

## Research Article

# Comparison of 2019 and 2020 Outpatient Data of a Mental Health Hospital: The Impact of the COVID-19 Outbreak

## Bir Ruh Sağlığı Hastanesinin 2019 ve 2020 Yılı Ayaktan Hasta Verilerinin Karşılaştırması: COVID-19 Pandemisinin Etkisi

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### Abstract

**Purpose:** In this study, it was aimed to examine and compare the sociodemographic and clinical variables of the subjects admitted to the outpatient psychiatry clinic of a mental health and diseases hospital (MHDH).

**Material and Method:** All subjects who were admitted to the outpatient psychiatric outpatient clinics of Elazığ MHDH between 01.01.2019-31.12.2019 and 01.01.2020-31.12.2020 were included in the study. Sociodemographic and clinical data of the subjects, such as age, gender, and diagnosis, were recorded.

**Results:** The number of subjects admitted between 01.01.2019-31.12.2020 was 108,367 (71,280 in 2019; 37,087 in 2020). The total (n=108,367) mean age was 44.79±17.62 years (45.18±17.78 years in 2019, 44.03±17.28 years in 2020). In total (n=108,367), there was a significant difference between the ages of male and female subjects (p<0.001) and 75.1% of the subjects resided in Elazığ. In total (n=108,367), 85.9% of the subjects were admitted due to examination, 4.6% due to a single physician report, 5.1% due to medical board report, and 4.4% due to probation. Overall, there were differences between genders in terms of admission reason, diagnosis, hospitalization after outpatient examination, and health insurance (p<0.001). In total (n=108,367), the most common diagnoses were anxiety disorders spectrum (21.6%), schizophrenia spectrum disorders (19.4%), depression spectrum disorders (15.6%), and bipolar spectrum disorders (12.5%). Forensic health insurance, residence, and diagnosis in hospitalized subjects were significantly different from those who were not hospitalized (p<0.001). In total (n=108,367), the rates of bipolar spectrum disorder and schizophrenia spectrum disorder were higher in those residing outside Elazığ, while anxiety disorder spectrum and depression spectrum disorder were higher in those residing in Elazığ (p<0.001).

**Conclusion:** The COVID-19 outbreak was associated with a significant decrease in the number of subjects admitted to the outpatient psychiatric clinic of an MHDH. In addition, there were various differences associated with COVID-19 in terms of health insurance, admission reason, diagnosis, and hospitalization between the subjects admitted in 2019 and 2020.

**Keywords:** Outpatient; forensic case; hospitalization; probation; COVID-19; pandemic

### Öz

**Amaç:** Bu çalışmada bir ruh sağlığı ve hastalıkları hastanesinin (RSHH) psikiyatri polikliniğine başvuran olguların sosyodemografik ve klinik değişkenlerinin incelenmesi ve karşılaştırılması amaçlanmıştır.

**Gereç ve Yöntem:** Elazığ RSHH'nin ayaktan psikiyatri polikliniklerine 01.01.2019-31.12.2019 ve 01.01.2020-31.12.2020 tarihleri arasında başvurmuş bütün olgular çalışmaya dâhil edilmiştir. Olgulara ait yaş, cinsiyet ve tanı gibi sosyodemografik ve klinik veriler kaydedilmiştir.

**Bulgular:** 01.01.2019-31.12.2020 arasında başvuran olgu sayısı 108.367 (2019'da 71.280, 2020'de 37.087) idi. Totalde (n=108.367) ortalama yaş 44.79±17.62 yıldır (2019'da 45.18±17.78 yıl, 2020'de 44.03±17.28 yıl). Totalde (n=108.367) kadın ve erkek olguların yaşları arasında anlamlı farklılık vardı (p<0.001) ve olguların %75.1'i Elazığ'da ikamet ediyordu. Totalde (n=108.367) olguların %85.9'u muayene, %4.6'sı tek hekim raporu, %5.1'i sağlık kurulu raporu ve %4.4'ü denetimli serbestlik nedeniyle başvurmuştu. Totalde (n=108.367) cinsiyetler arasında başvuru nedeni, tanı, ayaktan muayene sonrası yatış ve sağlık güvencesi açısından farklılık saptandı (p<0.001). Totalde (n=108.367), en sık başvuru tanıları sırasıyla anksiyete bozuklukları spektrumu (%21.6), şizofreni spektrum bozuklukları (%19.4), depresyon spektrum bozuklukları (%15.6) ve bipolar spektrum bozukluklarıydı (%12.5). Yatırılan olgularda adli giriş oranı, ikamet ve tanı yatırılmayanlardan anlamlı olarak farklıydı (p<0.001). Totalde, Elazığ dışında ikamet edenlerde bipolar spektrum bozukluğu ve şizofreni spektrum bozukluğu oranı daha yüksek iken Elazığ'da ikamet edenlerde anksiyete bozukluğu spektrumu ve depresyon spektrum bozukluğu daha yüksekti (p<0.001).

**Sonuç:** COVID-19 salgını bir RSHH'nin ayaktan psikiyatri kliniğine başvuran olguların sayısının belirgin olarak azalması ile ilgili bulunmuştur. Ayrıca 2019 ve 2020 yıllarında başvuran olgular arasında sağlık güvencesi, başvuru nedeni, tanı ve hastaneye yatış açısından da COVID-19 ile ilişkilendirilen çeşitli farklılıklar görülmüştür

**Anahtar Kelimeler:** Ayaktan hasta; adli olgu; yatış; denetim; COVID-19; pandemi

## INTRODUCTION

Coronavirus disease (COVID-19) outbreak is an infectious disease that was first learned about on December 31, 2019, after a series of cases called viral pneumonia were reported in Wuhan, China (1). The first case in Turkey was reported on March, 2020, and the number of daily cases has gradually increased. After the second half of 2020, the effects of the COVID-19 outbreak were experienced severely (2). The COVID-19 outbreak emerged as a health problem, but subsequently deeply affected social and economic life and still continues to do so (1).

Societal functions have come to a halt worldwide, due to the airborne transmission of respiratory illnesses. One strategy to curb the spread of COVID-19 has been to minimize contamination. Consequently, policies aimed at this goal have profoundly impacted various facets of social and economic life. Many professions, along with educational and training activities, have transitioned to remote formats. This arrangement has persisted in many occupations outside the healthcare system in spite of a number of drawbacks. Conversely, as healthcare facilities, particularly hospitals, have become more densely populated worldwide, there are instances where this has led to systemic congestion. It is important to continue monitoring and treating illnesses other than COVID-19, but prevention is also a goal (3, 4).

Numerous studies have examined the impact of COVID-19 outbreak on the mental health of the general public (5-7). However, its impact on mental health and diseases hospitals' (MHDH) psychiatric outpatient data, has not been sufficiently studied. The purpose of this study was to assess and compare the subjects who were admitted to a MHDH's psychiatry outpatient clinic in 2019 and 2020. According to our hypothesis, there were fewer outpatients overall in the Elazığ MHDH psychiatry outpatient clinic in 2020.

## MATERIALS AND METHODS

### *Study Design*

This study includes all subjects who applied to Elazığ MHDH outpatient psychiatric clinics between 01.01.2019-31.12.2019 and 01.01.2020-31.12.2020. Elazığ MHDH is one of the largest psychiatric branch hospitals in Türkiye, with outpatient and inpatient clinics, providing mental health services to 18 different provinces in the Eastern Anatolia, Black Sea and South-Eastern Anatolia regions. Elazığ MHDH has outpatient and inpatient adult psychiatric clinics, outpatient and inpatient adult alcohol and substance addiction clinic, outpatient leprosy clinic, outpatient probation clinic related to substance use, outpatient child and adolescent psychiatry clinic, inpatient child and

adolescent psychiatry alcohol and substance addiction clinic, internal medicine outpatient clinic, neurology outpatient clinic.

All information presented in the study was obtained retrospectively from the hospital registry system. Ethics committee approval was received from Firat University (Date: 22/04/2021; No: 2021/06-17).

### *Inclusion and Exclusion Criteria*

In this study, subjects admitted to outpatient clinics of adult psychiatrists were examined. Psychiatric outpatient clinic and probation outpatient clinic were the clinics examined for this purpose. Data from all inpatients, outpatient and inpatient alcohol and substance addiction clinics, leprosy clinic, child and adolescent psychiatry outpatient and inpatient clinics, internal medicine outpatient clinic and neurology outpatient clinic were not included in the study. There was no age and gender limit in the study.

### *Psychiatric Diagnosis Procedure*

The medical diagnoses included in the study were written according to the International Classification of Diseases 10<sup>th</sup> Revision (8). Subject diagnoses were grouped under some headings. The diagnosis groups determined in this study were as follows: Anxiety disorders spectrum, schizophrenia spectrum disorders, depression spectrum disorders, bipolar spectrum disorders, general psychiatric examination. Alcohol and substance use disorders, general medical conditions, personality disorders, obsessive-compulsive disorder spectrum, post-traumatic stress disorder spectrum, conversion disorder spectrum, somatization disorder spectrum, eating disorder spectrum, sleep disorder spectrum, sexual function disorder spectrum, intellectual disability, neurodevelopmental disorders, attention-deficit/hyperactivity disorder, extrapyramidal system related disorders, epilepsy spectrum, dementia spectrum, organic psychiatric disorders, impulse control disorders, alcohol and illegal substance screening, phobic disorders, registered but not examined.

### *Statistical Analysis*

Descriptive statistics and continuous variables are presented as mean±standard deviation, and categorical variables are presented as frequency and percentage. Chi-Square test was used to compare categorical data, and independent samples t-test was used to compare numerical data. The statistical significance level was determined as 0.05 and below.

## RESULTS

The total number of subjects who were admitted to Elazığ MHDH psychiatric outpatient clinics in 2019-2020 was

108,367. The number of subjects admitted in 2019 was 71,280 (42,780 males (60.0%), 28,500 females (40.0%)), the number of subjects admitted in 2020 was 37,087 (21,916 males (59.1%), 15,171 females (%) 40.9)).

In total (n=108,367), the forensic health insurance was 10.6% in subjects hospitalized after the examination, while this was 3.1% in those who were not hospitalized (p<0.001). In total (n=108,367), the residing outside Elazığ was 51.6% in the subjects hospitalized after the examination, while this was 23.9% in those who were not hospitalized (p<0.001). In total (n=108,367), bipolar spectrum disorders were found to be 15.6%, schizophrenia spectrum disorders 25.4%, anxiety disorder spectrum 11.0%, alcohol and substance use disorders 20.4%, and depression spectrum disorders 9.8% in the hospitalized subjects after examination, while bipolar spectrum disorders were found to be 12.4%, schizophrenia spectrum disorders 19.1%, anxiety disorder spectrum 22.0%, alcohol and substance use disorders 7.5%, depression spectrum disorders 15.8% (p<0.001) in those who were not hospitalized.

The 3,414 (94.0%) of the forensic admissions were male. Of the forensic admissions (n=3,631), 22.7% came to the medical board and 55.9% came to the probation unit. The 43% of the prisoner/convict subjects (n=7,661) came for a single physician report, medical board report, or probation unit. Almost all (95.8%) of the subjects (n=5,694) who paid an admission fee came for a single physician report or medical board report. In total (n=108,367), 42% of the forensic admissions, 22.8% of the SSI admissions, 51.9% of the prisoner/convict subjects, and 13.0% of the subjects who paid the admission fee resided outside ELAZIĞ. In total (n=108,367), 30.3% of the diagnoses in forensic subjects were general psychiatric examination and 58.5% were alcohol and substance use disorders. In total (n=108,367), 3.0% of the subjects with SSI admission were examined for general psychiatric examination, 14.6% for bipolar spectrum disorders, 22.6% for schizophrenia spectrum disorders, 24.4% for anxiety disorders, 6.8% for alcohol and substance use disorders, and 18.2% were depression spectrum disorders. In total (n=108,367), 19.9% of the prisoner/convict subjects were admitted without a psychiatric diagnosis therefore classified as general psychiatric examination, 15.6% as anxiety disorders, 19.7% as post-traumatic stress disorder, 8.3% as sleep disorders, and 17.8% as personality disorders. In total (n=108,367), 88.3% of the subjects who paid an admission fee were for general psychiatric examination.

**Table 1.** Comparison of Elazığ MHDH Psychiatry Outpatient Clinic Data of 2019 and 2020

Parameters	2019 mean±SD & n (%)	2020 mean±SD & n (%)	P	
Age (years)	45.18±17.78	44.03±17.28	<0.001**	
Gender	Male	42780 (60.0%)	21916 (59.1%)	0.003*
	Female	28500 (40.0%)	15171 (40.9%)	
Nationality	TC	71100 (99.7%)	36953 (99.6%)	0.003*
	Syria	117 (0.2%)	96 (0.3%)	
	Others	63 (0.1%)	38 (0.1%)	
Health insurance	SSISGK	59462 (84.1%)	30491 (83.1%)	<0.001**
	Forensic	2164 (3.1%)	1467 (4.0%)	
	YUPASS	123 (0.2%)	48 (0.1%)	
	Refugees	104 (0.1%)	77 (0.2%)	
	Prisoners-convicts	5225(7.4%)	2436 (6.6%)	
	Patient paid	3543 (5.0%)	2151 (5.9%)	
	TOBB	68 (0.1%)	39 (0.1%)	
Residence	Elazığ	53436 (75.0%)	27973 (75.4%)	0.097
	Outside Elazığ	17844 (25.0%)	9114 (24.6%)	
Admission month	January	2786 (3.9%)	4978 (13.4%)	<0.001**
	February	1003 (1.4%)	6629 (17.9%)	
	March	6175 (8.7%)	4470 (12.1%)	
	April	6462 (9.1%)	2719 (7.3%)	
	May	5909 (8.3%)	2203 (5.9%)	
	June	4454 (6.2%)	4037 (10.9%)	
	July	7426 (10.4%)	3670 (9.9%)	
	August	8298 (11.6%)	314 (0.8%)	
	September	9322 (13.1%)	71 (0.2%)	
	October	9918 (13.9%)	104 (0.3%)	
	November	6370 (8.9%)	2826 (7.6%)	
	December	3157 (4.4%)	5066 (13.7%)	
Admission reason	Examination	60999 (85.6%)	32089 (86.5%)	<0.001**
	Single physician report	3842 (5.4%)	1171 (3.2%)	
	Medical board report	3445 (4.8%)	2062 (5.6%)	
	Probation	2994 (4.2%)	1765 (4.8%)	
Hospitalization after examination	2967 (4.16%)	1001 (2.69%)	<0.001**	

\*\*p<0.001, \*p<0.05; Independent-Samples T-Test and Chi-square test were used in statistical analysis; Abbreviations: MHDH=Mental Health and Diseases Hospital, SD=Standard Deviation, COVID-19=Coronavirus Disease 2019, TC=Turkish Citizen, SSI/SGK=Social Security Institution/Sosyal Güvenlik Kurumu (in Turkish), YUPASS=Foreign Provision Activation Health System/Yurt dışı Provizyon Aktivasyon Sağlık Sistemi (in Turkish), TOBB=Turkish Chambers, Stock Exchanges And Union Personnel Insurance And Pension Fund Foundation/Türkiye Odalar, Borsalar ve Birlik Personeli Sigorta ve Emekli Sandığı (in Turkish)

**Table 2.** Comparison of Elazığ MHDH Psychiatry Outpatient Data According to Gender

Parameters		Male (n=64,696) mean±SD & n (%)	Female (n=43,670) mean±SD & n (%)	p
Age (years)		42.75±16.90	47.82±18.21	<0.001**
Nationality	TC	64457 (99.7%)	43596 (99.7%)	<0.001**
	Syria	157 (0.2%)	56 (0.2%)	
	Others	82 (0.1%)	19 (0.1%)	
Health insurance	SSI/SGK	49425 (77.1%)	40528 (93.6%)	<0.001**
	Forensic	3414 (5.4%)	217 (0.5%)	
	YUPASS	96 (0.1%)	75 (0.2%)	
	Refugees	147 (0.2%)	34 (0.1%)	
	Prisoners-convicts	7068 (11.0%)	593 (1.4%)	
	Patient paid	3906 (6.1%)	1788 (4.1%)	
	TOBB	28 (0.1%)	79 (0.1%)	
Residence	ELAZIĞ	46028 (71.1%)	35381 (81.0%)	<0.001**
	Outside ELAZIĞ	18668 (28.9%)	8290 (19.0%)	
Admission month	January	4636 (7.2%)	3128 (7.2%)	0.002*
	February	4484 (6.9%)	3148 (7.2%)	
	March	6381 (9.9%)	4264 (9.8%)	
	April	5616 (8.7%)	3565 (8.2%)	
	May	4917 (7.6%)	3195 (7.3%)	
	June	4968 (7.7%)	3523 (8.1%)	
	July	6635 (10.3%)	4461 (10.2%)	
	August	5229 (8.1%)	3383 (7.7%)	
	September	5625 (8.7%)	3768 (8.6%)	
	October	5874 (9.1%)	4148 (9.5%)	
	November	5473 (8.4%)	3723 (8.4%)	
	December	4858 (7.4%)	3365 (7.6%)	
Admission reason	Examination	51816 (80.1%)	41272 (94.5%)	<0.001**
	Single physician report	4467 (6.9%)	546 (1.3%)	
	Medical board report	3726 (5.8%)	1781 (4.1%)	
	Probation	4687 (7.2%)	72 (0.2%)	
Hospitalization after examination		2946 (4.6%)	1022 (2.3%)	<0.001**

\*\*p<0.001, \*p<0.05; Independent-Samples T-Test and Chi-square test were used in statistical analysis; Abbreviations: MHDH=Mental Health and Diseases Hospital, SD=Standard Deviation, TC=Turkish Citizen, SSI/SGK=Social Security Institution/Sosyal Güvenlik Kurumu (in Turkish), YUPASS=Foreign Provision Activation Health System/Yurt dışı Provizyon Aktivasyon Sağlık Sistemi (in Turkish), TOBB=Turkish Chambers, Stock Exchanges And Union Personnel Insurance And Pension Fund Foundation/Türkiye Odalar, Borsalar ve Birlik Personeli Sigorta ve Emekli Sandığı (in Turkish)

**Table 3.** Comparison of Male Elazığ MHDH Psychiatry Outpatient Clinic Data of 2019 and 2020

Parameters		2019 mean±SD & n (%)	2020 mean±SD & n (%)	p
Age (years)		43.19±17.03	41.87±16.62	<0.001**
Nationality	TC	42649 (99.7%)	21808 (99.5%)	<0.001**
	Syria	78 (0.2%)	79 (0.4%)	
	Others	53 (0.1%)	29 (0.1%)	
Health insurance	SSI/SGK	32950 (77.7%)	16475 (76.0%)	<0.001**
	Forensic	2067 (4.9%)	1347 (6.2%)	
	YUPASS	72 (0.2%)	24 (0.1%)	
	Refugees	78 (0.2%)	69 (0.3%)	
	Prisoners-convicts	4823 (11.4%)	2245 (10.4%)	
	Patient paid	2406 (5.7%)	1500 (6.9%)	
	TOBB	21 (0.0%)	7 (0.0%)	
Residence	ELAZIĞ	30483 (71.3%)	15545 (70.9%)	0.097
	Outside ELAZIĞ	12297 (28.7%)	6371 (29.1%)	
Admission reason	Examination	34067 (79.6%)	17749 (81.0%)	<0.001**
	Single physician report	3443 (8.0%)	1024 (4.7%)	
	Medical board report	2322 (5.4%)	1404 (6.4%)	
	Probation	2948 (6.9%)	1739 (7.9%)	
Hospitalization after examination		2180 (73.99%)	766 (26.01%)	<0.001**

\*\*p<0.001, \*p<0.05; Independent-Samples T-Test and Chi-square test were used in statistical analysis; Abbreviations: MHDH=Mental Health and Diseases Hospital, SD=Standard Deviation, TC=Turkish Citizen, SSI/SGK=Social Security Institution/Sosyal Güvenlik Kurumu (in Turkish), YUPASS=Foreign Provision Activation Health System/Yurt dışı Provizyon Aktivasyon Sağlık Sistemi (in Turkish), TOBB=Turkish Chambers, Stock Exchanges And Union Personnel Insurance And Pension Fund Foundation/Türkiye Odalar, Borsalar ve Birlik Personeli Sigorta ve Emekli Sandığı (in Turkish)

General psychiatric examination diagnosis (n=10,393) was 3.1% in those who applied for examination, 52.8% in a single physician report, and 87.7% in a medical board report. The diagnosis of all those (100.0%) who applied for probation (n=4,759) was alcohol and substance use disorder. The 89.1% of those who applied for a single physician report (n=5,013), 67.7% of those who applied for a medical board report, 98.5% of those who applied for probation, and 55.7% of those who applied for examination were males.

In total (n=108,367), among those residing outside Elazığ, the rate of bipolar spectrum disorder was 15.1%, schizophrenia spectrum disorder was 22.9%, anxiety disorder spectrum was 11.9%, depression spectrum disorder was 9.7%, and alcohol and substance use disorder was 14.6%. In total (n=108,367), among those residing in Elazığ, the rate of bipolar spectrum disorder was 11.6%, schizophrenia spectrum disorder was 18.2%, anxiety spectrum disorder was 24.8%, depression spectrum disorder was 17.6%, and alcohol and substance use disorder was 5.8%. There was a significant difference in terms of diagnoses according to place of residence (p<0.001). In total (n=108,367), the male rate was 69.2% among those residing outside Elazığ, while it was 56.5% among those residing in Elazığ (p<0.001).

**Table 4.** Comparison of Elazığ MHDH Diagnosis Data of 2019 and 2020 (n=108367)

Parameters	2019 n (%)	2020 n (%)	p
Anxiety disorder spectrum	14897 (20.9%)	8499 (22.9%)	<0.001**
Schizophrenia spectrum disorders	14748 (20.7%)	6230 (16.8%)	
Depression spectrum disorders	11765 (16.5%)	5170 (13.9%)	
Bipolar spectrum disorders	9020 (12.7%)	4539 (12.2%)	
General psychiatric examination	6317 (8.9%)	4076 (11.0%)	
Alcohol and substance use disorders	5382 (7.6%)	3235 (8.7%)	
General medical conditions	1391 (2.0%)	924 (2.5%)	
Personality disorders	1282 (2%)	767 (2%)	
Obsessive-compulsive disorder spectrum	1199 (1.7%)	716 (1.9%)	
Post-traumatic stress disorder spectrum	1644 (2.3%)	1087 (2.9%)	
Conversion disorder spectrum	196 (0.3%)	90 (0.2%)	
Somatization disorder spectrum	161 (0.2%)	64 (0.2%)	
Eating disorder spectrum	5 (0.0%)	0 (0.0%)	
Sleep disorder spectrum	529 (0.7%)	403 (1.1%)	
Sexual function disorder spectrum	5 (0.0%)	3 (0.0%)	
Intellectual disability	585 (1.8%)	305 (2.1%)	
Neurodevelopmental disorders	22 (0.0%)	14 (0.0%)	
Attention-deficit/hyperactivity disorder	420 (0.6%)	266 (0.7%)	
Extrapyramidal system related disorders	30 (0.0%)	19 (0.1%)	
Epilepsy spectrum	113 (0.2%)	51 (0.1%)	
Dementia spectrum	569 (0.8%)	206 (0.6%)	
Organic psychiatric disorders	38 (0.1%)	39 (0.1%)	
Impulse control disorders	10 (0.0%)	7 (0.0%)	
Alcohol and illegal substance screening	465 (0.7%)	10 (0.0%)	
Phobic disorders	70 (0.1%)	46 (0.1%)	
Registered but not examined	417 (0.6%)	321 (0.9%)	

\*\*p<0.001; Chi-square test was used in statistical analysis; Abbreviations: MHDH=Mental Health and Diseases Hospital

**Table 5.** Comparison of Elazığ MHDH Diagnosis Data by Gender (n=108367)

Parameters	Male n (%)	Female n (%)	p
Anxiety disorder spectrum	10211 (15.8%)	13185 (30.2%)	<0.001**
Schizophrenia spectrum disorders	14419 (22.3%)	6559 (15.0%)	
Depression spectrum disorders	6863 (10.6%)	10072 (23.1%)	
Bipolar spectrum disorders	7878 (12.2%)	5681 (13.0%)	
General psychiatric examination	7497 (11.6%)	2896 (6.6%)	
Alcohol and substance use disorders	460 (0.7%)	15 (0.0%)	
General medical conditions	1280 (2.0%)	1035 (2.4%)	
Personality disorders	1928 (3.0%)	121 (0.3%)	
Obsessive-compulsive disorder spectrum	748 (1.2%)	1167 (2.7%)	
Post-traumatic stress disorder spectrum	1934 (3.0%)	797 (1.8%)	
Conversion disorder spectrum	68 (0.1%)	218 (0.5%)	
Somatization disorder spectrum	79 (0.1%)	146 (0.3%)	
Eating disorder spectrum	0 (0.0%)	5 (0.0%)	
Sleep disorder spectrum	772 (1.2%)	160 (0.4%)	
Sexual function disorder spectrum	6 (0.0%)	2 (0.0%)	
Intellectual disability	583 (0.9%)	307 (0.7%)	
Neurodevelopmental disorders	27 (0.0%)	9 (0.0%)	
Attention-deficit/hyperactivity disorder	408 (0.6%)	278 (0.6%)	
Extrapyramidal system related disorders	26 (0.0)	23 (0.1%)	
Epilepsy spectrum	108 (0.2%)	56 (0.1%)	
Dementia spectrum	373 (0.6%)	402 (0.9%)	
Organic psychiatric disorders	56 (0.1%)	21 (0.0%)	
Impulse control disorders	12 (0.0%)	5 (0.0%)	
Alcohol and illegal substance screening	8472 (13.1%)	145 (0.3%)	
Phobic disorders	72 (0.1%)	44 (0.1%)	
Registered but not examined	416 (0.6%)	322 (0.7%)	

\*\*p<0.001; Chi-square test was used in statistical analysis; Abbreviations: MHDH=Mental Health and Diseases Hospital

In total (n=108,367), among those residing outside Elazığ, the rate of bipolar spectrum disorder was 15.1%, schizophrenia spectrum disorder was 22.9%, anxiety disorder spectrum was 11.9%, depression spectrum disorder was 9.7%, and alcohol and substance use disorder was 14.6%. In total (n=108,367), among those residing in Elazığ, the rate of bipolar spectrum disorder was 11.6%, schizophrenia spectrum disorder was 18.2%, anxiety spectrum disorder was 24.8%, depression spectrum disorder was 17.6%, and alcohol and substance use disorder was 5.8%. There was a significant difference in terms of diagnoses according to place of residence (p<0.001). In total (n=108,367), the male rate was 69.2% among those residing outside Elazığ, while it was 56.5% among those residing in Elazığ (p<0.001).

## DISCUSSION

The COVID-19 outbreak has severely affected both the general population and individuals with or at risk for psychiatric disorders who are more vulnerable to anxiety. In the general population, anxiety disorder, panic disorder, disease phobia, obsessive-compulsive disorder and post-traumatic stress disorder are the psychiatric conditions most commonly associated with COVID-19 outbreak. COVID-19 outbreak may also trigger the emergence of more serious psychiatric disorders such as schizophrenia and bipolar disorder in the general population. On the other hand, COVID-19 outbreak may trigger attacks in individuals who already have one or more psychiatric disorders and may lead to exacerbation of existing symptoms. However, this information that psychiatric disorders will increase during the COVID-19 outbreak period may lead to staying away from healthcare institutions due to fear of COVID-19 contamination. People may choose to remain untreated, torn between psychiatric symptoms and fear of contracting COVID-19. Regardless, admissions to hospitals continued during the

COVID-19 period. Psychiatry branch hospitals continued to serve both outpatients and inpatients during this period. The fact that the outpatient data of these hospitals before and after COVID-19 outbreak was not sufficiently examined enabled this study to be carried out.

One of the first and most important findings of present study is that the number of subjects applying to Elazığ MHDH decreased by half in the 2020. Many studies have shown that psychiatric admissions decreased after COVID-19 outbreak. Seo et al. (9) examined psychiatric subjects admitted to a tertiary hospital in Korea between 01.10.2019-31.12.2019 and 01.03.2020-31.05.2020 and showed that the number of subjects decreased by 13.76% after COVID-19 outbreak. Savilahti et al. (10) reported that the total number of adolescent psychiatric admissions decreased in the spring of 2020. Many studies have shown that admissions to healthcare institutions around the world have decreased significantly after the second half of 2020 (7). In this present study, it was reported that the number of admissions in August, September and October 2020 decreased significantly. One of the most important reasons for this decrease is that curfews were strictly implemented during this period (11).

The fact that Elazığ MHDH has a medical board is also reflected in the findings of the study. This is the main reason why the rate of forensic health insurance admissions, prisoner/convict admissions and paid admissions is high in the study. The rates of probation, single physician report, medical board report and prisoner/convict admissions were higher in male subjects. Single physician reports are known to include shotgun and driver's license examinations. Since Elazığ MHDH is a psychiatric branch hospital serving 18 different provinces, the number of subjects whose place of residence is outside Elazığ is relatively high. The reason why the proportion of males living outside Elazığ is higher is that males are in the majority in forensic admissions, probation and prisoner/convict admissions. Proportion of males has found higher in prisoner/convicts and forensic subjects which is in line with the literature (12).

When our study findings were examined in terms of diagnoses, it was seen that the anxiety disorder spectrum was the most common reason for admission to the psychiatric outpatient clinic. In the study conducted by Tümkaya et al. (13) by examining 2002 data at the psychiatry outpatient clinic of Pamukkale University Faculty of Medicine, it was reported that the most common diagnosis was mood disorders with a rate of 40.9% and anxiety disorders with a rate of 38.5%. However, in this study, bipolar spectrum disorders and depression spectrum disorders were examined together according to the DSM-IV-TR. When these two disorder spectrums are separated, it is seen that the most common reason for admission is the anxiety disorder spectrum. In the study conducted by Güleç-Öyekçin et al. (14) by examining 2006 data at the psychiatry outpatient clinic of

Erzincan State Hospital, it was reported that the most common diagnosis was mood disorders with 28.1% and anxiety disorders with 26.9%. Since DSM-IV-TR diagnostic criteria were taken into account in this study, bipolar and depression spectrum disorders were evaluated together. In other words, it can be seen that the anxiety disorder spectrum is the most common reason for admission in this study. In this study, the second most common presenting diagnosis was determined to be schizophrenia spectrum disorder. Since the studies conducted by Tümkaya et al. (13), Güleç-Öyekçin et al. (14), Yağcı et al. (15) and Hacımusalı et al. (16) were conducted in general hospital psychiatric outpatient clinics, schizophrenia and psychotic disorders were detected less frequently.

When the data of this study were evaluated in terms of gender, it was seen that there were aspects that differed from the literature. While the rate of females was found to be higher in studies conducted in psychiatric outpatient clinics of general hospitals (13-16), the rate of males was found to be higher in this study. In this study, the higher number of forensic subjects, prisoner/convicts, schizophrenia and bipolar spectrum disorder caused the high proportion of males in our study. In this study, the hospitalization rate was reported to be higher in forensic subjects. When the literature is examined, it is thought that the possible reason for this is involuntary hospitalization decisions (17). The post-examination hospitalization rate was higher in patients with schizophrenia spectrum disorder, bipolar spectrum disorder, and alcohol and substance use disorders. The greater need for hospitalization in MHDH for patients with severe mental disorders is reflected in their hospitalization decisions. On the other hand, involuntary hospitalization decisions are most often made in subjects of alcohol and substance use disorders and psychotic disorders (17).

After the COVID-19 outbreak, strict rules have been implemented all over the world. The health system was one of the systems most seriously affected by these rules. In order to prevent or reduce the spread of COVID-19, the inpatient capacities of hospitals have been reduced (18). In Elazığ MHDH, inpatient capacity was halved during the COVID-19 period. Due to the reduced capacity, hospitalization criteria were also changed and the profit and loss ratio was taken into account (17). This situation is also reflected in the data of this presented study. While the hospitalization rate after outpatient clinic examination in 2019 was 4.16%, it decreased to 2.69% in 2020. The rate of forensic admissions has increased after COVID-19 outbreak due to the lack of restrictions in the evaluation of forensic cases.

The diagnostic distributions of this study also provide important findings regarding the COVID-19 outbreak. While admissions for anxiety disorder spectrum increased after COVID-19 outbreak/the year 2020, admissions for schizophrenia and depression spectrum disorders decreased. Considering the psychological processes caused by COVID-19 outbreak, the interpretation of the findings has become easier. The fact that the

COVID-19 outbreak caused great loss of life all over the world in a short time, and that scientists and health authorities do not yet have sufficient information about the modes of transmission and treatment of the disease, has strengthened people's sense of uncertainty about the disease. With the increase in the number of COVID-19 cases, the fear of death and disease has emerged and anxiety levels have increased in all people. This psychological pattern is reflected in hospital admission statistics. Finally, when the diagnosis distributions are examined, it is seen that although the data of an adult psychiatry outpatient clinic is examined, non-psychiatric diagnoses and admissions under the age of 18 are also included. One reason for this is that forensic subjects under the age of 18 are also evaluated at the Elazığ MHDH medical board. In addition, since psychiatrists are also general practitioners, it can be thought that they also address patients' general medical problems.

#### *Study Limitations and Strengths*

Its retrospective nature is one of the most important limitations of this study. Detailed characteristics of the subjects' diagnoses could not be obtained. There is no information about additional psychiatric disorders and additional medical diseases. The strongest aspect of the current study is that it addresses an important issue regarding the COVID-19 process.

#### **CONCLUSION**

This study is important in that it addresses all psychiatric outpatient clinic admissions from a very large group of subjects (n=108,367) who admitted to a psychiatric branch hospital in 2019 and 2020. Accordingly, the COVID-19 outbreak is primarily related to the decrease in hospital admissions. In addition, various changes have emerged in the admission diagnoses and the distribution of diagnoses according to sociodemographic and clinical variables. Differences were found between genders in terms of reason for admission, diagnosis, hospitalization after outpatient examination, and health insurance. The rate of forensic admission, residence and diagnosis in hospitalized subjects were significantly different from those in non-hospitalized subjects. Investigating the findings of the study in future studies will facilitate discussion of the findings.

#### *Declarations*

Ethics Committee Approval: Ethics committee approval was obtained from the Non-Invasive Ethics Committee of Firat University (Date: 22/04/2021; No: 2021/06-17). This study was conducted according to the principles of the Declaration of Helsinki.

Authorship Contributions: Concept: M.H.O., Design: M.H.O., N.K., Data Collection or Processing: M.H.O., O.K., D.O., Analysis or Interpretation: M.H.O., N.K., O.K., D.O., And

Literature Search: M.H.O., N.K., O.K., D.O., Writing: M.H.O., N.K., O.K., and D.O. All authors approved the final version of the manuscript.

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