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RESEARCH ARTICLE

Reflections of the psychological impact of coronavirus in clinical practice: Emergency psychiatry during the COVID-19 pandemic

Yusuf Ezel Yildirim[1], Pinar Cetinay Aydin[2], Onur Toktamis[2]

[1]Trabzon Of State Hospital, Department of Psychiatry, Trabzon, Turkiye
[2]Bakirkoy Prof. Mazhar Osman Training and Research Hospital for Psychiatry, Neurology, and Neurosurgery, Department of Psychiatry, Istanbul, Turkiye

ABSTRACT

Objective: The pandemic of coronavirus has caused various psychological impacts. Psychiatric emergency departments (PED) are important to detect the clinical reflections of this unforeseeable and extraordinary period, as these departments served uninterruptedly during the pandemic. We aim to study the possible reflections by comparing the medical data obtained during pandemic period with the same dates of the previous year.

Method: A total of 7209 patients admitted to PED between March–May 2019 and March–May 2020 were included in this retrospective and cohort study. Comparisons were made between the two periods based on the sociodemographic and clinical characteristics of the patients.

Results: PED visits, which were 4330 in 2019, decreased by 33.5% to 2879 in 2020. The number of female patients decreased between 2019 and 2020 (p=0.001), but there was no difference in terms of age (p=0.085). It was observed that all diagnosis groups decreased in 2020, except for "Neurocognitive Disorders." The decrease in the frequency was most evident in "Obsessive-Compulsive and Related Disorders" group (66.1%). On the other hand, the least decrease was found in "Anxiety Disorders" group (11.8%).

Conclusion: Despite the fact that this pandemic is considered as a multifaceted psychological stressor, emergency psychiatry applications have decreased compared to the previous year during the pandemic. As the physical burden of the COVID-19 gradually diminishes, we may face a mental health pandemic due to tremendous psychological effects of this time period. It is obvious that some new and alternative ways to spread psychiatric practices are needed in the pandemic period and beyond.

Keywords: Coronavirus disease-19, mental disorders, mental health services, pandemics, psychiatric emergency department

INTRODUCTION

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) from the viral coronaviridae family which was detected in Wuhan city of China in the last months of 2019 spread rapidly all around the world shaping our lives unprecedentedly. It is known that this extraordinary effect of the pandemic has been causing different psychological reflections.

Coronavirus induces two health emergencies: Coronavirus disease-19 (COVID-19) which is caused by the virus itself and mental problems such as anxiety and panic which are caused by the pandemic (1). A study from China states that 28.5% of the

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Correspondence: Yusuf Ezel Yildirim, Trabzon Of State Hospital, Department of Psychiatry, Trabzon, Turkiye
E-mail: yezelyildirim@gmail.com

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patients with psychiatric attendance in the times of pandemic have no prior psychiatric attendance, 20.9% of those who have psychiatric disorder before have deterioration in their mental health, and 22% of the patients with a prior psychiatric disorder have a disruption in their routine treatments due to not being able to reach their health services (2). In the United States of America (USA), it is determined that concerns related to COVID-19 are at the center of the complaints for 25% of psychiatric emergency admissions (3).

On the other hand, psychiatry has encountered unique challenges during the pandemic but has been able to continue much of its routine care virtually when many other medical specialties ground to a halt (4). A possible mental health burden that is expected to emerge after the physical burden of the pandemic has decreased. It is argued that this requires a transformation in mental health practices (5). To realize this transformation, it is important to identify the various impacts of the pandemic on the institutions providing mental health services. In this study, we aimed to determine the mental effects of the coronavirus pandemic by comparing the date of admissions to our psychiatric emergency department during the pandemic with the same period of the previous year.

METHOD

Study Design, Participants and Procedure

Our study has a retrospective design and all patients who attended the Psychiatric Emergency Department of Bakirkoy Prof. Mazhar Osman Training and Research Hospital for Psychiatry, Neurology and Neurosurgery, between March 11, 2019,–May 11, 2019, and March 11, 2020–May 11, 2020, were included in the study. The study dates were determined on account of the fact that these time periods were announced as two milestones by the authorities. The first of these March 11, 2020, was selected as it was announced the date of the first confirmed COVID-19 case in Turkiye by the Ministry of Health, in other words, was the date of the onset of the outbreak in Turkiye (6). The end-date that for the study was May 11, 2020, at which time the number of new COVID-19 recoveries surpassed the number of confirmed cases in a single day for the first time in Turkiye and that is accepted as a critical phase for pandemic management (7). We also included the data of the patients who visited the Psychiatric Emergency Department between March 11, 2019, and May 11, 2019; which is the same period of the previous year.

The hospital where our study was conducted is the largest mental health institution providing outpatient and inpatient care services in Turkiye. Our hospital has continued to serve during the pandemic with various preventive measures such as reduced outpatient and inpatient unit capacity; restricted hospitalization criteria; establishment of an acute psychiatric ward specific to COVID-19; restricted psychotherapy and rehabilitation services; and flexible working arrangements. All data evaluated in the study were obtained from the hospital's electronic documentation system. Data were searched and extracted in terms of sociodemographic characteristics, psychiatric diagnosis, frequency of visits in the specified time intervals, and psychiatric emergency departments (PED) visit result (discharge or hospitalization). The main diagnostic groups were determined according to international classification of diseases 10 (ICD-10). In Table 1, besides the main diagnostic groups, the classification according to the ICD-10 diagnostic system is indicated in parentheses. Ethics committee approval for our study was obtained from İstanbul Bakırköy Dr. Sadi Konuk Training and Research Hospital Clinical Research Ethics Committee with the number 2020-16-13.

Statistical Analyses

Descriptive statistics of the data are shown with number and percentages for categorical variables and mean and standard deviations for continuous variables. One hundred and four patients applied for PED in both years. This number constitutes 2.4% of the applications in 2019 and 3.7% of the applications in 2020. Since the study aimed to determine the differences between the 2 years, unpaired tests were applied in accordance with the between subject design (8). Pearson Chi-square test was used to examine the differences in categorical sociodemographic and clinical variables. Independent Sample t-tests and Pearson Chi-square tests were performed to assess differences between data groups, using IBM SPSS Statistics v.22 for Windows. The level of statistical significance was set at $p<0.05$.

RESULTS

Between March 11 and May 11, 2019, a number of 4330 admissions were confirmed; and between March 11 and May 11, 2020, there were total of 2789 emergency visits. These numbers reveal that the total number of visits decreased by 33.5% between 2019 and 2020. When the gender distribution of the

Table 1: Comparison of the demographic characteristics of emergency psychiatry visits between the year 2019 and 2020

Variables	2019	2020	Δ2020–2019 (%)	p
Total number of emergency psychiatry visit	4330	2879	-33.5	
Sex, n (%)				**0.001**
Female	2058 (47.5)	1257 (43.7)	-38.9	
Male	2272 (52.5)	1622 (56.3)	-28.6	
Age, Mean±SD	39.7±13.9	39.1±14.4		0.085
Age group, n (%)				
18-39	2413 (55.7)	1632 (56.7)	-32.3	0.42
40-65	1651 (38.1)	1061 (36.9)	-35.7	0.27
65+	266 (6.1)	186 (6.5)	-30.0	0.58
Number of emergency psychiatry visit, n (%)				**0.001**
1	3231 (74.6)	2051 (71.2)		
Frequent (2 and more)	1099 (25.3)	828 (28.7)		
Total number of hospitalization, n	1319	714	-45.8	<**0.001**
Hospitalization/visit, %	30.4	24.8		
Sex (hospitalizated patients), n (%)				0.51
Female	466 (35.3)	242 (33.9)	-48.0	
Male	853 (64.7)	472 (66.1)	-44.6	

SD: Standard deviation; Statistical significance set at 0.05 (Bold values).

Table 2: Primary diagnosis group of emergency psychiatry visits

Variables	2019		2020		Δ2020–2019 (%)	p
Schizophrenia spectrum and other psychotic disorders (F20-F29)	n=1158	26.7	n=851	29.6	-26.5	**0.009**
Bipolar and related disorders (F30, F31, F34, F39)	n=944	21.8	n=668	23.2	-29.2	0.16
Depressive disorders (F32, F33)	n=731	16.9	n=384	13.3	-47.4	<**0.001**
Anxiety disorders (F40, F41)	n=440	10.2	n=388	13.5	-11.8	<**0.001**
Trauma and stressor related disorders (F43)	n=208	4.8	n=107	3.7	-48.5	**0.029**
Substance-Related and addictive disorders (F10-F19)	n=190	4.4	n=113	3.9	-40.5	0.36
Dissociative disorders and somatic symptom and related disorders (F44, F45)	n=106	2.4	n=55	1.9	-48.1	0.14
Neurodevelopmental disorders (F80-F98)	n=81	1.9	n=41	1.4	-49.3	0.16
Obssesive-compulsive related disorders (F42)	n=54	1.2	n=21	0.7	-66.1	**0.033**
Personality disorders (F60-F69)	n=36	0.8	n=28	1.0	-22.2	0.52
Neurocognitive disorders (F01-F09)	n=23	0.5	n=25	0.9	8.6	0.10

Statistical significance set at 0.05 (Bold values).

patients was examined; 2058 (47.5%) of the patients who attended in 2019 were female and 2272 (52.5%) were male, while during the pandemic period 1257 (43.7%) were female and 1622 (56.3%) were male. The mean age of the patients who attended in 2019 was 39.7±13.91, and in 2020 was 39.11±14.49. The number of patients hospitalized after the emergency visit was 714 in 2020 and 1319 in 2019, indicating a 45.86% decline between 2 consecutive years. When the proportion of hospitalized patients among emergency visits is compared, the rate decreased from 30.46% in 2019 to 24.80% in 2020 (Table 2).

During the 2-month period of 2019, 3231 of 4330 visits were 1-time only and the rest were repeated visits. In the same period of 2020, 1-time-only visits were 2051 (of a total 2879) and the repeated visits were 828. The percentage of repeated visits increased from 25.38% to 28.75%.

Table 3: Comparison of diagnostic groups by age and gender between two consecutive years

Diagnostic groups	2019		2020		Age//sex difference
	Age (mean)	Female (%)	Age (mean)	Female (%)	
Schizophrenia spectrum and other psychotic disorders	39.0	29.6	37.6	23.5	**p=0.011//p=0.002**
Bipolar and related disorders	40.1	54.3	39.1	55.7	p=0.13//p=0.59
Depressive disorders	42.3	63.5	40.6	59.9	p=0.081//p=0.24
Anxiety disorders	41.7	64.8	43.3	61.9	p=0.11//p=0.38
Trauma and stressor related disorders	37.0	52.9	33.0	50.5	**p=0.018**//p=0.68
Substance-related and addictive disorders	33.9	13.2	34.0	8.8	p=0.91//p=0.25
Dissociative disorders and somatic symptom and related disorders	37.0	81.1	37.3	74.5	p=0.90//p=0.33
Neurodevelopmental disorders	29.4	30.9	28.9	36.6	p=0.79//p=0.52
Obsessive-compulsive related disorders	35.9	55.6	32.4	47.6	p=0.26//p=0.54
Personality disorders	35.4	30.6	31.6	32.1	p=0.29//p=0.69
Neurocognitive disorders	73.9	39.1	76.2	44.0	p=0.56//p=0.73

Statistical significance set at 0.05 (Bold values).

In both years, patients suffering from "Schizophrenia Spectrum and Other Psychotic Disorders" were the most common group referring to the PED. Even though the total number of patients attending with this diagnostic group relatively decreased by 26.50% in 2020, their rate in 2020 among all the patients attended increased statistically significantly compared to 2019. In both years, the group with the second highest number of patients was "Bipolar and Related Disorders" and there was no significant change in percentage among all the patients attended between 2 years. The third most common group referring to the PED changed from "Depressive Disorders" to "Anxiety Disorders" in 2020. Among all the patients attended, there was a decrease in the rate of "Depressive Disorders" whereas there was an increase in "Anxiety Disorders" in 2020 (Table 1).

Data were examined in terms of age and gender between 2-time intervals for the diagnostic groups, and it is found that the mean age of visits for the "Schizophrenia Spectrum and Other Psychotic Disorders" group decreased in 2020 (p=0.011) and the male patients increased significantly (p=0.002). Decrease in the mean age of the patients diagnosed as "Trauma and Stressor Related Disorders" was statistically significant (p=0.018). All differences between diagnostic groups are presented in Table 3.

During the study period, the daily newly diagnosed COVID-19 patients in Turkiye, deaths due to COVID-19 and the number of applications to the emergency psychiatry department is presented in Figure 1.

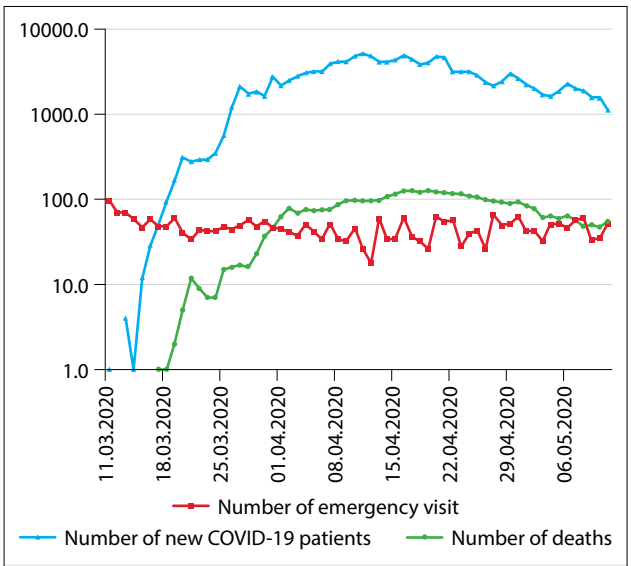

Figure 1. The course of the pandemic and emergency psychiatry applications during the time period study conducted.

DISCUSSION

In the present study, admissions to the psychiatry emergency department during the pandemic were compared with the same period of the previous year. It can be easily said that one of the factors that act as a barrier for attempts to reach psychiatric emergency services in Turkiye is the precautions to control the pandemic, such as curfews and travel restrictions, just like the rest of the world (9). Since most of the institutions that provide psychiatric emergency service under normal circumstances served as a pandemic hospital in the pandemic period, the responsibility of

the psychiatric hospitals (like our hospital where this study is performed) for providing professional support for mental health emergencies increased even more.

It is found that visits to our psychiatric emergency department decreased by 33.5% in the time interval, we included in this study when compared with the same period of 2019. The studies that are conducted in similar time intervals found a decrease in PED admissions by 11–30% in the USA (3,10), 52.2% in Portugal (11), 54.8% in France (12), 21% in Ireland (13), and 42% in Italy (14). Like previous studies, our study displays that this decrease is probably related to SARS-CoV-2 infection risk, implemented restrictions, and curfews. The differences between the researches are thought to have been related to the profiles of the centers (general hospital emergency department, university hospital, psychiatric hospital, etc.) and the extent of the implemented restrictions in the dates the studies were conducted.

Consistent with other studies that the decrease of psychiatric emergency visits in 2020 is common in females than in males and the least decrease is seen in the elderly (11). It is known that anxiety disorders are more frequent in women than in men (15) and it is shown that women have higher levels of anxiety and depression symptoms in pandemic (16–19). According to the results of a national comorbidity survey, although women with any DSM-IV disorder were more likely than men to seek health-care treatment, among those who did seek treatment, women were less likely than men to receive mental health-care services (20). Moreover, it is speculated that because attendance to a health facility during the pandemic has a risk of infection of SARS-CoV-2 and because women develop more anxiety to this situation, visits to health facilities by women decrease further. Since the pandemic causes multiple role conflicts for women on different life roles such as family and work, the responsibilities of the women in the household and care of women increased significantly compared to men (21). Gender inequality, which is a serious problem in developing countries, deepened even more in the pandemic (22). Thus, due to the aforementioned reasons, women might not be able to access emergency services, which also is a reason for the decrease in the number of emergency visits of women in the pandemic.

In this study, a decrease in the mean age of the "Trauma and Stressor-related Disorders" group was detected during the pandemic period compared to the previous year. This result seems to be consistent with the meta-analysis of Yunitri et al. (23) in which they investigated the prevalence and risk factors of posttraumatic stress disorder during the COVID-19 pandemic. This finding can be explained by the fact that the cumulative life experiences of older individuals provide them with higher resilience to traumatic events during the pandemic period. Resiliency is the ability to tolerate negative emotions and act flexibly in difficult situations and is a protective factor against negative life events (23,24).

It is found that the hospitalization rate decreased from 30.4% in 2019 to 24.8% in 2020 after a visit to the psychiatric emergency department. In contrast, it is observed that the rate of repeated visits raised in 2020. It is stated in the studies from China, the first affected country from the pandemic, that the infection risk is high in psychiatric inpatient services, hence, appropriate preventive precautions should be taken (25,26). As our hospital is a psychiatric hospital and its inpatient clinics serve the patients with severe mental disorders who have difficulties taking necessary precautions against the pandemic, numerous regulations have been made. Precautions to avoid infection and ensure physical isolation and establishment of isolation wards necessitated a reduction in the number of patients per inpatient service, causing a decrease in number of hospitalizations from the psychiatric emergency department. As a consequence, the indications for emergency hospitalization were narrowed and hospitalizations were made in more risky situations, resulting in repeated admissions to emergency services. Under these conditions, it is obvious that some alternative approaches are required to reduce the number of repeated visits. It might be effective to follow up the patients after the first visit through non-face-to-face methods such as telephone or internet-based psychiatric systems.

Between the same periods of 2019 and 2020, the only diagnostic group which increases in number in 2020 was "Neurocognitive Disorders" and the group with the least decrease in number was "Anxiety Disorders." As a nature of the disorder, neurocognitive disorders have the highest mean age compared to other diagnostic groups. The reason for the increase in visits for neurocognitive disorders from 2019 to 2020 can be interpreted as interruption of routine clinical follow-up of these patients, which is the result of nation-wide curfew for people aged 65 and over. In population-based studies, it is detected that during the pandemic, levels of anxiety symptoms rise significantly (19,27–29). Apart from this, one study states that anxiety disorders raise in the pandemic period (30). The finding that anxiety disorders have the least decrease in

visits compared to the previous year in our study also supports these data. The fact that this is not reflected as an increase in results may be related to the factors we have stated regarding the decrease in general hospital visit rates or it may be related to the anxiety experienced by the risk of disease transmission in this diagnostic group. The fear of infection and disease associated with COVID-19, uncertainty about the course of the pandemic, losing jobs and financial problems, isolation, and the loneliness in quarantine conditions can be the reasons of increase in anxiety levels (31). For most of the disorders under the "Anxiety Disorders" group such as generalized anxiety disorder and panic disorder, psychological interventions are the most important aspects of clinical management according to various treatment guidelines; hence, self-help interventions and CBT practices are of great importance. It is known that web-based or phone-assisted practices are not less effective than face-to-face practices (32). This may decrease hospital workload and increase service quality for patients. All things considered, these are some of the possible options to reach out to the group of patients suffering from a substantial increase in anxiety levels as shown in community-based studies.

As well as individual interventions, it has been suggested that the perception of being informed about the pandemic might represent a buffering factor for anxiety during a virus pandemic (33). However, widespread misinformation and non-transparent management can also be seen frequently during pandemic periods. To reduce the impact of rumors, government and health officials need to provide accurate health information during an epidemic (34). Higher satisfaction with the health information received was associated with a lower psychological impact of the epidemic and lower levels of stress, anxiety, and depression in the general population (19).

Patients with severe mental illnesses such as schizophrenia are the most vulnerable populations during pandemic periods (35,36). In our study, schizophrenia and other psychotic disorders constitute the largest diagnostic group in both 2019 and 2020. This result is different from similar studies and the authors think that the reason for this difference is related to the fact that our hospital is a tertiary referral hospital for patients with severe mental disorders. For psychotic disorders that emerge in COVID-19 and previous pandemics, virus or steroid exposure, pre-existing vulnerability, and psychosocial stress are proposed as etiological factors (37,38) but still little is known about coronavirus and psychosis relationship and new-onset psychosis should be assessed considering SARS-CoV-2 as the possible causative factor. The reason for the high rates of attendance to PED for schizophrenia patients and one of the obstacles to decrease this rate might be that these patients cannot take advantage of telepsychiatric practices because of rapport, privacy, safety, security, and technological limitations (39). Required precautions should be taken and promoted in face-to-face visits for this special group (40,41). Despite the decrease in the number of visits of psychotic patients to the psychiatric emergency during the pandemic, it is well known that pandemic is also a serious stressor for these patients. Beyond our relatively short 2-month observation period, monitoring the long-term effects of the pandemic is important for making necessary pharmacological and psychosocial interventions for this patient population.

In spite of the 29% decrease in PED admissions between 2019 and 2020, the second most common diagnostic group that attends our PED is "Bipolar and Related Disorders." It is known that psychosocial stressors are important factors that precipitate both a depressive and a manic episode. Since patients with bipolar disorder rely on a well-balanced routine, regular sleep hours, biological and social rhythms, and low psychological stress to prevent relapses, COVID-19 pandemic affected these patients directly (42,43). In the management of patients with affective disorders during and after the pandemic, it is postulated that the use of technology-based interventions, such as online prescription and express medicine delivery, telepsychological management, teletherapy, online psychoeducation programs, online sleep hygiene resources, and mindfulness applications like "Smiling Mind" and online diary applications like "CBT Thought Diary," will create opportunities for these patients despite all the negative aspects of the pandemic (40,42).

Between 2 years, the greatest change is observed in the "Obsessive-Compulsive and Related Disorders" group. In this study, we detected a 66.1% decrease for this group in 2020 compared to 2019. During the pandemic period, the prevalence of obsessive-compulsive disorder (OCD) was found 17.9% in a study from China (44); however, there are also studies that showed both negative effects of pandemic and increase in symptom severity (45,46) and no change in complaints (47) of OCD patients. Only a limited assessment of this group was made in our study as we included only patients from the psychiatric

emergency department and the decrease of attendance rate of this group may be due to contamination obsessions. It is known that the number of cases with symptoms as seen in OCD in the general population increases because of the pandemic; however, the questions how many of these symptoms are associated with the disorder and how much change has been occurred in symptom severity or profile are yet to be answered. For these reasons, although it is not possible to foresee the long-term effects of the pandemic on OCD, extensive evaluations about regulations of pharmacological and psychotherapeutic choices should be considered (48,49).

The psychological impacts of the pandemic are different for every individual. All people encounter these extraordinary times with different reactions regarding their psychological experiences. In this study, we would like to put an emphasis on clinical aspects of the pandemic in psychiatric emergency settings. It is crucial to state that as mental health professionals, our practices are not limited to clinical cases but also they include psychological well-being of the general population. This further increases our possible responsibilities in unpredictable and uncertain times like the pandemic. Relying on the past epidemic experiences shared in the literature, we foresee that the psychological impacts of this pandemic may increase even more (50). To overcome this increasing burden, there is a necessity to transform our psychiatric services to alternative ways, such as telepsychiatric practices.

This study has several limitations. This study covers a certain time period due to its retrospective design. The diagnoses of the patients were obtained from retrospective data and a structured diagnostic interview was not applied. This study was conducted in a single center specialized in psychiatry. Therefore, it may not be possible to generalize the results of our study to the emergency departments of general hospitals.

The COVID-19 pandemic exposed all parts of society to rigorous challenges which also contains psychological dimensions. In this study, it was shown that there was a decrease in emergency psychiatry applications, but the exact reasons for this decrease can only be revealed with community-based studies that include the post-pandemic period. However, it is necessary to develop alternative methods that will facilitate access to psychiatry services both in the pandemic and post-pandemic period. Our study demonstrates that during the COVID-19 pandemic, the responsibilities of mental health professionals are increased both in clinical and non-clinical settings.

Contribution Categories		Author Initials
Category 1	Concept/Design	Y.E.Y., P.C.A., O.T.
	Literature review	Y.E.Y., O.T.
	Data analysis/Interpretation	Y.E.Y., P.C.A., O.T.
Category 2	Drafting manuscript	Y.E.Y., O.T.
	Critical revision of manuscript	P.C.A.
Category 3	Final approval and accountability	Y.E.Y., P.C.A., O.T.

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