Psychiatric Emergencies and Their Characteristics Presenting to Prehospital Emergency Medical Services Between 2018 and 2023: The Case of Türkiye

2018 ve 2023 Yılları Arasında Hastane Öncesi Acil Sağlık Hizmetlerine Başvuran Psikiyatrik Acil Durumlar ve Özellikleri: Türkiye Örneği

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ABSTRACT

Aim: Psychiatric disorders are characterized by significant impairments in cognition, emotion, and behavior, with a global prevalence of 29.2%. While these disorders are widespread, they are also commonly encountered as pre-hospital emergencies. The increase in psychiatric emergency admissions has surpassed the general trend in demand for emergency healthcare services. This study aims to identify the frequency and characteristics of psychiatric emergency calls received by the Anatolian Side Command and Control Center in Istanbul and to provide recommendations for improving pre-hospital emergency healthcare services.

Material and Methods: This retrospective cross-sectional study analyzed data from patients who received emergency services for emergent psychiatric conditions between 2018 and 2023. The data were collected from the "Emergency Health Automation System" (ASOS) and evaluated based on sociodemographic variables.

Results: Ambulance calls steadily increased from 2018 to 2021, followed by a decline in 2022 and 2023. Psychiatric emergencies were at their lowest in 2020 but rose again in 2021 and 2022. The majority of psychiatric emergencies consisted of acute behavioral disturbances and suicide attempts. Female cases accounted for 61.5% of the total, and the age group of 18-65 was the most frequently affected.

Conclusion: There has been a notable increase in psychiatric emergency cases within pre-hospital healthcare services. While most cases were classified as low urgency, the findings highlight the need for improved service delivery and increased awareness among healthcare personnel regarding psychiatric emergencies. Although most of the cases were classified as low priority, the findings suggest that healthcare personnel working in the prehospital setting should be more thoroughly informed and trained regarding the approach to psychiatric emergencies and the provision of care.

Keywords: Prehospital, psychiatric emergency, paramedic, ambulance calls

ÖZ

Amaç: Psikiyatrik bozukluklar, biliş, duygu ve davranışta belirgin bozulmalarla karakterize olup, küresel prevalansı %29,2'dir. Bu bozukluklar yaygın olmakla birlikte, hastane öncesi acil durumlar arasında da sıkça karşılaşılmaktadır. Psikiyatrik acil başvurularındaki artış, genel acil sağlık hizmetlerine olan talep artışını aşmıştır. Bu çalışmanın amacı, İstanbul Anadolu Yakası Komuta Kontrol Merkezi tarafından alınan psikiyatrik acil çağrıların sıklığını ve özelliklerini belirlemek ve hastane öncesi acil sağlık hizmetlerinin iyileştirilmesine yönelik öneriler sunmaktır.

Gereç ve Yöntemler: Bu retrospektif kesitsel çalışmada, 2018-2023 yılları arasında psikiyatrik durumlar için acil sağlık hizmeti alan hastaların verileri incelenmiştir. Veriler, "Acil Sağlık Otomasyon Sistemi" (ASOS) üzerinden toplanmış ve sosyodemografik değişkenlere göre değerlendirilmiştir.

Bulgular: Ambulans çağrıları 2018'den 2021'e kadar düzenli bir artış göstermiş, 2022 ve 2023 yıllarında ise azalma kaydedilmiştir. Psikiyatrik acil durumlar 2020 yılında en düşük seviyede görülmüş, ancak 2021 ve 2022'de yeniden artış göstermiştir. Psikiyatrik acil durumların çoğunluğunu akut davranışsal bozukluklar ve intihar girişimleri oluşturmuştur. Vakaların %61,5'i kadınlardan oluşmuş ve en çok 18-65 yaş grubunda görülmüştür.

Sonuç: Hastane öncesi sağlık hizmetlerinde psikiyatrik acil durum vakalarında belirgin bir artış gözlemlenmiştir. Vakaların çoğu düşük öncelikli olarak sınıflandırılmış olsa da elde edilen bulgular, hastane öncesi alanda çalışan sağlık personelinin psikiyatrik acil durumlara yaklaşım ve hizmet sunumu konusunda daha ayrıntılı bilgilendirilmesi ve eğitilmesi gerektiğini düşündürmektedir.

Anahtar Kelimeler: Hastane öncesi, psikiyatrik acil, paramedik, ambulans çağrıları

Introduction

Psychiatric disorders, defined by disruptions in cognition, affect, and behavior, constitute a major global public health concern with a prevalence of 29.2%, and are increasingly recognized as frequent presentations in prehospital emergency medical settings (1,2).

In a period where the demand for emergency healthcare services is progressively increasing, the rise in psychiatric emergency admissions has surpassed this general trend (2). Istanbul, Türkiye's most populous city and a metropolis, is a difficult area for emergency health services to work in due to traffic, settlement and population (3). In the United States, psychiatric emergency admissions have increased by 15% over the past decade, accounting for approximately 12% of all emergency visits (2). In Iran, the one-year prevalence of psychiatric disorders has been reported at 23.6% (4). Similarly, in Germany, the rate of psychiatric emergency calls has increased by 23.3% since 1995 (5). In China, approximately 17.5% of the population is estimated to have a psychiatric disorder, contributing significantly to the nation's disease burden (1). Additionally, both Australia and the United Kingdom have experienced a year-on-year increase in demand for ambulance services, with psychiatric emergencies comprising a substantial portion of this demand (6,7,8). In Türkiye, the proportion of pre-hospital psychiatric emergencies has been reported to range from 3% to 17% between 2018 and 2023 (9).

The reasons for the increase in psychiatric emergency call rates have been explained as follows (5):

➢ Increased levels of psychosocial stress (e.g., due to rising unemployment and debt),
➢ Higher divorce rates, disintegration of family structures, and elevated levels of social isolation,
➢ Rising psychiatric morbidity following life-threatening illnesses or injuries, disasters, and traumas,
➢ An aging population with multiple comorbidities and increased polypharmacy,
➢ Increased rates of alcohol and substance use among young adults (5).

A significant portion of psychiatric emergency calls consists of severe acute conditions, anxiety and depressive disorders, psychosis, acute behavioral disturbances, and suicide attempts (8,10). While the etiology of psychiatric disorders remains unclear, there is broad consensus that the interaction of various genetic and environmental factors poses significant risks (1,11). Individuals with psychiatric disorders are vulnerable and require professional care (12). Therefore, it is essential for first-line emergency healthcare personnel to possess adequate knowledge of psychiatric disorders and appropriate approaches to provide effective treatment and care for individuals in need of urgent psychiatric assistance (9,12).

This retrospective study was designed to identify the frequency and characteristics of increasing psychiatric emergency calls, provide recommendations for improving the delivery of pre-hospital emergency healthcare services, and enhance the awareness of the personnel providing these services.

Material and Methods

Aim and Study Design

This study was designed as a retrospective cross-sectional analysis. The aim of the study is to identify the frequency and characteristics of increasing psychiatric emergency calls and to provide recommendations for improving the delivery of pre-hospital emergency healthcare services, as well as to enhance the awareness of the personnel providing these services.

Population and Sample of the Study

The study included patients who received emergency services due to psychiatric conditions from the ambulance service of the Anatolian Side Command and Control Center in Istanbul between 2018 and 2023. The population of this study consists of 2,013,045 individuals, and the sample includes 103,018 participants. The data of the selected patients were obtained from the "Emergency Health Automation System" (ASOS) and were evaluated based on sociodemographic characteristics. These sociodemographic variables included age, gender, time of day, season, triage status, outcome, and diagnosis. Diagnoses were categorized according to the International Classification of Diseases, 10th Revision (ICD-10). Each case was counted as representing a unique patient. Patients who were under follow-up in psychiatric clinics and utilized ambulance services solely for hospital transportation were not included in the study.

Data Collection and Analysis

Data were collected by the researcher from the Emergency Health Automation System (ASOS) of the Anatolian Side Command and Control Center in Istanbul. The collected data were analyzed using the Statistical Package for the Social Sciences (SPSS) for Windows version 22.0. Descriptive statistical methods such as frequency, percentage, mean, and standard deviation were used for data evaluation. Statistical analyses were conducted using the Pearson Chi-square test, and values of $p < 0.05$ were considered statistically significant.

Ethical Considerations

Ethical approval for the study was obtained from the Ethics Committee of Istanbul Gedik University with the reference number E-56365223-050.01.04-2023.137548.14. Institutional permission to conduct the study at the Istanbul Anatolian 112 Command and Control Center was granted by the Istanbul Provincial Health Directorate.

Results

Between 2018 and 2021, ambulance calls increased steadily, peaking at 384,922. This number declined in 2022 and 2023. Psychiatric-related calls followed a similar trend, with a sharp drop in 2020 (2.46%) likely due to the pandemic, followed by a rise in 2021–2022 and another decline in 2023. Overall, psychiatric cases accounted for 2.46% to 6% of total calls over the six-year period (Table 1).

Gender Distribution and Statistical Significance

Of the cases, 61.5% were female and 38.5% were male. Each year, the number of female cases exceeded that of males, with a particularly notable difference in 2019 and 2021. This difference is statistically significant ($p < 0.001$, Chi-square = 553.970). The higher number of female cases may be due to social, psychological, or biological factors.

Years	2018	2019	2020	2021	2022	2023	Total
Total Ambulance Calls	263,139 (100%)	331,280 (100%)	364,978 (100%)	384,922 (100%)	354,845 (100%)	314,072 (100%)	2,013,245 (100%)
Calls Due to Psychiatric Conditions	15,500 (5.89%)	19,443 (5.87%)	8,974 (2.46%)	20,970 (5.45%)	21,318 (6%)	16,813 (5.35%)	103,018 (5.12%)

Table 1. The Proportion of Psychiatric Cases Among Total Ambulance Calls

Age Distribution
The majority of cases fall within the 18-65 age group (81.5%), followed by the 0-18 age group (10.1%), the 65-74 age group (3.9%), and the 85+ group (1.6%). Notably, the 18-65 age group showed a continuous increase in the number of cases over the years, and these differences are also statistically significant ($p < 0.001$, Chi-square = 250.914). The prevalence of cases in this age group could be attributed to the working population, where stress factors from work and social life may lead to more frequent health issues.

Forensic Cases
Forensic cases account for 4.4% of the total cases, with the highest rates observed in 2021 and 2023. Non-forensic cases represent the vast majority, at 95.6%. The increase in forensic cases over the years is a notable finding, and changes in social environments or crime rates could be factors contributing to this rise. This difference is statistically significant ($p < 0.001$, Chi-square = 1193.888).

Triage Categories
Among the cases, 51.8% were classified in the green triage category, 42.5% in the yellow category, and 4.9% in the red category. The black triage category (deaths) accounted for only 0.1%, a very low proportion. There are significant differences in the distribution of triage categories ($p < 0.001$, Chi-square = 2016.090). The fact that the majority of cases fall under the green (low urgency) category may have helped balance the overall burden on the healthcare system.

Case Outcomes
Hospital transfer was the most common outcome, occurring in 51.3% of cases, followed by on-site treatment (7.7%) and inter-hospital transfers (7.6%). Refusals for transport occurred in 31.5% of cases. Significant differences were observed among the various outcomes ($p < 0.001$, Chi-square = 1878.975). These results indicate that most cases required serious intervention, often necessitating hospital transfer (Table 2).

Mental and Behavioral Disorders Due to Psychoactive Substance Use
Mental and behavioral disorders related to psychoactive substance use constituted 35.5% of the cases, making it the most prevalent disorder. A significant increase in these disorders was observed in 2022 and 2023 ($p < 0.001$, Chi-square = 94330.292).

Neurotic, Stress-Related, and Somatoform Disorders
Neurotic, stress-related, and somatoform disorders were the second most common diagnosis, accounting for 35.3% of the cases. Although there was a marked decline in these diagnoses in 2020, there was a resurgence in 2022, possibly linked to the psychological effects of the pandemic on mental health.

Organic Mental Disorders
Organic mental disorders were observed in 24.0% of the cases, showing fluctuations over the years. A significant spike was noted in 2021, where the prevalence reached 81.1%. This increase may be associated with the growing health needs of an aging population, as organic mental disorders are often linked to age-related conditions.

Other Diagnoses
Other diagnostic groups, including schizophrenia, schizotypal, and delusional disorders (2.2%), mood disorders (1.7%), and physiological disorders (0.3%), were observed at lower rates. Overall, mental health disorders demonstrate significant variability in both prevalence and diversity (Table 3).

Diagnosis Distribution by Gender
The most common diagnoses among women were neurotic, stress-related disorders (38.3%) and mental and behavioral disorders due to psychoactive substance use (33.8%). In contrast, among men, these rates were 30.7% and 38.2%, respectively. These differences are statistically significant ($p < 0.001$, Chi-square = 650.295).

Diagnosis Distribution by Age
In the 0-18 age group, the most prevalent disorders were mental and behavioral disorders due to psychoactive substance use (34.8%) and neurotic, stress-related disorders (37.6%). The frequency of these disorders in young people may be linked to adolescence and environmental influences. In the 18-64 age group, neurotic disorders (35.6%) and psychoactive substance use disorders (35.6%) were equally the most frequent conditions. The stress associated with working life could be a contributing factor to the high prevalence of these disorders in this group.

Among those aged 65 and older, organic mental disorders were the most common (27.2%). The increase in neurological and organic issues that accompany aging likely contributes to the higher prevalence of these disorders in this group. Significant differences were observed in the distribution of diagnoses across age groups and between genders ($p < 0.001$) (Table 4).

Years	2018	2019	2020	2021	2022	2023	Total	p (χ^2)
Gender								
Female	10,284	12,929	5,449	12,250	12,657	9,821	63,390	
	(10%)	(%12.6%)	(5.3%)	(11.9%)	(12.3%)	(9.5%)	(61.5%)	<.001 (553,970)
Male	5,216	6,514	3,525	8,720	8,661	6,992	39,628	
	(5.1%)	(6.3%)	(3.4%)	(8.5%)	(8.4%)	(6.8%)	(38.5%)	
Age								
0-18 years	1,634	2,155	861	1,882	2,130	1,714	10,376	
	(1.6%)	(2.1%)	(0.8%)	(1.8%)	(2.1%)	(1.7%)	(10.1%)	
18-65 years	12,649	15,797	7,126	17,088	17,473	13,872	84,005	
	(12.3%)	(15.3%)	(6.9%)	(16.6%)	(17%)	(13.5%)	(81.5%)	
65-74 years	566	690	436	865	804	636	3,997	<.001 (250,914)
	(0.5%)	(0.7%)	(0.4%)	(0.8%)	(0.8%)	(0.6%)	(3.9%)	
74-84 years	404	485	378	737	574	379	2,957	
	(0.4%)	(0.5%)	(0.4%)	(0.7%)	(0.6%)	(0.4%)	(2.9%)	
85 + years	247	316	173	398	337	212	1,683	
	(0.2%)	(0.3%)	(0.2%)	(0.4%)	(0.3%)	(0.2%)	(1.6%)	
Forensic Cases								
Yes	273	302	314	1,086	1,405	1,185	4,565	
	(0.3%)	(0.3%)	(0.3%)	(1.1%)	(1.4%)	(1.2%)	(4.4%)	<.001 (1,193,888)
No	15,227	19,141	8,660	19,884	19,913	15,628	98,453	
	(14.8%)	(18.6%)	(8.4%)	(19.3%)	(19.3%)	(15.2%)	(95.6%)	
Triage Category								
Green	8,913	11,506	4,870	9,672	9,994	8,333	53,342	
	(8.7%)	(11.2%)	(4.7%)	(9.4%)	(9.7%)	(8.1%)	(51.8%)	
Yellow	5,316	6,635	3,463	10,188	10,375	7,799	43,776	
	(5.2%)	(6.4%)	(3.4%)	(9.9%)	(10.1%)	(7.6%)	(42.5%)	
Red	1,125	1,026	556	982	788	584	5,061	<.001 (2,016,090)
	(1.1%)	(1.0%)	(0.5%)	(1.0%)	(0.8%)	(0.6%)	(4.9%)	
Black (Deceased)	10	22	13	17	21	18	101	
	(0.0%)	(0.0%)	(0.0%)	(0.0%)	(0.0%)	(0.0%)	(0.1%)	
Transport	136	200	72	111	140	79	738	
	(0.1%)	(0.2%)	(0.1%)	(0.1%)	(0.1%)	(0.1%)	(0.7%)	
Outcome								
On-site Intervention	1,346	1,691	723	1,439	1,707	1,016	7,922	
	(1.3%)	(1.6%)	(0.7%)	(1.4%)	(1.7%)	(1.0%)	(7.7%)	
Transfer to Hospital	7,095	8,782	4,135	11,879	11,785	9,159	52,835	
	(6.9%)	(8.5%)	(4.0%)	(11.5%)	(11.4%)	(8.9%)	(51.3%)	
Inter-hospital Transfer	930	1,271	620	1,623	1,940	1,415	7,799	<.001 (1,878,975)
	(0.9%)	(1.2%)	(0.6%)	(1.6%)	(1.9%)	(1.4%)	(7.6%)	
Refusal of Transfer	5,883	7,381	3,313	5,589	5,524	4,780	32,470	
	(5.7%)	(7.2%)	(3.2%)	(5.4%)	(5.4%)	(4.6%)	(31.5%)	
Other	246	318	193	440	362	443	1,992	
	(0.2%)	(0.3%)	(0.2%)	(0.4%)	(0.3%)	(0.4%)	(1.9%)	

Table 2. Distribution of Cases by Sociodemographic Characteristics
n = sample size χ² = Pearson Chi-square, p <.001

Discussion

Gender Distribution in Our Study and Comparison with the Literature

In this study, female cases (61.5%) outnumbered male cases (38.5%). Additionally, women tend to seek healthcare services more frequently than men, which could also be a contributing factor. Similar findings have been reported in the literature, where studies indicate that psychiatric emergency admissions are more common among women (13,14). A study conducted in Türkiye also found that women had a higher rate of emergency admissions (15). Similarly, another study reported that women are more likely to seek healthcare service (16). This tendency could be attributed to women having greater access to, or a higher inclination toward, utilizing healthcare services. However, a study by the London Ambulance Service that examined gender distribution among patients experiencing agitation did not observe such gender differences (17). Moreover, another study concluded that while gender differences were not significant, men were more prone to substance use (18). On the other hand, a study by Spurrell et al. (2003) on psychiatric emergency admissions in the UK found that male cases (54.5%) were more prevalent than female cases (19). This disparity may be explained by differences in access to healthcare services, social norms, and the tendency of women to seek psychological help, which can vary between countries.

Diagnoses	2018	2019	2020	2021	2022	2023	Total	p (χ²)
Mental health disorders due to organic causes	528 (3.4%)	753 (3.9%)	6.216 (25.2%)	16.997 (81.1%)	155 (,0.7%)	47 (0.3%)	24,696 (24.0%)	<.001 (94,330,292)
Mental and behavioral disorders related to the use of psychoactive substances	2,960 (19.1%)	3,608 (18.6%)	1,673 (18.6%)	3,973 (18.9%)	10,825 (50.8%)	13,490 (80.2%)	36,532 (35.5%)	
Schizophrenia, schizotypal, and delusional disorders	570 (3.7%)	588 (3.0%)	52 (0.6%)	0 (0.0%)	1,079 (5.9%)	506 (3.0%)	2,795 (2.2%)	
Mood disorders	207 (1.3%)	243 (1.2%)	25 (1.5%)	0 (0.0%)	701 (3.3%)	542 (3.2%)	1,718 (1.7%)	
Neurotic, stress-related, and somatoform disorders	10,987 (70.9%)	13,932 (71.7%)	987 (11.0%)	0 (0.0%)	8,389 (39.4%)	2,117 (12.6%)	36,412 (35.3%)	
Behavioral syndromes associated with physiological disorders and physical factors	34 (0.2%)	39 (0.2%)	2 (0.0%)	0 (0.0%)	117 (0.5%)	70 (0.4%)	262 (0.3%)	
Adult personality and behavior disorders	119 (0.8%)	145 (0.7%)	12 (0.1%)	0 (0.0%)	6 (0.0%)	3 (0.0%)	285 (0.3%)	
Intellectual disabilities	2 (0.0%)	5 (0.0%)	0 (0.0%)	0 (0.0%)	3 (0.0%)	1 (0.0%)	11 (0.0%)	
Developmental disorders of psychological development	15 (0.1%)	29 (0.1%)	4 (0.0%)	0 (0.0%)	10 (0.0%)	18 (0.1%)	76 (0.1%)	
Unspecified mental health disorder	78 (0.5%)	101 (0.5%)	3 (0.0%)	0 (0.0%)	33 (0.2%)	19 (0.1%)	234 (0.2%)	

Table 3. Distribution of Cases by Diagnoses

n = sample size, χ² = Pearson Chi-square, p <.001

Gender Differences in Neurotic Disorder Admissions in Our Study

In this study, the rate of admissions related to neurotic disorders among women was approximately twice that of men. This finding aligns with the literature on gender-based mental health differences. Similarly, a study reported that women are more likely than men to seek emergency services for psychiatric disorders (20). Another study highlighted that the COVID-19 pandemic, with its associated social isolation, economic uncertainty, and increased psychosocial stress, disproportionately affected women, leading to a greater burden on their mental health (18). This suggests that women may be more vulnerable to mental health issues and that their coping mechanisms for neurotic disorders might weaken, leading to higher emergency healthcare admissions. A study conducted in the UK reported that the majority of mental health emergency visits were made by women, with a significant portion of these visits attributed to neurotic disorders such as anxiety and depression (10). The fact that women are more frequently faced with such disorders likely increases their rate of seeking healthcare services. This consistency between our findings and international trends suggests that the results of our study are reflective of broader, global patterns in mental health.

Age Distribution in Our Study and Comparison with the Literature

In this study, the largest patient group was those aged 18-65 (81.5%), with 10.1% of cases in the 0-18 age group. This finding is consistent with a study conducted in Türkiye, where the majority of individuals seeking emergency healthcare services were also within the 18-65 age range (15). This result supports the notion that young and middle-aged adults are more likely to seek mental health services due to stressors related to work and social life. A study focusing on older individuals reported an increase in psychiatric emergency admissions among those aged 65 and above over the years, with symptoms such as cognitive impairments, including delirium and Alzheimer's disease, being prevalent in this age group (20). This rise in psychiatric cases among the elderly highlights the growing need for psychiatric healthcare services as the population ages. In Türkiye, the higher frequency of emergency healthcare visits by elderly individuals is likely related to the increased incidence of conditions such as dementia, depression, and cognitive disorders in old age. Similarly, in the study by Spurrell et al. (2003), the average age of patients was 36.6 years, with a higher number of visits made by younger adults. The frequent encounters of young adults with stressors from work, social life, and familial responsibilities may explain the high number of cases in this age group (19).

Prevalence of Substance Use and Neurotic Disorders in Our Study and Comparison with the Literature

In this study, 35.5% of the cases seeking pre-hospital emergency services were diagnosed with mental and behavioral disorders due to psychoactive substance use, while 35.3% were diagnosed with neurotic stress-related disorders. Lindor et al. similarly reported that substance use is common among psychiatric emergency cases, with 30% of patients presenting to emergency services due to substance-related complaints (21). Both in Türkiye and internationally, substance use has been observed to significantly increase the demand for emergency healthcare services. A similar study conducted in Germany found that 11.8% of psychiatric emergency calls were related to psychiatric disorders, with alcohol intoxication, agitation, and suicide attempts being frequently reported (5). In line with these findings, substance use plays a significant role in psychiatric emergency admissions. However, the rates observed in Türkiye are higher compared to Germany, which may be explained by differences in the social structure and awareness of substance use issues in Türkiye.

Gender	Mental health disorders due to organic causes	Mental and behavioral disorders related to the use of psychoactive substances	Schizophrenia, schizotypal, and delusional disorders	Mood disorders	Neurotic, stress-related, and somatoform disorders	Behavioral syndromes associated with physiological disorders and physical factors	Adult personality and behavior disorders	Intellectual disabilities	Developmental disorders of psychological development	Unspecified mental health disorder	p (χ^2)
Woman	14,653 (23.1%)	21,408 (33.8%)	1,549 (2.4%)	1,023 (1.6%)	24,262 (38.3%)	143 (0.2%)	158 (0.2%)	9 (0.0%)	39 (0.1%)	146 (0.2%)	
Man	10,043 (25.3%)	15,121 (38.2%)	1,246 (3.1%)	695 (1.8%)	12,150 (30.7%)	119 (0.3%)	127 (0.3%)	2 (0.0%)	37 (0.1%)	88 (0.2%)	<.001 (650,295)
Age Group											
0-18 age	2,248 (21.7%)	3,608 (34.8%)	277 (2.7%)	211 (2.0%)	3,904 (37.6%)	26 (0.3%)	31 (0.3%)	2 (0.0%)	26 (0.3%)	43 (0.4%)	
18-65 age	19,877 (23.7%)	29,898 (35.6%)	2,314 (2.8%)	1,355 (1.6%)	29,918 (35.6%)	189 (0.2%)	225 (0.3%)	9 (0.0%)	42 (0.0%)	178 (0.2%)	
65-74 age	1,089 (27.2%)	1,410 (35.3%)	110 (2.8%)	69 (1.7%)	1,285 (32.1%)	14 (0.4%)	13 (0.3%)	0 (0.0%)	6 (0.2%)	1 (0.0%)	<.001 (421,649)
74-84 age	967 (32.7%)	1,015 (34.3%)	66 (2.2%)	51 (1.7%)	823 (27.8%)	18 (0.6%)	10 (0.3%)	0 (0.0%)	1 (0.0%)	6 (0.2%)	
85 age and above	515 (30.6%)	598 (35.5%)	28 (1.7%)	32 (1.9%)	482 (28.6%)	15 (0.9%)	6 (0.4%)	0 (0.0%)	1 (0.1%)	6 (0.4%)	

Table 4. Distribution of Diagnoses by Gender and Age Variables

n = sample size, χ^2 = Pearson Chi-square, p <.001

Although, this difference may also be due to the limited size of the research group.

Kabadayı Şahin and Usul reported that during the COVID-19 period, substance use-related admissions decreased among individuals under the age of 18, while increasing among those aged 65 and older (18). This finding suggests that older individuals may be more susceptible to health problems related to substance use, leading to a rise in emergency healthcare admissions in this group.

In addition, neurotic stress-related disorders were also prevalent in our study. It is likely that the increase in psychological stress factors and social isolation following the pandemic has contributed to the widespread occurrence of such disorders. A study conducted in Italy during the pandemic similarly reported an increase in psychiatric disorders during this period (22). Silva et al. noted that stress-related disorders are frequently observed in psychiatric emergency cases. They also highlighted that emergency psychiatric protocols struggle to adequately address these conditions and that healthcare workers often require additional psychosocial interventions when dealing with such cases (16).

This highlights the global nature of stress-related mental health issues, particularly in the aftermath of crises like the pandemic, and underscores the need for enhanced psychosocial support in emergency healthcare settings.

The Impact of COVID-19 on Mental Health and Psychiatric Emergency Admissions

The effects of the COVID-19 pandemic on mental health are evident in this study, particularly in the changes in psychiatric emergency admissions over the years. Notably, a significant increase in organic mental disorders was observed in 2021 and 2022. A study conducted in Italy examining the mental health impacts of the COVID-19 pandemic similarly emphasized that the pandemic had exacerbated psychiatric disorders and led to severe challenges in mental health services (22). This supports the notion that the uncertainty, social isolation, and economic hardships caused by the pandemic had devastating effects on mental health across society.

Forensic Cases and Socioeconomic Factors

In this study, forensic cases accounted for 4.4% of all cases, with an increase observed particularly between 2021 and 2023. Similarly, a study found that men from lower socioeconomic backgrounds were more prone to criminal behavior and forensic cases (19). The rise in forensic cases may be linked to worsening socioeconomic conditions and heightened societal tensions following the pandemic.

Triage Categories and Case Severity

This study found that the majority of cases were classified in the green triage category (51.8%), indicating low urgency, while only 4.9% of cases fell under the red triage category, which signifies high urgency. This suggests that most psychiatric cases presented to pre-hospital emergency services were not life-threatening. A study conducted in Copenhagen similarly reported that the majority of psychiatric emergency cases were low-risk (23). These findings highlight that psychiatric emergencies tend to require observation and assessment rather than immediate critical intervention. A similar observation was made in a

study on elderly individuals, where most cases fell into low-risk categories (20). The predominance of low-urgency triage categories in psychiatric emergencies suggests that while these cases may not pose an immediate life-threatening risk, they nonetheless require timely observation, evaluation, and treatment (24). This aligns with the broader trend of psychiatric emergencies being less about acute medical crises and more about managing mental health conditions that need ongoing care and attention.

Limitations

The findings of this study are limited to the Anatolian Side of Istanbul and cannot be generalized.

Conclusion

This retrospective study conducted in a local part of Istanbul provides a detailed analysis of the distribution and diagnoses of psychiatric cases presenting to pre-hospital emergency healthcare services. When compared with other studies in the literature, similar findings were observed regarding gender, age groups, substance use, and the effects of the COVID-19 pandemic. However, the increase in forensic cases and the differences in triage categories reflect the socio-cultural and economic dynamics in Istanbul/ Türkiye and their impact on mental health. These findings offer valuable insights that can serve as an important guide for planning and improving healthcare services in the future. Regular training programs should be implemented to enhance the knowledge and intervention skills of prehospital emergency healthcare personnel regarding psychiatric emergencies. Additionally, more comprehensive field studies should be conducted to investigate the underlying causes of the increase in psychiatric emergency calls, and service planning should be structured accordingly. Establishing an effective referral and transfer system for the management of psychiatric cases will improve the efficiency of healthcare services.

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