanımlayıcı istatistiklerle özetlenmiş; psikolojik stres ile ilişkili faktörleri belirlemek amacıyla tek değişkenli ve çok değişkenli lojistik regresyon analizleri yapılmıştır. Bulgular orman grafikleri ile görselleştirilmiştir.

Bulgular: Katılımcıların %47'si ciddi düzeyde psikolojik stres bildirmiştir. Kadınların psikolojik stres yaşama olasılığı erkeklere göre anlamlı düzeyde yüksektir [düzeltilmiş olasılık oranları (OR): 2,82; %95 güven aralığı (GA): 1,66-4,78]. Bekar olmak (OR: 1,92; %95 GA: 1,03-3,58), kiralık veya misafir konutlarda yaşamak (OR: 3,87; %95 GA: 1,58-9,49) ve işsiz olmak (OR: 0,37; %95 GA: 0,24-0,92) diğer anlamlı belirleyiciler olarak saptanmıştır. Eğitim düzeyi ve gelir seviyesi, düzeltilmiş modelde psikolojik stres ile anlamlı ilişki göstermemiştir.

Sonuç: Pandemi sonrası dönemde, Türkiye'de sağlık hizmeti arayışında olan bireyler arasında psikolojik stres yaygınlığını sürdürmektedir. Kadınlar, işsiz bireyler ve güvencesiz barınma koşullarında yaşayanlar başta olmak üzere risk altındaki gruplara yönelik bütüncül ruh sağlığı müdahalelerine acil ihtiyaç vardır. Psikososyal destek hizmetlerinin genel sağlık hizmetlerine entegre edilmesi, pandeminin süregelen psikolojik etkilerinin azaltılmasına katkı sağlayabilir.

Anahtar Kelimeler: Erişkinler, COVID-19 sonrası dönem, psikolojik stres, uzun dönem etkiler, ruh sağlığına etkisi

INTRODUCTION

The coronavirus disease-2019 (COVID-19) pandemic emerged in late 2019, originating in China, and rapidly evolved into a global public health crisis, affecting millions of people worldwide. Beyond its direct physical health impact, COVID-19 has significantly challenged mental health and psychological resilience across global populations[1,2]. Public health measures implemented to mitigate viral transmission, such as lockdowns, social distancing, and quarantine, although essential, have substantially disrupted daily life, contributing to elevated levels of psychological distress, including anxiety, depression, and post-traumatic stress disorder symptoms[3-5].

A growing body of evidence highlights the adverse psychological consequences of the pandemic and the associated containment strategies. These include increased incidences of emotional disturbance, irritability, insomnia, anger, and emotional exhaustion[6-10]. Factors such as prolonged quarantine duration, fear of infection, social isolation, financial insecurity, and stigmatization have been consistently associated with worsening mental health outcomes[11]. Moreover, socio-demographic variables such as ethnicity, education level, employment status, and type of residence have been identified as key moderators of psychological distress during the pandemic[12-15].

In Türkiye, the psychological impact of COVID-19 has been similarly profound, particularly among patients and their relatives seeking care in private clinical settings. In these contexts, uncertainties related to health outcomes and access to care may further exacerbate stress and anxiety. Although several international multicenter studies have examined psychological distress in diverse populations[16-18], there remains a lack of data specifically focusing on private healthcare environments in Türkiye.

Although COVID-19 is no longer a dominant topic in public discourse or media, many individuals continue to experience residual psychological distress related to the pandemic and still attempt to protect themselves. Figure 1 illustrates COVID-19 case trends; however, it is important to note that no updated national data have been reported since 2024[19-22].

Given the heterogeneity in pandemic responses and socio-cultural contexts across countries, understanding localized psychological responses is crucial for developing effective, targeted mental health interventions. This study aims to address this gap by assessing the prevalence and severity of psychological distress among patients and their relatives attending a private clinic in Türkiye during the post-pandemic period. The findings are expected to provide valuable insight into the ongoing psychosocial impacts of the COVID-19 crisis in private healthcare settings.

MATERIALS AND METHODS

Selection and Description of the Cases

A face-to-face questionnaire was administered to 528 patients and their accompanying relatives attending a private gynecology clinic in Türkiye between January 2024 and January 2025. The study population consisted of adults aged 18 years and above. Participants were recruited consecutively as they presented to the clinic, regardless of the reason for their visit.

This study employed a non-probability sampling method. A post-hoc power analysis based on the observed difference in psychological distress prevalence between groups indicated a
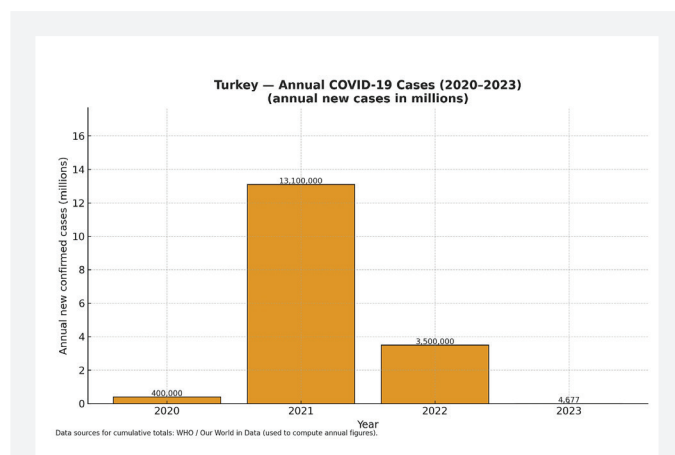
Figure 1. COVID-19 case trends from the onset of the pandemic to 2024

COVID-19: Coronavirus disease-2019, WHO: World Health Organization

statistical power (1-β) of 0.999 at a significance level of α: 0.05. This high power suggests that the study sample size was more than adequate to detect differences in distress prevalence with a medium effect size (Cohen's w ≈ 0.30).

Study Tool (Measurement)

Data were collected using a structured, face-to-face questionnaire administered by trained research personnel. The questionnaire consisted of two parts.

Part 1 included socio-demographic information: gender, age, educational level, marital status, type of residence, household income, employment status, and whether the respondent was a healthcare worker.

Part 2 included the COVID-19 Peritraumatic Distress Index (CPDI), developed by Qiu et al.[23] and validated for the Turkish population by Kocaay et al.[24]. The CPDI is a self-reported instrument comprising 24 items rated on a 5-point Likert scale (never, occasionally, sometimes, often, always). It assesses a range of symptoms experienced in the past week, including anxiety, depression, specific phobias, cognitive change, avoidance, compulsive behaviors, physical symptoms, and social functioning impairmets.

The CPDI was developed in accordance with the diagnostic criteria for stress-related disorders and specific phobias defined in the 11th revision of the International Classification of Diseases, and was reviewed by mental health professionals to ensure clinical relevance. Total scores range from 0 to 100. A score of 28-51 indicates mild to moderate distress, while a score ≥52 indicates severe distress[23].

Pilot testing was conducted with 10 participants to assess face validity and with an additional 10 participants to assess internal consistency. Cronbach's alpha values of 0.824 and 0.925 indicated good to excellent internal reliability of the instrument in the study population.

Technical Information

Data collection was conducted over a 12-month period, from January 2024 to January 2025. All participants provided written informed consent before participation. The questionnaire was administered once to each participant in a private setting to ensure confidentiality. Participants were instructed to respond based on their experiences within the preceding week.

Out of the total number of individuals approached at the private gynecology clinic, 528 completed the questionnaire, yielding a response rate of approximately 65%. Although the clinical setting predominantly serves female patients, the proportion of male respondents was relatively higher. This discrepancy is likely due to a higher refusal rate among female patients compared to their male accompanying relatives. All responses were anonymized prior to analysis to ensure the confidentiality and privacy of participants' data.

Ethical approval for the study was obtained from the Clinical Research Ethical Committee of T.C. University of Health Sciences Dışkapı Yıldırım Beyazıt Training and Research Hospital (approval no: 107/35, date: 22.03.2021).

Statistical Analysis

Descriptive statistics were used to summarize demographic characteristics and CPDI scores, and are presented as frequencies, percentages, means, and standard deviations.

Univariate logistic regression analyses were performed to examine associations between psychological distress (dependent variable) and independent variables including age, sex, education, and employment status. Crude odds ratios (OR) with 95% confidence intervals (CIs) were reported. Subsequently, multivariate logistic regression was performed to determine the adjusted associations between psychological distress and socio-demographic variables. Age, sex, marital status, residence type, educational level, employment status, and income were included in the multivariate model.

To address multicollinearity, educational level categories were collapsed into two groups: (1) primary and secondary, and (2) tertiary education.

The pooled results were graphically represented with a forest plot. All statistical analyses were conducted using IBM SPSS Statistics version 26 and R program.

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RESULTS

A total of 528 respondents participated in this survey. Table 1 presents the sample characteristics. In the study, 58.1% of participants were male, 81.4% were married, 93.0%, residing in their own home, 62.1% had secondary education, 61.0% were employed, 71.8% reported medium to high income, and 11.0% were health personnel.

The overall prevalence of psychological distress related to the COVID-19 pandemic is detailed in Table 2. Females exhibited significantly higher distress levels (62.0%) compared to males (36.2%). Similarly, individuals living in non-owned residences (renting or as guests) reported 81.1% distress levels compared to those living in their own homes (44.4%). 66.3% of the single participants were also more likely to report distress than married individuals (42.6%). Notably, 57.4% of participants with primary or secondary education had a higher prevalence

of distress compared to those with tertiary education (41.1%). Moreover, 62.1% of the unemployed individuals experienced higher levels of psychological distress than employed participants (37.3%).

Table 3 displays the results of univariate and multivariate logistic regression analyses. In the univariate models, sex, marital status, residence, and employment status were significantly associated with psychological distress.

After adjusting for multiple variables, including age, sex, marital status, type of residence, educational level, employment status, and income, the multivariate analysis identified several significant predictors:

Female participants had significantly higher odds of psychological distress compared to males (adjusted OR: 2.82, 95% CI: 1.66-4.78, p<0.001). Single individuals were more likely to report distress compared to married participants (adjusted OR: 1.92, 95% CI: 1.03-3.58, p=0.038). Participants living in rented or guest accommodations had higher odds of distress compared to those living in their own homes (adjusted OR: 3.87, 95% CI: 1.58-9.49, p=0.003). Unemployed participants had significantly greater odds of distress compared to employed individuals (adjusted OR: 0.37, 95% CI: 0.24-0.92, p=0.015).

In contrast, education level and income group were not statistically significant predictors in the adjusted model. For instance, individuals with primary or secondary education had similar distress levels to those with tertiary education (adjusted OR: 1.04, 95% CI: 0.61-1.79, p=0.880). Likewise, those with low-to-medium income did not differ significantly in distress levels from those with high-to-very high income (adjusted OR: 0.68, 95% CI: 0.46-1.02, p=0.061).

Figure 2 presents the adjusted OR and 95% CI for key socio-demographic variables associated with psychological distress during the post-pandemic period. The red vertical line at OR: 1 indicates the null effect. Variables with CI not crossing 1 are statistically significant predictors (employment, residence and sex).

DISCUSSION

This study contributes to the growing body of literature indicating that the psychological consequences of the COVID-19 pandemic have persisted well beyond its acute phase, particularly among individuals seeking care in clinical settings. Among patients and their relatives attending a private gynecology clinic in Türkiye, we observed a notably high level of psychological distress: nearly half (47%) reported severe symptoms based on the CPDI. These findings suggest that, for some individuals, the psychological burden of the pandemic remains unresolved.

Our results align with international studies conducted during the early stages of the pandemic. For instance, Qiu et al.[23]

Table 1. Distribution of socio-demographic variables among respondents (n=528)		
	Mean/count	**SD/percentage**
Age	41.47	0.4
Sex		
Male	307	58.1
Female	221	41.9
Marital status		
Married	430	81.4
Single	98	18.6
Place of residence		
Own home	491	93.0
Other (rent, guest etc.)	37	7.0
Education		
Primary	10	1.9
Secondary	328	62.1
Tertiary	190	36.0
Employment		
Employed	322	61.0
Unemployed	206	39.0
Income		
Low	74	14.0
Medium	190	36.0
High	189	35.8
Very high	75	14.2
Health personnel		
Yes	58	11.0
No	470	89.0
Distress	51.54	11.4
Mild-moderate	280	53.0
Severe	248	47.0
SD: Standard deviation		

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Table 2. Prevalence of COVID-19-related psychological distress by socio-demographic characteristics of respondents (n=528)			
Factors	Distress (count)	Total population	Prevalence of distress (in %)
Sex			
Male	111	307	36.2
Female	137	221	62.0
Chi-square	34.432***		
Place of residence			
Own home	218	491	44.4
Other (rent, guest etc.)	30	37	81.1
Chi-square	18.587***		
Marital status			
Married	183	98	42.6
Single	65	430	66.3
Chi-square	18.102***		
Education			
Primary/secondary	109	190	57.4
Tertiary	139	338	41.1
Chi-square	12.885***		
Employment			
Employed	120	322	37.3
Unemployed	128	206	62.1
Chi-square	31.193***		
Income			
Low	36	74	48.6
Medium	77	190	40.5
Good	99	189	47.1
Very good	46	75	61.3
Chi-square	9.464**		
Health personnel			
Yes	31	58	53.4
No	217	470	46.2
Chi-square	1.098*		
Test statistic and p-value *p>0.05, **p=0.024, ***p<0.001			
COVID-19: Coronavirus disease-2019			

reported that 35% of respondents in China experienced moderate to severe psychological distress during the initial outbreak. Similarly, Wang et al.[25] found that over 50% of participants reported moderate to severe psychological impact. Notably, our data were collected during 2024-2025 years after the global peak of the pandemic, highlighting the sustained nature of distress in certain populations, particularly those who remain engaged with healthcare institutions. This persistence may reflect the chronic course of pandemic-related stressors.

Compared to national-level data, our findings are equally significant. In one of the earliest Turkish studies during the pandemic, Özdin and Bayrak Özdin[17] found that 45.1% of participants reported anxiety symptoms and 23.6% reported depressive symptoms[26,27]. Our distress rates are even higher, likely due to the clinical nature of the sample and continued socio-economic challenges in Türkiye, including inflation,

healthcare system strain, and ongoing fears related to new virus variants and access to care.

Gender emerged as a strong predictor of distress, with women exhibiting nearly three times higher odds of psychological distress than men (adjusted OR 2.82). This finding is consistent with both national and international research[17,27,28-30], suggesting that women have been disproportionately affected by the pandemic, likely due to increased caregiving responsibilities, precarious employment conditions, and heightened vulnerability to domestic violence and mental health disorders.

Employment status also played a key role in mental well-being. Unemployed individuals had significantly higher levels of psychological distress than employed individuals (adjusted OR: 0.37). This finding mirrors global trends, where job loss and financial uncertainty have consistently been identified

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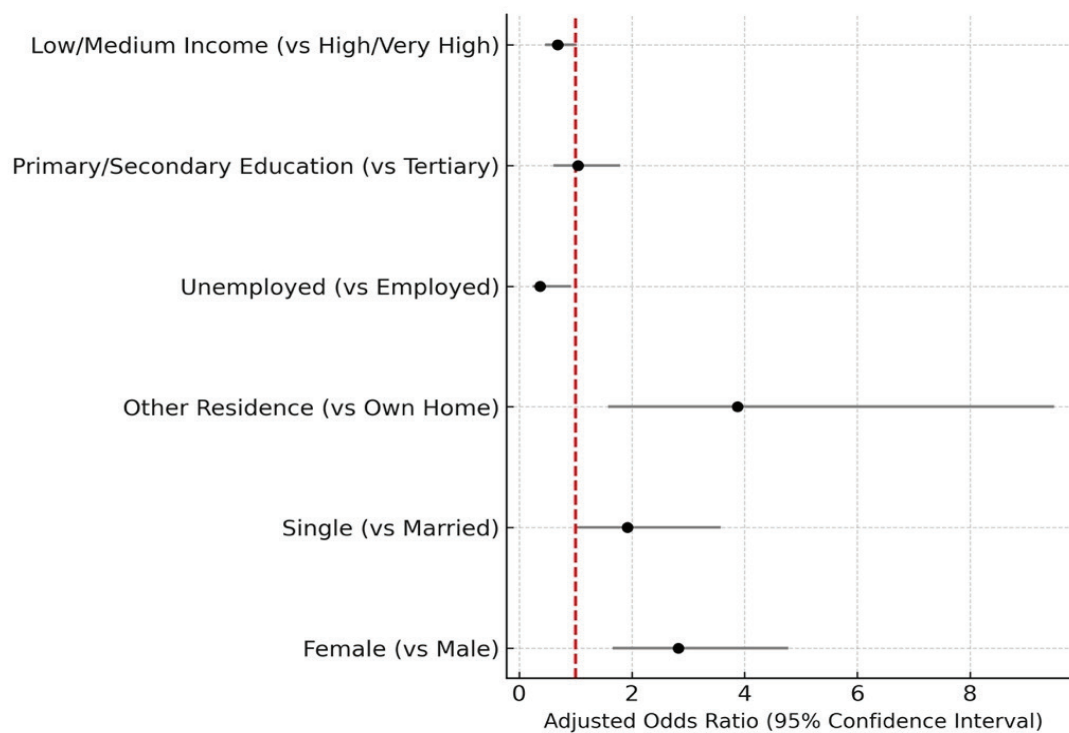
Figure 2. Forest plot of multivariate predictors of psychological distress

Table 3. Multivariate analysis of psychological distress during the post–pandemic period				
Factors	**Univariate**		**Multivariable model**[a]	
	Crude OR (95% CI)	**p-value**	**Adjusted OR (95% CI)**	**p-value**
Age	-0.027 (8-0.092-0.038)	0.412	1.004 (0.990-1.017)	0.607
Sex				
Male	Reference			
Female	5.819 (3.319-8.319)	<0.001**	2.820 (1.662-4.782)	<0.001**
Marital status				
Married	Reference			
Single	-0.891 (-3.838-2.056)	0.553	1.924 (1.035-3.575)	0.038
Residence				
Own home	Reference			
Other	5.145 (1.450-8.839)	0.006*	3.872 (1.579-9.495)	0.003*
Education				
Tertiary	Reference			
Primary/secondary	-0.580 (-3.219-2.060)	0.666	1.042 (0.608-1.789)	0.880
Employment				
Employed	Reference			
Unemployed	4.908 (2.792-7.023)	<0.00**	0.366 (0.244-0.923)	0.015*
Income				
High-very high	Reference			
Low-medium	0.780 (-0.313-1.872)	0.161	0.684 (0.460-1.017)	0.061
*p<0.05, **p<0.001				
[a]: Age and sex (n=528). R^2: 67.9%, CI: Confidence interval, OR: Odds ratio				

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as major predictors of mental health decline during the pandemic[28,29].

Supporting this, a meta-analysis by Salari et al.[8] confirmed that unemployment significantly elevated the risk of anxiety and depression during the COVID-19 crisis.

Another important factor was housing status. Participants living in their own homes reported lower distress levels than those in rented or guest accommodations. While less frequently explored in the literature, housing stability likely contributes to a greater sense of security and control, both of which are recognized as protective factors for mental health[30].

In contrast to earlier studies, our results did not identify educational level as a significant predictor of psychological distress in the adjusted models. Although higher education is generally considered protective, offering better access to information and coping strategies, our findings support the growing recognition that structural vulnerabilities such as employment status, housing, and marital status may be more influential in long-term crises[31,32].

The long-term persistence of psychological symptoms is a point of concern. Emerging studies suggest that pandemic-related distress may become chronic, particularly among individuals without prior psychiatric diagnoses[33]. Vindegaard and Benros[4] have emphasized the critical need for sustained mental health monitoring and support even as infection rates decline.

Overall, our findings underscore the importance of integrating mental health services into both public and private healthcare systems. Despite the availability of national mental health hotlines and support services in Türkiye, our data reveal a significant unmet need for on-site psychological assessment and intervention in private outpatient settings. Given the sensitive and emotionally complex nature of gynecological and reproductive health services, these settings represent a key opportunity for identifyng and addressing distress.

The rationale for conducting this study was grounded in the continued observation that, although COVID-19 is no longer a dominant topic in public discourse or media, many individuals still experience residual psychological distress and maintain protective behaviors. As noted in the introduction, the absence of updated national data since 2024 has hindered comprehensive public monitoring of the pandemic's long-term psychological impact. However, clinical impressions and anecdotal reports indicate that pandemic-related distress remains a relevant issue across diverse population groups. The results of our study confirm this concern, with nearly half of the participants exhibiting severe psychological distress despite the temporal distance from the peak of the pandemic. These findings emphasize the need for regular mental health screening and support services to be integrated into all healthcare settings, both public and private, as part of a broader strategy to address ongoing mental health consequences of the COVID-19 crisis.

Study Limitations

This study has several limitations that should be considered when interpreting the findings. First, the study was conducted in a single clinical setting, which may limit the generalizability of the results to the broader population. Although the sample included both patients and their relatives, the findings reflect individuals who are already engaged with the healthcare system and may not represent the experiences of those who do not seek medical care.

Second, the cross-sectional design of the study does not allow for causal inferences or assessment of changes in psychological distress over time. Longitudinal follow-up would be necessary to evaluate the persistence or evolution of psychological symptoms in the post-pandemic period.

Third, the findings of this study are based on a non-probability sample. While this sampling strategy was chosen for its practicality and suitability to the research objectives, it limits the statistical generalizability of the results to the entire target population. The potential impact of this limitation on the interpretation of the findings should be acknowledged when considering the study's implications.

Fourth, the use of self-reported data, particularly for the CPDI, may be subject to response bias, including underreporting or overreporting due to social desirability or recall limitations. While the instrument demonstrated good internal consistency, it does not replace clinical diagnosis, and no structured psychiatric interviews were conducted.

Fifth, the lack of access to updated national COVID-19 data after 2024 limits the ability to contextualize findings within current epidemiological trends. As such, ongoing pandemic-related psychological stress may not be directly attributable to case numbers but rather to residual socio-economic and emotional impacts.

Finally, some potentially relevant variables, such as previous psychiatric history, social support levels, or vaccination status, were not assessed, which could have further enriched the analysis of psychological distress predictors.

CONCLUSION

The psychological burden of the COVID-19 pandemic remains substantial among patients and caregivers in private clinical settings in Türkiye. Tailored mental health support, especially for women, the unemployed, and individuals with insecure housing, is essential. Future research should focus on long-term psychological outcomes and the development of context-

specific strategies that bridge public and private healthcare systems.

Ethics

Ethics Committee Approval: Ethical approval for the study was obtained from the Clinical Research Ethical Committee of T.C. University of Health Sciences Dışkapı Yıldırım Beyazıt Training and Research Hospital (approval no: 107/35, date: 22.03.2021).

Informed Consent: All participants provided written informed consent before participation.

Footnotes

Authorship Contributions

Data Collection or Processing: M.F.T., Analysis or Interpretation: B.K.B., Literature Search: B.K.B., Writing: B.K.B., M.F.T.

Conflict of Interest: No conflict of interest was declared by the authors.

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