



# The impact of the initial period of COVID-19 pandemic restrictions on psychiatric emergency admissions: A comparative analysis of demographics and diagnoses

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## Abstract

**Aim:** This study investigates impacts of the COVID-19 pandemic on psychiatric emergency department admissions in province of Trabzon.

**Materials and Methods:** The analysis involved examining changes in patient demographics, psychiatric diagnoses, and overall admission numbers during the pandemic compared to the previous year. The study focuses on patients aged over 16, utilizing records from three major healthcare centers in Trabzon province. Data including psychiatric diagnoses from the periods of March 11 to June 1 in both 2019 and 2020 are examined. Psychiatric diagnoses are categorized according to the International Classification of Diseases (ICD-10) classification system.

**Results:** The findings indicate a substantial (32.5%) decrease in psychiatric emergency department admissions during the pandemic. This reduction is observed across all three hospitals, with the most significant decline occurring in the hospital designated for pandemic cases. Both men and women showed decreased presentations, and there is a statistically significant increase in the median age of patients. While overall psychiatric diagnoses decreased, the proportions of specific diagnoses including anxiety disorder, schizophrenia, depressive disorder, and substance dependence, showed increase during the study period.

**Conclusion:** Contrary to expectations, the study reveals a noteworthy decline in psychiatric emergency department admissions amid the COVID-19 pandemic. Similar trends are reported internationally. The discussion highlights potential factors contributing to this decrease, such as fear of COVID-19 transmission in hospitals, the perception that hospitals prioritize COVID-19 cases, and the availability of alternative mental health services. Concerns are raised regarding the long-term psychological impact of the pandemic, emphasizing the need for ongoing research and identification of high-risk groups not accessing emergency clinics during this period. The study acknowledges limitations, including reliance on hospital records and the potential for misdiagnoses in emergency settings, urging cautious interpretation of the results.

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## Introduction

The virus responsible for the COVID-19 pandemic was first seen in China in November 2019, and the World Health Organization (WHO) declared the COVID-19 outbreak to be a pandemic on 11 March, 2020 [1]. The first case in Turkey was also identified on 11 March, 2020 [2]. Following the detection of the first case in Turkey, the government interrupted face-to-face education in educational institutions in order to bring the pandemic under

control. Individuals aged over 65 were placed under lockdown. Mass activities in enclosed and open spaces were also prohibited. A nationwide weekend lockdown was enforced, and quarantine measures were introduced in those regions with high case numbers. Restrictions were imposed on intercity travel, and people were encouraged to organize their activities from home as much as possible. The government subsequently began gradually lifting social restrictions as of 1 June 2020.

In the first months of the COVID-19 pandemic, different countries reported a decrease in the number of patients who applied to emergency departments with acute symp-

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toms such as heart attack and stroke, but fewer data were available concerning changes in psychiatric patient numbers [3]. An increase in psychological disorders such as anxiety and depression was predicted in association with both the pandemic itself and also with social isolation [4-6]. At the same time, social isolation can exacerbate negative symptoms seen in psychotic diseases, such as social withdrawal, apathy, and decreased social interest. The economic effects of the COVID-19 crisis can also result in the emergence of psychological symptoms among individuals predisposed to psychological disorders [5,6]. Lockdowns can exacerbate familial or spousal conflicts or intrafamily violence. Quarantine can also give rise to several psychiatric symptoms, such as sleep disorders, irritability, and anger. Fear of contagion can also exacerbate health anxiety progressing with various delusional or obsessive symptoms [4,7]. The hospitalization of new patients to psychiatric wards was restricted during the COVID-19 pandemic, or else patients were discharged early. At the same time, psychiatric clinics restricted outpatient services other than those for patients with severe symptoms. Such factors can lead to patients discontinuing follow-ups or interrupting treatment. An increase may therefore be seen in the number of patients who apply to emergency departments with psychiatric symptoms [6,8].

The purpose of this study is therefore to compare the numbers and diagnoses of patients who applied to hospital emergency departments in the provincial center of Trabzon between 11 March, 2020, when the first case was reported in Turkey, and 1 June, 2020, when the normalization process commenced, with those of patients during the same period in the previous year. This is the first multi-center study from Turkey that compares emergency psychiatric admissions during the lockdown period in 2020 and the corresponding period in 2019.

## Materials and Methods

The records of patients aged over 16 who applied to the Karadeniz Technical University Faculty of Medicine, Kanuni Education and Research Hospital, and Fatih State Hospital emergency departments, the three centers providing 24-h care for the largest percentages of the patient population in the Trabzon provincial center, between 11 March and 1 June, 2020, and 11 March and 1 June, 2019, were accessed.

Permission for the study was first obtained from the administrations of the three hospitals. The data were then collected retrospectively by the authors. Patients' sociodemographic data and psychiatric diagnoses were recorded. The ICD-10 classification was used for psychiatric diagnoses. These diagnoses were classified as schizophrenia and other psychotic disorders (F20-F29), bipolar spectrum disorder (F30-F31.9), depressive disorders (F32-F39), anxiety- and stress-related disorders (F40-F48.9), dependence disorders (F10-F19.9), dementia and delirium (F00.0-F09), intellectual disabilities (F70-F79.9), and sleep disorders (F51-F51.9). Ethical approval was granted for the study (Karadeniz Technical University Faculty of Medicine Scientific Research Ethics Committee, no. 2020/284).

## Statistical analysis

Statistical analysis was performed on IBM SPSS Statistics version 23.0 (Armonk, NY: IBM Corp). Descriptive statistics were expressed as numbers and percentages for categorical variables and mean, standard deviation, minimum and maximum for continuous variables. Compatibility with normal distribution was assessed using the Kolmogorov-Smirnov test. Non-normally distributed continuous variables in independent groups were compared using the Mann-Whitney U test. The Chi-square test was applied to evaluate the significance of differences in frequencies between the groups and post hoc analysis was utilized. A p-value less than 0.05 was regarded as statistically significant.

## Results

The number of patients with psychiatric diagnoses applied to the emergency department decreased by 32.5% from 1116 in 2019 to 755 in 2020. This decrease derived from all three hospitals, the most marked decline (71.3%) being observed in the Kanuni Education and Research Hospital, the pandemic hospital.

The number of women who applied in 2019 was 690 (62.1%), compared to 422 (37.9%) in 2020. The number of men was 426 (56.1%) in 2019, compared to 333 (43.9%) in 2020. The decreases in applications were 24.13% in the female group and 21.8% in the male group.

The median age of the patients who applied to the emergency service in 2019 was 41 (16-95), compared to 44 (16-96) in 2020. The increase in age was statistically significant ( $p < 0.024$ ).

In terms of the psychiatric diagnoses of the patients who applied to the emergency department in 2019, 933 (83.6%) were diagnosed with anxiety disorder, 37 (3.3%) with schizophrenia and other psychotic disorders, 35 (3.1%) with substance or drug dependence, 30 (2.7%) with bipolar disorder, 48 (4.3%) with depressive disorder, 16 (1.4%) with dementia and delirium, three (0.3%) with conversion disorder, three (0.3%) with sleep disorder, and 11 (1%) with intellectual disability. In 2020, 639 (84.6%) patients were diagnosed with anxiety disorder, 28 (3.7%) with schizophrenia and other psychotic disorders, 25 (3.7%) with any substance or drug dependence, 16 (2.1%) with bipolar disorder, 34 (4.5%) with depressive disorder, seven (0.9%) with dementia and delirium, one (0.1%) with sleep disorder, and five (0.7%) with intellectual disability. The number of patients decreased in all diagnostic groups in 2020 (Table 1). However, in terms of the distribution of the diagnostic groups in 2020 compared to 2019, an increase was observed in the proportions of individuals diagnosed with anxiety disorder, schizophrenia, depressive disorder, and any substance or drug dependence ( $p = 1.000$ ).

## Discussion

Despite the existence of several pandemic-related stress factors, the number of patients who applied to the emergency department with psychiatric symptoms between 11 March, 2020, when the first case in Turkey was reported, and 1 June, 2020, when the normalization process commenced, decreased by 32.5% compared to the same period in 2019. Similar findings have been reported in other

**Table 1.** Sociodemographic data and the distribution of diagnoses of emergency psychiatric patients in the lockdown period in 2020 versus the corresponding period in 2019.

	2019		2020		p
	n	%	n	%	
<b>Age ranges</b>					
<18	17	1.5	11	1.5	1.000
18-24	202	18.1	92	12.2	0.073
25-34	197	17.7	136	18.0	1.000
35-44	209	18.7	156	20.6	0.986
45-54	177	15.9	142	18.8	0.823
55-64	134	12.0	105	13.9	0.963
>65	180	16.1	113	15.0	0.998
<b>Sex</b>					
Female	690	61.8	422	55.9	0.010
Male	426	38.2	333	44.1	
<b>Diagnosis</b>					
Dementia-Delirium	16	1.4	7	0.9	1.000
Addictive Disorders	35	3.1	25	3.3	1.000
Schizophrenia and other psychotic disorders	37	3.3	28	3.7	1.000
Bipolar spectrum disorders	30	2.7	16	2.1	1.000
Depressive disorders	48	4.3	34	4.5	1.000
Anxiety and stress-related disorders	933	83.6	639	84.6	1.000
Dissociative disorders	3	0.3	0	0.0	0.986
Sleep disorders	3	0.3	1	0.1	1.000
Intellectual disability	11	1.0	5	0.7	1.000

p<0.05.

countries. Decreases of approximately 26% have been reported in Yale-New Haven Hospital emergency psychiatric patients in the USA during the pandemic compared to the same time in the previous year, 21% in Ireland [10], and 54.8% in a study comprising three centers in Paris [6]. Data from other countries indicate that this decrease is not specific to psychiatric patients applying to the emergency department, but also applies to all emergency patients. The West China Hospital reported a 50% decrease in daily consultations in the emergency department, while a 25% decrease was reported in weekly general emergency consultations in the UK [10,11]. There may be several reasons for this decrease, including the belief that the coronavirus can be transmitted in hospitals and the hospitals treat only patients with COVID-19, or those patients' symptoms are not sufficiently severe to warrant emergency treatment. In addition, the organization of health services such as not to interrupt patients' treatments, and the rapid entry into the service of 24-hour online psychosocial helplines and telepsychiatry services may also have reduced the numbers of patients attending emergency departments due to psychiatric symptoms. In addition, some individuals may be able to find new support structures and coping strategies during disasters. Therefore, this decrease in hospital admissions may also be due to the increased psychological resilience of individuals.

When analyzed according to the gender of the patients admitted to the emergency department, it was observed that the decrease was lower in men (21.8%) than in women

(24.3%), although a decrease was observed in both. This variation may have derived from patients being diagnosed with schizophrenia, anxiety disorder, depressive disorder, or any substance or drug dependence, since the rates of admissions in these diagnostic groups were lower among women than in men in 2020 compared to 2019.

Although, the number of all diagnoses decreased in 2020 compared to the equivalent period in 2019, the proportions of diagnoses of schizophrenia, anxiety disorder, depressive disorder, or any substance or drug dependence among total diagnoses increased in 2020. These findings are compatible with community-based studies. Two separate studies showed a marked elevation in anxiety and depression rates during the pandemic. These reported depression rates of 23.6% and 29.7% and anxiety rates of 45.1% and 19% [12,13]. These findings may indicate that anxiety and depression rates in the community are high, but that in choosing between two adverse situations, individuals may prioritize life-protecting precautions. This may then have resulted in a decrease in hospital admissions. The potential threat arising under these circumstances is a fall in rates of intervention in high-risk psychiatric emergencies in the community and an increase in suicide and hostile behaviors. Previous studies have indeed shown an increase in suicide and hostile behaviors during the pandemic [14].

Although an increase in rates of admissions to the emergency department with psychiatric symptoms in association with both the pandemic and also with social isolation

was anticipated during the time when the study data were collected, a decrease in such admissions was actually observed. The reasons for the marked decrease observed may involve the rapid entry into service of psychiatric helplines and patients enjoying access to treatment through rapid reorganization of health services. However, the psychological outcomes of this process may emerge later, and a secondary increase may occur. Studies involving survivors of the SARS epidemic 2-3 years after it occurred in 2003/2004 found that more than 40% of participants received active psychiatric diagnoses. The most frequent diagnoses were post-traumatic stress disorder, somatoform pain disorder, panic disorder, and obsessive-compulsive disorder [15]. The results of another long-term study involving psychiatric morbidity post-SARS showed a cumulative incidence of DSM-IV psychiatric disorders of 58.9% [16]. Psychiatric support requirements specific to the pandemic may increase in the future, and appropriate planning is needed in psychiatric clinics.

The limitations of the study include the fact that the data were collected from hospital records. Because of the fact that diagnostic evaluations were conducted by non-psychiatrist physicians working in the emergency department and rapid evaluations being performed because of high patient densities, it might also have resulted in misdiagnoses.

### Conclusion

The results of this study will shed light on the potential differences between demographic factors (such as age and gender) and various diagnostic groups of the patient population applied to the emergency department during the pandemic compared to the pre-pandemic period. The significant reduction in emergency psychiatric admissions is more likely a consequence of fear of contracting COVID-19 and may represent an increased burden of psychiatric morbidity in the population. Further studies would be helpful to identify high-risk groups not referred to emergency clinics during the COVID-19 pandemic.

### Declaration of interest

The authors report there are no competing interests to declare.

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### Ethical approval

Approval was received for the study from Karadeniz Technical University Faculty of Medicine Scientific Research Ethics Committee (no. 2020/284).

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