

# Exploring The Adaptive Responses of Schizophrenia And Bipolar Disorder Patients to COVID-19 Pandemic

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## ABSTRACT

The management of the COVID-19 pandemic is significantly influenced by societal attitudes and awareness, which pose unique challenges for individuals with schizophrenia and bipolar disorder. This cross-sectional study aimed to assess how societal attitudes and awareness impact the management of the COVID-19 pandemic among individuals diagnosed with schizophrenia and bipolar disorder in İstanbul, Turkey. The study was conducted in İstanbul, Turkey, and included a total of 203 patients diagnosed with schizophrenia (103) and bipolar disorder (100). It employed a cross-sectional study design. Participants' adherence to preventive measures such as mask usage, hygiene practices, social distancing, and attitudes towards COVID-19 were assessed using a detailed questionnaire. The association between COVID-19 awareness, knowledge levels, and relevant variables was assessed using independent sample t-tests, analysis of variance (ANOVA), and Chi-square tests, as deemed appropriate. Results revealed a concerning trend of below-average levels of anxiety regarding infection risks among relatives. Suboptimal adherence to preventive measures was evident, with significant proportions failing to adhere to the recommended handwashing durations, wearing masks incorrectly, and neglecting hand disinfection in risky situations. Compliance with social distancing guidelines was notably lacking, with a substantial portion opting to conceal their COVID-19 positivity. The findings underscore the heightened risk of transmission and the formidable challenge in epidemic control posed by inadequate adherence among individuals with schizophrenia and bipolar disorder. Addressing this issue warrants the development of tailored strategies and heightened awareness campaigns targeted at individuals with mental disorders in anticipation of future pandemics.

## Şizofreni ve Bipolar Bozukluk Tanılı Hastaların COVID-19 Sürecinin Zorluklarına Uyumu

### Makale Bilgisi

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### Anahtar Kelimeler

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### ÖZET

COVID-19 pandemisinin yönetimi, toplumsal tutumlar ve farkındalık tarafından derinden etkilenmektedir. Bu durum, şizofreni ve bipolar bozukluğu olan bireyler için benzersiz zorluklar sunmaktadır. Bu kesitsel çalışmanın amacı, İstanbul, Türkiye'de şizofreni ve bipolar bozukluğu olan bireyler arasında COVID-19 pandemisinin yönetimi üzerindeki toplumsal tutumlar ve farkındalığın etkisini değerlendirmektir. Çalışma, İstanbul, Türkiye'de gerçekleştirilmiş olup, 203 şizofreni (103) ve bipolar bozukluk (100) tanısı almış hastayı içermektedir. Çalışma, kesitsel bir tasarım kullanmıştır. Katılımcıların maske kullanımı, hijyen uygulamaları, sosyal mesafe gibi önleyici tedbirlere uyumları ve COVID-19'a yönelik tutumları kapsamlı bir anket aracılığıyla değerlendirilmiştir. COVID-19 farkındalığı, bilgi seviyeleri ve ilgili değişkenler arasındaki ilişki, bağımsız örneklem t-testleri, varyans analizi (ANOVA) ve Ki-kare analizi kullanılarak değerlendirilmiştir. Sonuçlar, akrabalar arasında enfeksiyon riski ile ilgili endişe seviyelerinin düşük olduğunu ve önleyici tedbirlere uyumda yetersizliklerin mevcut olduğunu ortaya koymuştur. Katılımcıların önemli bir kısmının önerilen el yıkama sürelerine uymadığı, maskeleri yanlış kullandığı ve riskli durumlarda el dezenfeksiyonunu ihmal ettiği görülmüştür. Sosyal mesafe kurallarına uyumda belirgin bir eksiklik gözlemlenmiş, bazı katılımcıların COVID-19 pozitifliklerini gizlediği belirlenmiştir. Bulgular, şizofreni ve bipolar bozukluğu olan bireyler arasında yetersiz uyumun, bulaşma riskini artırdığını ve epidemik kontrolü zorlaştırdığını vurgulamaktadır. Bu sorunun ele alınması, zihinsel bozukluğu olan bireyler için gelecekteki pandemilere yönelik özel stratejiler ve artırılmış farkındalık kampanyalarının geliştirilmesini gerektirmektedir.

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## **INTRODUCTION**

The emergence of coronavirus disease 2019 (COVID-19), caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), marked a pivotal moment in global health history and prompted the World Health Organization (WHO) to declare it a pandemic on March 11, 2020 (WHO, 2022; Aydođan & Aksu, 2023).

Since then, the COVID-19 pandemic has posed multifaceted threats to various spheres of human life, including health, livelihoods, social dynamics, and global economic stability (Akgün Şahin & Sariaslan, 2023; Burucu & Kiyak, 2022; Ceylan & Günay Molu, 2022; Koolivand & Amini, 2020; Moradzadeh, 2020).

In response to the escalating crisis, governments worldwide swiftly implemented a spectrum of restrictions aimed at containing the spread of the virus, including quarantine measures, social distancing protocols, isolation measures, closures of educational and occupational institutions, and stringent border controls (Güner et al., 2020).

This unprecedented period of upheaval has profoundly reshaped societal norms and behaviors, unveiling what has been termed the "new normal" (Oldham, 2021). Drawing from the lessons of past epidemics such as SARS, Ebola, and MERS, it has become evident that the attitudes, levels of compliance, and levels of awareness of both the populace and public authorities play pivotal roles in navigating and mitigating the impact of infectious disease outbreaks (Almutairi et al., 2015; Person et al., 2004; Yap et al., 2010). However, amid the global response to COVID-19, individuals grappling with serious mental illnesses have emerged as a particularly vulnerable cohort (Kowalski & Misiak, 2023).

Schizophrenia (SCH) is a chronic psychiatric disorder that affects cognition, perception, emotion, and behavior, often characterized by delusions, hallucinations, and cognitive impairments (APA, 2013). Bipolar disorder (BD), on the other hand, is a condition marked by extreme mood fluctuations, which manifest as alternating depressive and manic episodes (Grande et al., 2016). Patients diagnosed with SCH and BD face a unique set of challenges that are exacerbated by the pandemic-induced disruptions in healthcare systems (Şenol Çelik et al., 2023).

These disruptions not only elevate the risk of psychiatric exacerbation but also render these individuals more susceptible to contracting and transmitting COVID-19 due to lapses in adhering to preventive measures (Demmin et al., 2019). Reports from psychiatric facilities, such as one from China, highlight the rapid escalation in COVID-19 infections among psychiatric patients, emphasizing the critical need for tailored interventions to address their specific vulnerabilities (Lau et al., n.d.; Xiang et al., 2020).

Moreover, mounting evidence suggests that individuals with psychiatric disorders face heightened risks of COVID-19-related hospitalization and mortality compared to their counterparts without mental illness (Tzur Bitan et al., 2020). This elevated risk profile is attributed to various factors, including underlying physical health conditions, compromised immune function, lifestyle factors, socioeconomic disparities, and the effects of psychotropic medications (Mazereel et al., 2021; Moreno et al., 2020; Vai et al., 2021). Despite efforts in many countries to prioritize vaccination for individuals with psychiatric conditions, there were concerns remained regarding their ability to access and utilize these prioritization initiatives effectively (De Hert et al., 2021; Picker et al., 2021).

However, amidst the discourse surrounding the heightened susceptibility of patients with severe mental disorders to the COVID-19 pandemic, scant attention has been directed towards understanding these individuals' attitudes and adaptation to the lifestyle changes necessitated by the crisis. Therefore, this study aims to investigate the adaptation of SCH and BD patients to the lifestyle changes precipitated by the COVID-19 epidemic. By shedding light on their experiences and coping mechanisms, this research aims to provide invaluable insights to inform future pandemic preparedness strategies.

## **METHOD**

### **Research Design**

The study commenced after obtaining verbal informed consent from all participants. In cases where the participant lacked the capacity to provide valid informed consent, additional consent was obtained from the primary caregiver. The questionnaire process was conducted by a multidisciplinary team consisting of a psychiatrist and an occupational therapist. Initially, a diagnostic assessment was performed by the psychiatrist. Subsequently, a meticulously designed research questionnaire was administered by the research team.

The questionnaire was conducted through a face-to-face, question-and-answer method, strictly adhering to infection control protocols. This approach was chosen to ensure proper comprehension of the questions and to minimize potential limitations arising from participants' limited attention spans. Demographic data for the participants were retrieved from the electronic record system. The study was carried out between December 2020 and February 2021, a period during which no lockdown restrictions were in place.

### **Participants**

The present study was carried out at a community mental health center situated in Istanbul, Turkey, which caters to individuals with severe mental disorders receiving outpatient care. Amidst the pandemic, psychiatric assessments and treatments were administered face-to-face at the center, adhering to infection control measures. A total of 213 patients diagnosed with schizophrenia (109) and bipolar disorder (104) according to the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) were sequentially evaluated by trained research interviewers.

Inclusion criteria comprised individuals aged 18 years and above, undergoing treatment at the community mental health center for a minimum of 1 year, and maintaining clinical stability for the preceding 3 months, defined by the absence of hospitalizations or significant treatment alterations. Exclusion criteria encompassed patients with catatonia, active substance or alcohol misuse, and intellectual disability. Seven patients (4 with schizophrenia, 3 with bipolar disorder) declined participation, while consent from relatives was not obtained for three patients (2 with schizophrenia, 1 with bipolar disorder). Consequently, the study comprised a total of 203 patients who completed the assessment.

### **Research Instruments and Processes**

The questionnaire was developed by a psychiatrist with over 10 years of experience in mental health and an occupational therapist with 4 years of experience in the field. It served as the primary data collection tool for this study. During the questionnaire development process, the authors leveraged their expertise in mental health and conducted a comprehensive review of the relevant literature.

The questionnaire consisted of four distinct sections, each addressing different aspects of COVID-19 awareness and knowledge. These sections were carefully designed to assess key topics, including mask usage, hygiene and disinfection practices, adherence to social distancing guidelines, and attitudes and behaviors related to COVID-19. The questionnaire did not involve a scoring system; instead, all participant responses were analyzed using statistical techniques.

### Data Analysis

The power analysis conducted indicated that at least 132 participants were required to achieve a 5% margin of error and a 95% confidence level. Similarly, in the study conducted by Muruganandam et al (Muruganandam et al., 2020) using a comparable population and methodology, 132 participants were included. Descriptive statistics, including mean, standard deviation (SD), and frequency were computed for all demographic and clinical variables. The association between these variables and COVID-19 awareness and knowledge levels was assessed through independent sample t-tests, analysis of variance (ANOVA), and Chi-square analysis, as deemed appropriate. A significance threshold of  $p \leq 0.05$  was established for all statistical tests. Statistical analysis was conducted utilizing SPSS version 22.

### RESULTS

In our study cohort, a majority of the participants were male, comprising 66% of the total sample. Notably, half of the patients (50.7%) had been diagnosed with schizophrenia (SCH). A substantial proportion of the participants, accounting for 61.1%, had not pursued education beyond the primary level. Additionally, a significant portion of the cohort (76.8%) reported being single, while a large majority (80.8%) were unemployed. Furthermore, a considerable proportion of the participants (77.9%) did not have any chronic diseases. The mean age of the participants was calculated to be 43.16 years, with a standard deviation of  $\pm 12.14$ . Detailed sociodemographic characteristics of the participants are outlined in Table 1.

**Table 1**  
*Sociodemographic Characteristics*

| <b>Descriptive Variables</b> | <b>N</b> | <b>%</b> |
|------------------------------|----------|----------|
| <b>Gender</b>                |          |          |
| Female                       | 69       | 34       |
| Male                         | 134      | 66       |
| <b>Educational Status</b>    |          |          |
| Primary school               | 124      | 61.1     |
| High school                  | 48       | 23.6     |
| University                   | 31       | 15.3     |
| <b>Marital Status</b>        |          |          |
| Single                       | 156      | 76.8     |
| Married                      | 47       | 23.2     |
| <b>Occupational Status</b>   |          |          |
| Unemployed                   | 164      | 80.8     |
| Working                      | 39       | 19.2     |
| <b>Diagnosis</b>             |          |          |
| Schizophrenia                | 103      | 50.7     |
| Bipolar disorder             | 100      | 49.3     |
| <b>Categorical Age</b>       |          |          |
| 18-35                        | 65       | 32       |
| 36-64                        | 131      | 64.5     |
| 65-74                        | 7        | 3.4      |

Our findings revealed that a concerning proportion of patients, specifically 70.4%, indicated hesitancy in seeking medical assistance upon noticing symptoms suggestive of COVID-19. Moreover, upon receiving a positive COVID-19 test result, a substantial 40.8% of patients expressed intention to withhold this information. Notably, our investigation also uncovered a lack of significant concern among patients regarding the potential transmission of COVID-19 within their immediate family circle, as evidenced by their reported minimal apprehension if their first-degree relatives were diagnosed with the infection. These findings are comprehensively summarized in Table 2.

**Table 2**

*General Attitudes of Patients with SCH and BD Towards COVID-19*

| Categories   | n (%)      |
|--|------------|
| <b>What do you do if you notice symptoms?</b>                        |            |
| Total  | 135(100%)  |
| I apply to the doctor  | 95 (70.4%) |
| I wait for it to pass  | 20 (14.8%) |
| I buy medicine from the pharmacy                                     | 0          |
| Other  | 20 (14.8%) |
| <b>Who will you notify if your COVID-19 test result is positive?</b> |            |
| Total  | 120(100%)  |
| Close circle   | 2 (1.6%)   |
| Health workers   | 4(3.3%)    |
| Neighborhood and health workers                                      | 65(54.1%)  |
| I would keep it a secret   | 49(40.8%)  |
| <b>Is COVID-19 in first-degree relatives cause for concern?</b>      |            |
| Total  | 191 (100%) |
| None   | 105 (55%)  |
| Mild   | 86 (45%)   |
| Moderate   | 0          |
| Severe   | 0          |
| Very severe  | 0          |

Our investigation revealed notable observations regarding mask-wearing behavior among patients. Specifically, it was found that a considerable proportion, comprising 67.5% of the patients, demonstrated correct mask-wearing practices. Furthermore, a significant majority (85.7%) opted for surgical masks as their preferred choice of face covering. Additionally, the study highlighted a prevalent practice among patients, with 70.9% of them utilizing the same mask for a duration spanning 1 to 3 days. These findings shed light on the prevailing mask-wearing habits within our study population and are succinctly presented in Table 3 for reference.

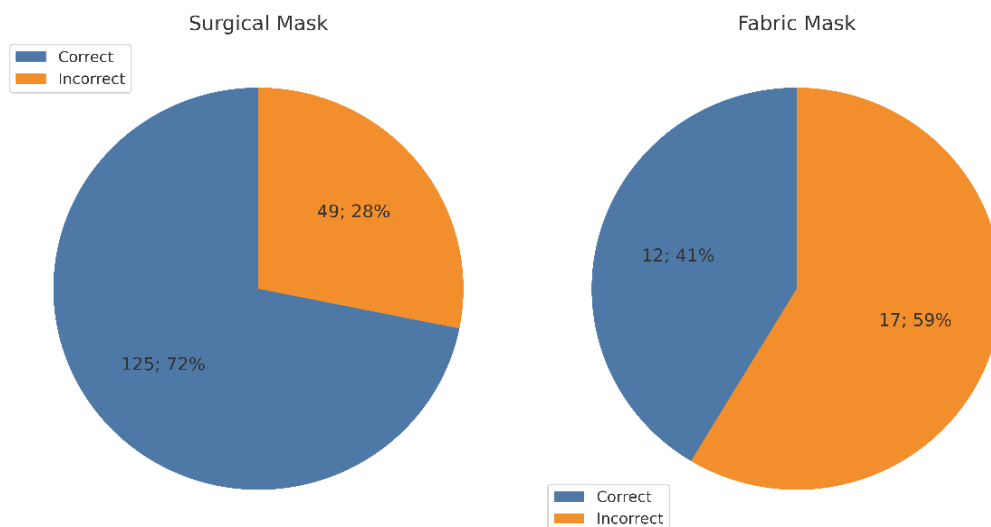
**Table 3**  
*Evaluation of Mask Use in Patients with Schizophrenia and Bipolar Disorder*

| Categories                             | n (%)        |
|--|--------------|
| <b>Is the mask fitted correctly?</b>   |              |
| Total                                  | 203 (100%)   |
| Yes                                    | 137(67.5%)   |
| No                                     | 66(32.5%)    |
| <b>Mask type?</b>                      |              |
| Total                                  | 203 (100%)   |
| Material                               | 29 (14.3%)   |
| Surgical                               | 175 (85.7 %) |
| N95                                    | 0            |
| <b>The duration of wearing a mask?</b> |              |
| Total                                  | 203 (100%)   |
| 4-12 hours                             | 2 (1%)       |
| 12-24 hours                            | 7 (3,4%)     |
| 1-3 days                               | 144 (70.9%)  |
| 3-7 days                               | 8 (3.9%)     |
| 1-2 weeks                              | 19 (9.4%)    |
| 3-4 weeks                              | 4 (2%)       |
| Over 1 month                           | 19 (9.4%)    |

Our analysis unveiled a notable trend regarding mask-wearing preferences among patients, with a higher prevalence of surgical mask usage compared to fabric masks. Moreover, patients who opted for surgical masks demonstrated a higher likelihood of adhering to proper mask-wearing practices compared to those who chose fabric masks. These compelling findings are visually depicted in Figure 1, underscoring the significance of mask type in influencing adherence to correct usage protocols among our study participants.

**Figure 1**

*Usage Patterns of Mask*



Our investigation uncovered concerning trends regarding hand hygiene practices among participants. A significant majority, comprising 92.1%, reported washing their hands for less than the recommended duration of 20 seconds. Additionally, a substantial proportion (80.3%) admitted to not carrying disinfectant with them for hand sanitation purposes. Furthermore, a notable 72% of participants acknowledged neglecting hand washing in situations deemed risky, such as after coughing or coming into contact with potentially contaminated surfaces. These findings, detailed in Table 4, underscore the imperative for enhanced education and promotion of proper hand hygiene practices among our study cohort.

**Table 4**

*Evaluation of Compliance with Hygiene and Disinfection Rules in Patients with SCH and BD*

| Categories                     | n (%)       |
|--------------------------------|-------------|
| <b>Time of hand washing?</b>   |             |
| Total                          | 203 (100%)  |
| Less than 20 sec               | 187 (92.1%) |
| 20 sec                         | 16 (7.9%)   |
| More than 20 sec               | 0           |
| <b>Carry of disinfectant?</b>  |             |
| Total                          | 202(100%)   |
| Yes                            | 40 (19.7%)  |
| No                             | 161 (80.3%) |
| <b>Use of disinfectant?</b>    |             |
| Total                          | 200 (100%)  |
| None                           | 144 (72%)   |
| Coughing or Sneezing           | 3 (1.5%)    |
| Both                           | 34 (17%)    |
| Touching contaminated surfaces | 19 (9.5%)   |

Our study identified significant associations between patients diagnosed with SCH and BD and their behavior concerning social distancing across various settings. Specifically, patients with SCH and BD were found to be less likely to adhere to social distancing measures in public spaces such as streets, markets or shopping malls, places of worship, parks, workplaces, and gatherings with friends. Remarkably, the number of participants observed in these environments who failed to maintain social distance exceeded those who did adhere to the recommended guidelines.

For instance, a notable 57.1% of participants on the street, 67.5% in markets or shopping malls, 89.7% in places of worship, 83.3% in parks, 94.1% in workplaces, and 93.6% in gatherings with friends were observed to disregard social distancing protocols. These findings, elucidated in Table 5, underscore the importance of targeted interventions to enhance awareness and compliance with social distancing guidelines among individuals with SCH and BD.

**Table 5***Evaluation of Attention to Social Distance in Patients with SCH and BD*

| Categories                 | n (%)       | p     |
|----------------------------|-------------|-------|
| <b>Public transport</b>    |             |       |
| Total                      | 203 (100%)  |       |
| Yes                        | 5 (2.5%)    | 0.67  |
| No                         | 198 (97.5%) |       |
| <b>Streets</b>             |             |       |
| Total                      | 203 (100%)  |       |
| Yes                        | 87 (42.9%)  | 0.00* |
| No                         | 116 (57.1%) |       |
| <b>Market or Mall</b>      |             |       |
| Total                      | 203 (100%)  |       |
| Yes                        | 66 (32.5%)  | 0.00* |
| No                         | 137 (67.5%) |       |
| <b>Places of worship</b>   |             |       |
| Total                      | 203 (100%)  |       |
| Yes                        | 21 (10.3%)  | 0.00* |
| No                         | 182 (89.7%) |       |
| <b>Parks</b>               |             |       |
| Total                      | 203 (100%)  |       |
| Yes                        | 34 (16.7%)  | 0.00* |
| No                         | 169 (83.3%) |       |
| <b>Workplaces</b>          |             |       |
| Total                      | 203 (100%)  |       |
| Yes                        | 12 (5.9%)   | 0.00* |
| No                         | 191 (94.1%) |       |
| <b>Places with friends</b> |             |       |
| Total                      | 203 (100%)  |       |
| Yes                        | 13 (6.4%)   | 0.00* |
| No                         | 190 (93.6%) |       |

## DISCUSSION

This study provides insight into how societal attitudes and levels of public awareness have shaped the management and lived experience of the COVID-19 pandemic among individuals with schizophrenia and bipolar disorder in Istanbul, Turkey. By focusing on the intersection of public perception and mental health, the findings highlight the specific challenges these individuals faced in navigating pandemic-related restrictions, healthcare access, and social support.

The findings of this study provide valuable insights into the ways individuals diagnosed with SCH and BD manage COVID-19-related challenges amidst the global pandemic. To our knowledge, this is the first study to comprehensively explore the COVID-19 management strategies adopted by individuals with severe mental disorders. Our results underscore the importance of understanding the predictors of compliance with public health measures within this population during the pandemic.

One notable finding is the positive inclination of a majority of participants (70.4%) to seek medical assistance upon recognizing COVID-19 symptoms. This proactive approach is crucial for both individual treatment and containment of the infection. However, it is concerning that previous studies have highlighted the low rates of symptom recognition among individuals with serious mental illness, which raises the risk of undetected COVID-19 positivity. Implementing psychoeducation initiatives for patients and their caregivers could mitigate this risk and enhance medical screening efforts.

Another significant revelation is the tendency among approximately 40% of participants to conceal their COVID-19 positivity. This behavior may stem from the fear of stigmatization, compounded by existing stigma related to psychiatric illness. However, such concealment poses risks not only to the patients themselves but also to their close contacts, highlighting the need for targeted interventions to address stigma and encourage transparency in COVID-19 reporting (Caqueo-Urizar et al., 2021).

Interestingly, our study found a discrepancy between the perceived risk of COVID-19 infection among participants and their actual behaviors. Despite the documented anxiety associated with COVID-19 infection, participants demonstrated minimal concern regarding the infection status of their relatives (Colizzi et al., 2020; Sandín et al., 2020). This discrepancy suggests a low risk perception among individuals with SCH and BD, which could impede pandemic control efforts.

Regarding preventive measures, while a majority of participants reported wearing masks, a significant proportion exhibited inadequate mask hygiene practices, such as wearing the same mask for extended periods. This suboptimal adherence to mask protocols underscores the importance of ongoing education and reinforcement of proper mask usage (Sande et al., 2008; Sugimura et al., 2021). Moreover, the observed preference for surgical masks over fabric masks raises questions about the effectiveness and standards of different mask types.

Similarly, concerning trends were observed in hand hygiene practices, with the majority of participants failing to adhere to recommended guidelines. It is known that SCH and BB patients have self-care problems and have difficulty in fulfilling general hygiene and infection protection rules (Druss, 2020; Maguire et al., 2019). This underscores the need for tailored interventions to address self-care challenges and promote adherence to hygiene protocols among individuals with severe mental illness.

Additionally, our study revealed a concerning lack of compliance with social distancing measures among participants, potentially influenced by factors such as low risk perception and the nature of the disease. These findings underscore the importance of targeted interventions to enhance awareness and compliance with social distancing guidelines within this vulnerable population.

## **CONCLUSION AND SUGGESTIONS**

In conclusion, while this study offers valuable insights into the challenges faced by individuals with severe mental disorders during the COVID-19 pandemic, it's important to recognize that the urgency and focus on COVID-19 management have diminished in current times. Nevertheless, the proactive approach observed among many participants in seeking medical assistance remains noteworthy. However, trends such as symptom concealment and suboptimal adherence to preventive measures underscore ongoing issues that require attention, albeit in a changing landscape. Tailored interventions addressing stigma, promoting transparency, and reinforcing hygiene protocols remain relevant but may need to be adapted to current circumstances.

## **LIMITATIONS**

Despite its contributions, this study has some limitations, including potential biases due to self-reported data and the limited generalizability of the findings. However, the study still offers valuable insights that can inform future strategies to support individuals with severe mental illness, particularly as the focus on COVID-19 shifts. Future research should continue to explore the dynamics between mental health, stigma, and public health responses, particularly in the context of emerging infectious diseases and other health challenges.

## **Ethic Approval**

Ethical approval was granted by the Haseki Education and Research Hospital Ethics Committee under decision number 2020-232, affirming the study's adherence to ethical standards. The research was undertaken in accordance with the ethical principles set forth in the Declaration of Helsinki. Informed consent from the participants and permission from the relevant institutions were obtained to conduct the research.

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## **Conflict of interest**

The authors have no conflict of interest to declare

## **Author Contributions**

Design: E. N. Ç. Data Collection or Processing: E. N. Ç. Analysis or Interpretation: M. Ç. Literature Search: E. D. Writing: E. N. Ç.

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