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The Impact of the Covid-19 Pandemic on the Admission of Psychiatric Patients in Emergency Department During the Early Pandemic Period

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ABSTRACT

Objective: The COVID-19 pandemic and its restrictions cause increasing mental health problems in both the general population and psychiatric patients. In this study, it was aimed to compare the number and characteristics of emergency psychiatric consultations in the early-pandemic period and in the same period of 2019, in order to understand how the COVID-19 pandemic affects psychiatric emergencies and the health care seeking behavior of people with psychiatric disorders.

Method: A retrospective cross-sectional study was designed in which patients who applied to Emergency Department of Bursa Uludağ University and were consulted to psychiatry between 11 March 2019 – 1 September 2019 and 11 March 2020 - 1 September 2020 were included. Sociodemographic characteristics of the patients, psychiatric diagnoses, hospitalizations, psychotropic drug use and treatment compliance, frequency of admission, indications for hospitalization/referral and suicide attempts were compared.

Results: It was observed that the ratio of psychiatric admissions to the emergency department to all emergency department admissions was significantly higher in the early-pandemic period than in the pre-pandemic period. In the early-pandemic period, emergency department admissions due to depression disorders were found to be significantly lower; schizophrenia and other psychotic disorders, and psychotropic drug side effects were found to be significantly higher than in the pre-pandemic period.

Conclusion: In this study, it was shown that the COVID-19 pandemic may have a negative impact on psychiatric patients. Prompt implementation of measures to deal with the psychiatric effects of the pandemic, using online health services, developing coping strategies and identifying early signs of psychiatric illness exacerbations can reduce the negative effects of this stressful period on vulnerable individuals.

Keywords: Covid-19, Pandemic, Quarantine, Psychiatry, Psychiatric Emergency, Emergency Department

INTRODUCTION

Coronavirus 2019 (COVID-19) is a viral disease that causes severe acute respiratory syndrome due to coronavirus 2 (SARS-Cov-2), which emerged in Wuhan, China in late 2019. It was declared as a pandemic by the World Health Organization (WHO) on March 11, 2020, and in the same month, positive cases of COVID-19 were detected also in Turkey. Due to the increasing number of cases and deaths due to COVID-19, lockdown and social isolation have been implemented all over the world as well as in our country, which has radically changed social life, people's habits and lifestyles. It has been shown that quarantine is accompanied by psychiatric complaints such as confusion, impaired concentration, fear, anger, guilt and grief, lethargy and feeling of exhaustion (Brooks et al. 2020).

Community-based surveys conducted in China at the peak of the pandemic concluded that approximately one-third of respondents suffered from anxiety, depression and increased alcohol use. Young adults (18-40 years), women, elderly and highly-educated people have been reported to feel more distressed and anxiety (Wang et al. 2020, Qiu et al. 2020). A study by Pierce et al. in the United Kingdom showed that after the COVID-19 pandemic, the rate of those who meet the threshold criteria for a psychiatric disorder increased from 11% to 19% (Pierce et al. 2020).

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It was observed that the pandemic was challenging for healthy population due to factors such as social isolation, uncertainty, increased anxiety, grief and financial difficulties, whereas it might cause exacerbation of psychiatric symptoms as a result of decreased social support and disruption in the monitoring and treatment of psychiatric patients. A study conducted in Istanbul has revealed that individuals with low psychological resilience, dysfunctional mechanisms to cope with stress, negative perceptions and attitudes towards the pandemic and social isolation are more vulnerable in terms of maintaining their psychological health on the face of the pandemic and need more psychological help (Bilge and Bilge 2020). A study conducted in Italy found that social isolation, especially in the long term, increased the risk of developing anxiety spectrum disorders, mood disorders, psychotic disorders and the possibility of worsening symptoms (Sani et al. 2020). A study which was conducted to investigate the effects of the pandemic on people with psychiatric disorders on 2065 people observed that 20.9% of the patients with psychiatric disorders such as depression, bipolar disorder and schizophrenia had more complaints and their clinical presentation worsened during the pandemic (Zhou et al. 2020). Various neuropsychiatric complications have been identified in COVID-19 patients, including encephalopathy, encephalitis, lability in mental status, dementia-like symptoms and psychosis (Varatharaj et al. 2020).

Emergency admissions, which are among the primary healthcare services, are affected by crises such as natural disasters and pandemics. A study to compare the emergency psychiatric admissions in Germany between January and April of 2019 and 2020 observed that emergency psychiatric admissions decreased by about 26% during the pandemic, and this difference increased even more after lockdown and social isolation measures were implemented (Hoyer et al. 2021). In a study conducted in the United States of America to evaluate emergency admissions and emergency psychiatric admissions during the pandemic compared to previous years, it was shown that emergency psychiatric admissions decreased by 26-30% during the pandemic compared to previous years (Goldenberg et al. 2020).

Disasters such as pandemics have more effects on the vulnerable social groups such as psychiatric patients (Hoyer et al. 2021). As reported by studies on past outbreaks, some factors such as long-term quarantine and social isolation, fear of disease, insufficient protective materials and information, financial loss, and stigmatization may lead to conditions that require additional psychiatric support in people with psychiatric disorders (Brooks et al. 2020). Due to the pandemic, measures were taken all over the world, such as limiting psychiatry outpatient clinic appointments, switching to virtual interviews instead of face-to-face meetings in individual and group therapies to maintain physical/social distance, reducing total psychiatric hospital bedding capacities, and reducing the duration of inpatient treatment in psychiatry departments (Pinals et al. 2020, Starace et al. 2020, Goldman et al. 2020). In addition, the intense workload of mental healthcare professionals in COVID-19 services may have caused burnout and further decrease the access of psychiatric patients to healthcare services (Kim et al. 2020, Hao et al. 2020).

Gonçalves-Pinho et al. observed a significant decrease by 52.2% in emergency psychiatry admissions during the pandemic, compared to the same period of the previous year (Gonçalves-Pinho et al. 2021). Pignon et al. observed a significant decrease in the number of emergency admissions in the first 4 weeks of national lockdown due to the pandemic, compared to the same period of 2019 (Pignon et al. 2020). These studies surprisingly show a decrease in emergency admissions during the pandemic. This dramatic decrease was suggested to be a result of restrictions due to lockdown practices, the fear of contamination or 'coronaphobia', overwhelming information on the media about overcrowded emergency departments, thus not expecting qualified healthcare, and feeling a conscientious responsibility for not keeping emergency departments unnecessarily busy (Gonçalves- Pinho et al. 2021, Dubey et al. 2020).

The current study was conducted on patients who were admitted to an emergency department and were referred to a psychiatrist for consultation between 11 March 2019 - 1 September 2019 (the pre-pandemic) and between 11 March 2020 - 1 September 2020 (early pandemic) to compare their sociodemographic characteristics, psychiatric diagnoses, hospitalization, use of psychotropic drugs and adherence to treatment, frequency of admissions, hospitalization and/or referral indications as well as suicide attempts in order to better understand the social consequences of the pandemic and those consequences on people with psychiatric disorders, to see how lockdown and social isolation affected psychiatric disorders and psychiatric emergencies, and to reveal the healthcare-seeking behaviors of patients with psychiatric disorders.

METHODS

This is a retrospective observational study conducted in accordance with the principles of the Helsinki Declaration and scientific research ethical requirements for medical research in humans. This study was conducted in the Hospital of Faculty of Medicine of Bursa Uludağ University (B.U.Ü.T.F), a tertiary healthcare institution in a city with a population of approximately 3 million, where an average of 150,000 patients admit to emergency departments every year. Ethics committee approval of the study was obtained from the Ethics Committee of Bursa Uludağ University (Reference

No: 2020-18/7, Date: 14.10.2020). Since the study is related to COVID-19, an application was made to the Republic of Turkey, Ministry of Health, Scientific Research Platform and research approval was received.

Between the period from 11 March 2020, when the first case of COVID-19 was confirmed in Turkey, to 1 September 2020, and the same period of the previous year, 11 March 2019 - 1 September 2019, the hospital database records of patients who were admitted in the emergency department and were referred to the psychiatry department for consultation in the Bursa Uludağ University Faculty of Medicine Hospital were analyzed retrospectively. The number of admissions, socio-demographics, psychiatric diagnoses, previous mental status and disorders, clinical hospitalizations, use of psychotropic drugs, treatment adherences, hospitalization and/or referral indications and suicide attempts were compared in both periods.

The patients who were referred to the psychiatry department after appropriate medical examination, laboratory tests and other necessary examinations were evaluated. Patients under the age of 18 and patients with multiple admissions in the emergency department in both periods were excluded from the study. Patients who did not accept the recommended treatment or left the emergency department without the knowledge and permission of the physician were included in the group of 'Treatment Refusal/Leaving the Emergency Department without Permission'. There was no information other than age and gender of 14 patients in the pre-pandemic period and 10 patients in the early pandemic period, who left the emergency department without permission and without a psychiatric examination, therefore, these patients were not included in any category other than age and gender. 357 and 367 patients were evaluated in detail in the pre-pandemic and early-pandemic periods, respectively.

The patients were assessed according to DSM-5 and their complaints/diagnoses at admission were evaluated under 12 main disorder categories (American Psychiatric Association, 2013). Schizophrenia, psychotic disorder not otherwise specified (NOS), substance-induced psychotic disorder, delusional disorder and schizoaffective disorder were listed under 'Schizophrenia and Other Psychotic Disorders;' bipolar disorder (manic episode - depressive episode - mixed episode) and mood disorder NOS under 'Bipolar and Related Disorders;' depression and psychotic depression under 'Depression and Related Disorders;' panic attack, panic disorder and generalized anxiety disorder under 'Anxiety Disorders;' obsessive compulsive disorder (OCD), trichotillomania and body dysmorphic disorder under 'OCD and Related Disorders;' autism spectrum disorders and mental retardation (MR) under 'Neurodevelopmental Disorders;' delirium under 'Delirium;' types of dementia under 'Dementia;' substance use disorder, alcohol use disorder, delirium tremens and behavioral addictions under '"Addictive Disorders;' lithium intoxication and extrapyramidal system (EPS) adverse effects (acute dystonia, parkinsonism, neuroleptic malignant syndrome, akathisia, tardive dyskinesia) under 'Psychotropic Drug Adverse Effects;' dissociative identity disorder, dissociative amnesia, depersonalization/derealization disorder under 'Dissociative Disorders;' somatic symptom disorder, illness anxiety disorder and conversion disorder were listed under 'Somatic Symptom and Related Disorders.'

Suicide methods of patients who were admitted in the emergency department with a suicide attempt were divided into 5 subgroups. These subgroups were formed based on drug ingestion, wrist or throat cuts, jumping from heights, hanging by the neck, ingestion of chemical substances and self-poisoning. Then, drug ingestion, chemical substance ingestion and self-poisoning were classified as non-violent, whereas cutting of wrists or throats, jumping from heights and hanging as violent suicide attempts to increase the reliability of the statistical analysis.

Regular use of psychotropic drugs during the examination at the emergency department was defined as the regular use of psychotropic drugs at effective doses and for such duration. Use of psychotropic drugs in the past was defined as the use an effective dose of at least one psychotropic for an effective period of time. Family history was defined as any psychiatric disorder diagnosed in the close or distant relatives of the patient. The history of clinical hospitalization was defined as the patient's previous inpatient treatment at a psychiatry clinic for at least one day. The patients hospitalized/referred were defined as those who were examined by a psychiatrist in the emergency department and for whom the indication for inpatient treatment for whom hospitalization was planned or who were referred to another inpatient psychiatry clinic were determined as hospitalization/referral decision patients.

Statistical Analysis

The Shapiro-Wilk test was used to examine whether the data showed a normal distribution. Descriptive statistics were presented as mean and standard deviation for quantitative data, and as frequency and percentage for qualitative data. The t-test was used for the normally distributed variables. Pearson's chi-square, Fisher-Freeman-Halton and Fisher's exact tests were used in the analysis of categorical data. The significance level was taken as α=0.05. Data was statistically analyzed using the statistical software IBM SPSS 23.0 (IBM Corp. Released 2015. IBM SPSS Statistics for Windows, Version 23.0. Armonk, NY: IBM Corp.).

RESULTS

371 patients in the pre-COVID-19 pandemic (11 March 2019-1 September 2019) and 377 patients in the early pandemic period (11 March 2020 - 1 September 2020) were admitted to the emergency department for psychiatric reasons, and there was no significant difference between the two periods in terms of the number of admissions. The ratio of emergency psychiatric admissions to all emergency admissions showed a significant increase in the rate of psychiatric admissions in the early pandemic period compared to the pre-pandemic period. Analysis by months showed a significant increase in the rate of emergency psychiatric admissions in June, July and August of the early pandemic period, compared to the pre-pandemic period and the previous months of the early pandemic period. The distribution of the rate of emergency admissions by months is shown in Figure 1.

Comparison of the socio-demographics of the patients who were admitted to the emergency department in the pre-pandemic period and early pandemic period revealed a significant difference between gender and education levels (secondary school graduate, university graduate, and special education). The distribution of age and gender characteristics of all patients are shown in Table 1, and the comparison of socio-demographics other than age and gender, excluding patients who left the emergency department without permission, is shown in Table 2.

Comparison of the diagnosis/reasons for the admission of patients in the pre-pandemic period and early pandemic period showed a significant decrease in the early pandemic period in the subgroup of depression and related disorders, and a significant increase in the subgroups of schizophrenia and other psychotic disorders and psychotropic drug adverse effects. The comparison of the diagnosis/ reasons for the admission of patients in both periods is detailed in Table 3.

Comparison of admissions during the pre-pandemic period and the early pandemic period showed a significant difference in the subgroups of suicide attempt, family history, and leaving the emergency department without permission in the early pandemic period. A detailed comparison of the parameters other than sociodemographic data and diagnosis/admission reasons for both periods is shown in Table 4.

Comparison of the pre-pandemic and early pandemic periods revealed no significant difference between the five subgroups in terms of type of attempted suicide by of admitting patients. There was no statistically significant difference in terms of type of attempted suicide between violent and non-violent subgroups of suicide attempts.

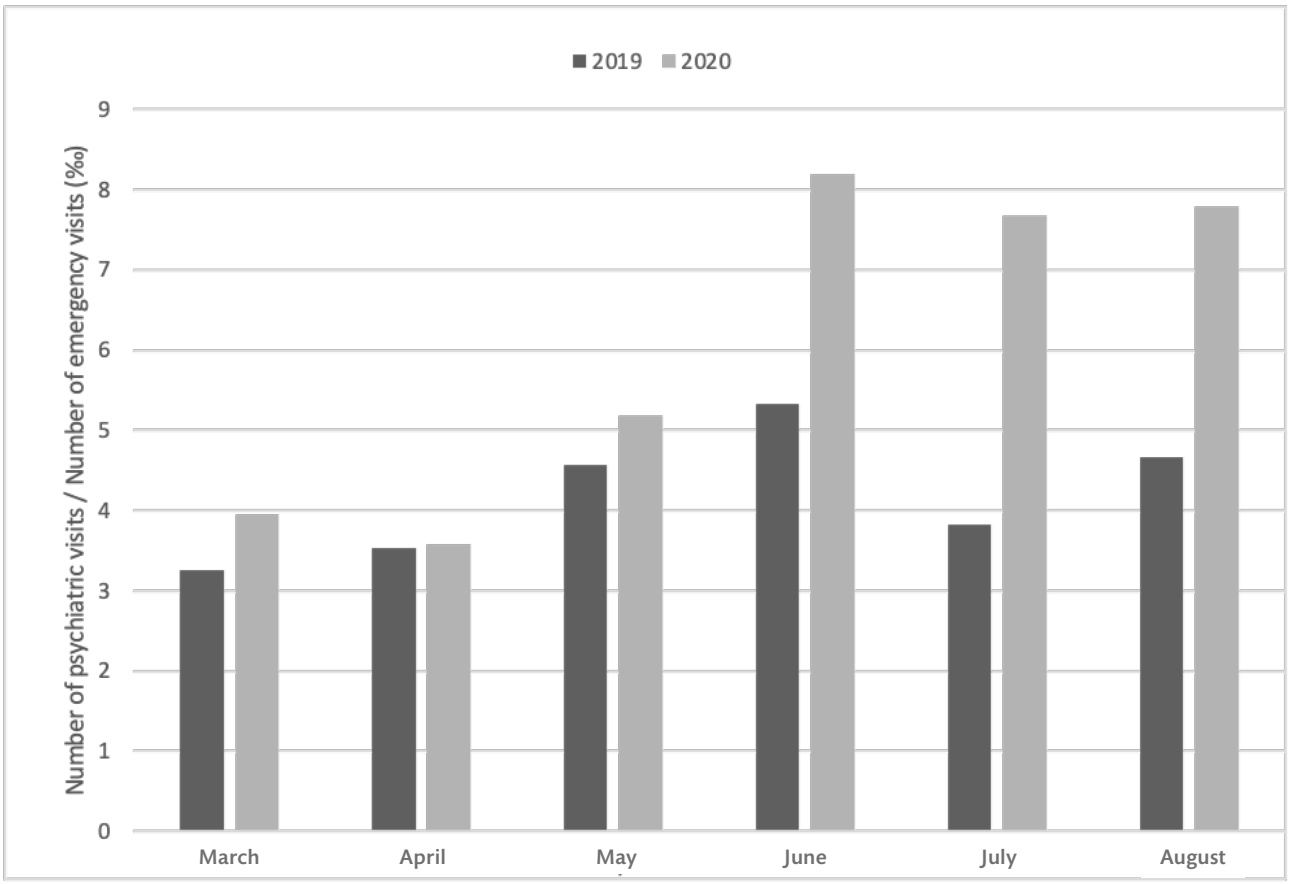

Figure 1. The ratio of emergency psychiatric admissions to all emergency admissions

Table 1. Comparison of age and gender distributions of all psychiatric patients who admitted to the emergency department during pre- and early pandemic periods

	Pre-Pandemic Period (n=371)	Early Pandemic Period (n=377)	Total (n=748)	P	$\chi^{2/t}$
Age (mean±SD)	37.65 ± 14.902	38.89 ± 14.548	38.28 ± 14.729	0.886	-1.147
Gender (n, %)				0.008*	7.029
Male	156 (42%)	195 (51.7%)	351 (46.9%)		
Female	215 (58%)	182 (48.3%)	397 (53.1%)		

* p<0.05

Table 2. Comparison of Socio-Demographics Other Than Age and Gender of Patients Who Admitted To the Emergency Department During Pre- and Early Pandemic Periods (excluding patients who left the emergency department without permission)

	Pre-Pandemic Period (n=357)	Early Pandemic Period (n=367)	Total (n=724)	P	χ
Marital Status (n, %)				0.076	5.161
Married	163 (45.7%)	155 (42.2%)	318 (43.9%)		
Single	161 (45.1%)	158 (43.1%)	319 (44.1%)		
Divorced	33 (9.2%)	54 (14.7%)	87 (12%)		
Education (n, %)				0.004*	19.034
Uneducated	8 (2.2%)[a]	5 (1.4%)[a]	13 (1.8%)		
Primary school	67 (18.8%)[a]	85 (23.2%)[a]	152 (21%)		
Secondary school	105 (29.4%)[a]	80 (21.8%)[b]	185 (25.6%)		
High school	129 (36.1%)[a]	113 (30.8%)[a]	242 (33.4%)		
2-year college	8 (2.2%)[a]	14 (3.8%)[a]	22 (3%)		
University	38 (10.6%)[a]	60 (16.3%)[b]	98 (13.5%)		
Special education	2 (0.6%)[a]	10 (2.7%)[b]	12 (1.7%)		
Working status (n, %)				0.663	0.190
Working	96 (26.9%)	104 (28.3%)	200 (27.6%)		
Not working	261 (73.1%)	263 (71.7%)	524 (72.4%)		

* p<0.05

Table 3. Comparison of the Distribution of the Diagnosis/Admission Reasons of the Patients During Pre- and Early Pandemic Periods (excluding patients who left the emergency department without permission)

	Pre-Pandemic Period (n=357)	Early Pandemic Period (n=367)	Total (n=724)	P	χ
Diagnosis/Admission Reason (n, %)				<0.001*	33.426
Schizophrenia and other psychotic disorders*	74 (20.7%)[a]	105 (28.6%)[b]	179 (24.7%)		
Anxiety disorders	14 (3.9%)[a]	25 (6.8%)[a]	39 (5.4%)		
OCD and related disorders	8 (2.2%)[a]	5 (1.4%)[a]	13 (1.8%)		
Depression and related disorders*	145 (40.6%)[a]	89 (24.3%)[b]	234 (32.3%)		
Bipolar and related disorders	70 (19.6%)[a]	81 (22.1%)[a]	151 (20.9%)		
Addictive disorders	22 (6.2%)[a]	17 (4.6%)[a]	39 (5.4%)		
Psychotropic drug adverse effects*	1 (0.3%)[a]	7 (1.9%)[b]	8 (1.1%)		
Dementia	2 (0.6%)[a]	6 (1.6%)[a]	8 (1.1%)		
Delirium	8 (2.2%)[a]	9 (2.5%)[a]	17 (2.3%)		
Neurodevelopmental disorders	6 (1.7%)[a]	13 (3.5%)[a]	19 (2.6%)		
Dissociative disorders	3 (0.8%)[a]	4 (1.1%)[a]	7 (1.0%)		
Somatic symptom and related disorders	4 (1.1%)[a]	6 (1.6%)[a]	10 (1.4%)		

* p<0.05

Table 4. Comparison of the Distribution of Parameters Other Than Sociodemographic Data ond Diagnosis/Admission Reasons During Pre- ond Early Pandemic Periods

	Pre-Pandemic (n=357)	Post-Pandemic (n=367)	Total (n=724)	P	χ
Admission with suicide attempt (n, %)				0.093	2.817
Yes	66 (18.4%)	54 (14.7%)	124 (17%)		
No	291 (81.6%)	313 (85.3%)	604 (83%)		
History of suicide attempt (n, %)				0.009*	6.898
Yes	70 (19.6%)	45 (12.3%)	115 (15.8%)		
No	287 (80.4%)	322 (87.7%)	609 (84.2%)		
History of hospitalization (n, %)				0.08	3.071
Yes	150 (42%)	178 (48.5%)	328 (45.3%)		
No	207 (58%)	189 (51.5%)	396 (54.7%)		
Regular use of psychotropic drugs (n, %)				0.871	0.026
Yes	171 (47.9%)	178 (48.5%)	349 (48.2%)		
No	186 (52.1%)	189 (51.5%)	375 (51.8%)		
History of psychotropic drug use (n, %)				0.248	1.335
Yes	290 (81.2%)	310 (84.5%)	600 (82.9%)		
No	67 (18.8%)	57 (15.5%)	124 (17.1%)		
Family history (n, %)				0.001*	11.421
Yes	96 (26.9%)	142 (38.7%)	238 (32.9%)		
No	261 (73.1%)	225 (61.3%)	486 (67.1%)		
Hospitalization/referral decision (s, %)				0.687	0.162
Yes	107 (30%)	105 (28.6%)	212 (29.3%)		
No	250 (70%)	262 (71.4%)	512 (70.7%)		
Leaving the emergency department without permission (n, %)				0.012*	6.378
Yes	34 (9.2%)	17 (4.5%)	51 (6.8%)		
No	337 (90.8%)	360 (95.5%)	697 (93.2%)		

* p<0.05

DISCUSSION

Our study found no significant difference between the pre-pandemic period and the early pandemic period in terms of number of psychiatric patients who were admitted to the emergency department; however, the ratio of emergency psychiatric admissions to all emergency admissions in the early pandemic period was significantly higher than that in the pre-pandemic period, and this increase was more pronounced especially in the last three months of the early pandemic period. This increase may be a result of the fact that patients complied with the restrictions in the early pandemic period, starting from March when the first COVID-19 case was detected in our country, and in the following period, the stress level increased and the patients became prone to decompensation due to the aggravation and chronicity of the pandemic-related conditions. Although the psychiatric healthcare services in Turkey are available to the public and the healthcare services are reimbursed by the government, long waiting times for a specialist examination, difficulties in scheduling of appointments and inaccessibility/lack of accessibility often make emergency departments a faster and more accessible option for healthcare services. Therefore, the fact that a substantial part of our society chooses to go to emergency departments for services that should be provided in the outpatient clinics might have contributed to this.

Gómez-Ramiro et al. observed a significant decrease in female admittees and a significant increase in male admittees to the emergency department for psychiatric reasons during the 3-month period after the implementation of lockdown measures compared to the 3-month period before the

lockdown measures (Gómez-Ramiro et al. 2021). Similarly, in our study, the gender distribution of the patients who admitted to the emergency department suggested that the ratio of female patients significantly decreased while the ratio of male patients significantly increased in the early pandemic period compared to the pre-pandemic period. According to the subgroup analysis to determine the relationship between the gender and employment status of the patients who were admitted to the emergency department in both periods, the rate of employment in males was significantly higher than that in females ($p<0.001$). This may be associated with the fact that the rate of employment is higher in male population in our country and therefore they are at greater risk of infection, have restricted job opportunities and increased probability of dismissal due to the pandemic, resulting in high levels of stress.

Janoczkin et al. observed that the percentage of unemployed patients was higher than that of those employed among emergency psychiatric admissions in 2020 compared to the same period in 2019. This can be suggested to result from increased rate of unemployment due to the pandemic, leading to potential stress and health problems, the fear of contamination of patients employed and the financial loss due to missing working days (Janoczkin et al. 2021). In our study, no significant difference was observed in the employment status of the patients who were admitted in both periods, and the unemployed patient population was higher in both periods. It is expected that people with psychiatric disorders have low functionality and employment rates due to the nature of their diseases; therefore, the result is not surprising.

Based on literature review, there was no study comparing psychiatric patients who were admitted to an emergency department in early and pre-pandemic periods in terms of marital status and education level. Our study is the first report that investigates this matter in detail. In our study, the percentage of the patients with university graduation or special education was significantly higher in the early pandemic period among emergency psychiatric admissions compared to the pre-pandemic period. In the subgroup analysis to examine the relationship between education level and employment status, it was found that the university graduate group had a significantly higher employment rate than the uneducated, primary school graduates and secondary school graduates ($p<0.001$). The increase in the number of university-graduate patients can be suggested to result from the fact they are more active in social and professional life, they are exposed to higher viral loads, fear contamination, have higher awareness due to their socio-cultural status and thus higher stress and experience a difficulty to access the currently limited outpatient services due their working hours. The increase in the rate of admissions in the early pandemic period of patients with special education can be associated with the closure of the specialized centers serving this patient group, who needs close monitoring and care due to restrictions, increased stress level due to social isolation, becoming prone to exacerbation of the symptoms and difficulties in regular access to outpatient services.

Capuzzi et al. observed that the rate of mood symptomatology and diagnosis of depressive disorder or adjustment disorder decreased among emergency admissions during the pandemic period compared to 2019 (Capuzzi et al. 2020). Gonçalves-Pinho et al. found that patients with mood disorders who were admitted to a psychiatric emergency department decreased by 68.3% in the early pandemic period compared to the pre-pandemic period (Gonçalves-Pinho et al. 2021). Similar to these studies, our study also found that the rate of patients who were admitted to the emergency department due to depression disorders in the early pandemic period decreased significantly compared to the pre-pandemic period. The increase in admission rates in patient groups with inadequate coping mechanisms, such as those with schizophrenia and other psychotic disorders, may explain the proportional decrease in these patient groups in which ego functions are substantially maintained. Patients with psychotic disorders are exposed to more psychosocial stress due to discrimination, stigmatization and lower socioeconomic status (Voineskos et al. 2020). Compliance with protective measures and social isolation recommended during the pandemic may be more difficult for patients with schizophrenia, which may affect them more compared to pandemic-related restrictions and prone to decompensation. Social isolation may also exacerbate the adverse symptoms of psychosis, such as social withdrawal and lack of interest (Pignon et al. 2020). In addition, it is thought that COVID-19 infection may cause psychotic symptoms through an immune system-related mechanism and exacerbate the symptoms in patients with schizophrenia (Kozloff et al. 2020, Kırlı et al. 2020). Gonçalves-Pinho et al. found that the least decrease in admission rate during the pandemic period compared to the pre-pandemic period was in the category of schizophrenia and other psychotic disorders (Gonçalves-Pinho et al. 2021). Pignon et al. observed that the diagnosis distribution of the patients referred for consultation changed, and the rate of consultation for the sub-diagnosis of psychotic disorders was significantly higher compared to all diagnoses in 2020 compared to the same period of 2019 (Pignon et al. 2020). In our study, in line with the previously mentioned studies, the rate of admissions by the patients diagnosed with schizophrenia and other psychotic disorders increased significantly in the early pandemic period compared to the pre-pandemic period. The subgroup analyzes between diagnosis/admission reason and family history in both periods showed that the family history of psychiatric disorders in the schizophrenia and other psychotic disorders group was significantly higher than that of the depression and related

disorders group ($p<0.001$). The increase in admissions in the patient group diagnosed with schizophrenia and other psychotic disorders may be associated with the difficulty of access to regular monitoring and treatment facilities, disruption of services in community mental healthcare centers, and the difficulties experienced by families to manage the stress caused by such psychotic exacerbation.

Our study showed a significantly increased rate of emergency admissions due to the side effects of psychotropic drugs in the early pandemic period compared to the pre-pandemic period. This may be a result of the failure to maintain the regular treatment and monitoring of drug side-effects due to restrictions at and disruption of outpatient services.

It was seen that the group of patients who left the emergency department without permission decreased significantly in the early pandemic period compared to the pre-pandemic period. In this patient group, subgroup analysis could not be performed due to insufficient data and no relationship was found with any factor. However, this decrease suggests that patients who were admitted to the emergency department in the early pandemic period needed more help and acted more decisively to meet this need.

The comparison revealed that the number of patients with a family history of psychiatric disorders who were admitted in the early pandemic period was significantly higher than the pre-pandemic period. As stated above, it seems normal that psychiatric patients and their families were more adversely affected by pandemic-related measures such as lockdown and isolation where stress levels increase and social opportunities and supports are limited.

Literature review suggests that our study is the one that investigates the effect of the pandemic on the sociodemographic and clinical characteristics of psychiatric patients, who were admitted to the emergency department, using the highest number of parameters in the most detailed manner. More studies are needed to clarify which factors prevent or support the emergency department access in patients with psychiatric disorders. Psychiatric diagnoses require long-term monitoring, and hasty emergency evaluation may lead to incorrect or incomplete diagnoses. The cross-sectional nature of our study did not allow for a long-term evaluation. In addition, data analyzed represents the early period of the pandemic, and some results are likely to reflect a short-term worsening associated with the COVID-19 outbreak. The fact that our study was conducted in a single healthcare center limits the generalizability of our results to other institutions or to the whole country.

With the pandemic that affects our lives since 2020, there is a need for more flexible and creative approaches to mental healthcare services, as in other areas of medicine. Psychiatric patients could not continue their proper treatment and monitoring in the early period due to disrupted service provision in outpatient services, and the closure or reduced capacities of community mental healthcare centers and psychiatry clinics of many institutions, including university hospitals. Therefore, as addressed in the present study, emergency psychiatric admissions increased, especially among patients with chronic psychiatric disorders.

Prompt implementation of measures to deal with the mental effects of the pandemic can reduce the negative effects of this stressful period on vulnerable individuals with social and psychological needs. For this purpose, the use of online healthcare services to increase resilience, the development of coping strategies and the identification of early signs of exacerbations of psychiatric disorders should be encouraged (de Girolamo et al. 2020). The impact of the COVID-19 pandemic on healthcare systems will be far-reaching and long-lasting. Strategies to minimize the impact of the pandemic on mental health and suicide risk have to be developed. Mental healthcare professionals need to increase online mental healthcare services, maintain their relationships with patients even if they are in stable conditions, and advise them to admit to the hospital in case of emergency. It should be noted that both psychiatrists and patients can benefit from the guidelines prepared by the Psychiatric Association of Turkey on psychiatric disorders during the COVID-19 pandemic and what can be done to cope with stress. We believe that if patients know that they can reach their physicians and treatment in this period, their stress levels will decrease, thus reducing the burden of emergency departments.

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