

ORIGINAL ARTICLE

Emergency Department Admissions of Alcohol and Substance Use Disorders: A Two-Year Comparison from a University Hospital in Türkiye

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Main Points

- The proportion of emergency department consultations related to alcohol and substance use disorders significantly increased from 2018 to 2023.
- Alcohol use disorder prevalence more than doubled, especially among female patients, where it tripled, indicating a narrowing gender gap.
- There was a rise in comorbid alcohol use disorder and substance use disorder, with most of these patients presenting with polysubstance use disorder.
- Suicide attempts and violent behavior remained the leading causes of psychiatric consultations among alcohol and substance use disorder patients, highlighting the need for crisis-oriented emergency interventions.
- The increase in alcohol and substance use disorder – related hospitalizations and the frequent need for parenteral sedation underscore the growing severity of these cases and the necessity of integrated, gender-sensitive intervention strategies in emergency department settings.

Abstract

Alcohol and substance use disorders present a growing public health challenge and are a significant cause of emergency department consultations. This study aims to compare the prevalence and clinical features of alcohol and substance use disorders – related emergency department admissions in 2 distinct years, 2018 (pre-pandemic) and 2023 (post-pandemic), at Ege University Medical Faculty Hospital in Türkiye. A retrospective cross-sectional analysis was conducted using psychiatric consultation data from the emergency department in 2018 and 2023. A total of 3189 adult patients who received psychiatric evaluation were included. Demographic and clinical data were extracted from electronic health records. Alcohol and substance use disorder diagnoses were made based on the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) criteria. Alcohol and substance use disorders – related emergency department consultations increased from 19.8% in 2018 to 28.0% in 2023 ($p < .001$). The prevalence of substance use disorder rose from 14.5% to 17.7% ($p = .014$), while alcohol use disorder nearly doubled from 7.4% to 16.1% ($p < .001$). Among females, substance use disorder increased from 5.8% to 9.8% ($p = .003$), and alcohol use disorder tripled from 2.6% to 8.7% ($p < .001$). Comorbid alcohol use disorder and substance use disorder also showed a significant rise (2.1% – 5.7%, $p < .001$). Alcohol use disorder – related hospitalizations increased from 4.5% to 12.6% ($p = .01$). Suicide attempts and violent behavior remained leading reasons for psychiatric consultation. The findings reveal a significant rise in alcohol and substance use disorders – related emergency department admissions, particularly among females. The increase in psychiatric crises such as violence and suicide attempts highlights the need for gender-sensitive prevention strategies and better training for emergency department staff to manage alcohol and substance use disorder – related emergencies.

Keywords: Addiction, alcohol use disorder, COVID-19, emergency department, substance use disorder

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Introduction

Alcohol and substance use disorders (ASUDs) are a major public health concern, contributing to increased morbidity, mortality, and healthcare costs (World Health Organization (WHO), 2018). Both alcohol use disorder (AUD) and substance use disorder (SUD), which include the use of illicit drugs and misused prescription medications, place a significant burden on healthcare systems, particularly emergency departments (EDs) (White et al., 2018).

Emergency departments often serve as the first point of contact for individuals experiencing the acute effects of ASUD, including intoxication, withdrawal, psychiatric crises, and complications such as trauma or overdose. Recent studies have shown substantial increases in ASUD-related ED visits worldwide (Armoon et al., 2021). For example, in the United States, between 2006 and 2014, alcohol-related ED visits rose by 47%, with the rate of visits for acute alcohol consumption rising by 40% and those related to chronic alcohol use increasing by 58% (Armoon et al., 2021). Additionally, the total cost of alcohol-related emergency care increased from \$4.1 billion to \$15.3 billion (Armoon et al., 2021). Substance use disorder also contributes heavily to emergency service use, particularly in cases involving polysubstance use (Peden et al., 2000). These visits are often complex, requiring coordination of psychiatric, medical, and addiction care (Beckerleg & Hudgins, 2022; Peden et al., 2000). A study conducted in the United States found that substance use – related visits increased by 45%, accounting for 2.93% of total ED visits in 2013 and 4.25% in 2018 (Venkatesh et al., 2022). Moreover, the COVID-19 pandemic significantly altered ED visits due to ASUD. Overdose-related emergency department presentations and the number of overdose deaths increased during the COVID-19 pandemic (Shreffler et al., 2021). Also, despite the overall decrease in ED visits during the COVID-19 pandemic, the proportion of visits related to ASUD increased (Myran et al., 2021; Venkatesh et al., 2022).

Similar to many other countries, Türkiye has experienced these global trends. National reports and studies have highlighted the increasing prevalence of alcohol and substance use in the general population (Ulaş et al., 2017; Ünübol & Hızlı Sayar, 2021). In 2019, alcohol use was reported as 22.1%, and substance use was reported as 3.1% in Türkiye (Republic of Turkey Ministry of Interior Turkish National Police Counter Narcotics Department, 2019). Additionally, in 2023, male dominance was reported for substance use. There was an increase in substance-related deaths compared to 2022 (Republic of Turkey Ministry of Interior Turkish National Police Counter Narcotics Department, 2023). However, ASUD-related ED visits, their clinical characteristics, and trends in Türkiye have been insufficiently studied. To address this gap, the present study compares ASUD-related ED admissions in 2018 and 2023 at a large university hospital in Türkiye. The primary aim is to evaluate changes in the prevalence and clinical characteristics of ASUD cases before and after the pandemic. By identifying emerging patterns, this study seeks to inform clinical practice and public health strategies targeting ASUD in emergency settings.

Material and Methods

Study Design and Setting

This retrospective cross-sectional study was conducted at the ED of Ege University Medical Faculty Hospital in Türkiye. This

study was designed as a retrospective cross-sectional analysis comparing two distinct time points. Alcohol and substance use disorder – related psychiatric consultations were compared at 2 separate years: 2018 (pre-pandemic) and 2023 (post-pandemic).

Participants and Data Collection

We included all adult patients (aged 18 and above) who received a psychiatric consultation upon admission to the ED in 2018 and 2023. The total number of consultations was 1515 in 2018 and 1674 in 2023. No cases were excluded. Clinical and demographic data were extracted from electronic health records. Diagnoses of AUD and SUD were made based on the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) criteria, as documented by the evaluating psychiatrist. The years 2018 and 2023 were selected due to their data completeness and clinical comparability. Both years reflect standard operational periods unaffected by the peak disruptions of the COVID-19 pandemic. The years 2020 to 2022 were excluded due to potential confounding from pandemic-related changes in healthcare access and ED utilization patterns. The study was approved by the Ege University Ethics Committee (number 24-8T/94, approval date August 22, 2024). Informed consent was obtained from the participants.

Statistical Analysis

Statistical analyses were performed with the Statistical Package for Social Sciences (SPSS) for PC (version 25) software (IBM SPSS Corp.; Armonk, NY, USA). Categorical variables were compared using Pearson's chi-square test. For continuous variables, the Shapiro – Wilk test was used to assess normality. Normally distributed variables were expressed as mean \pm standard deviation; non-normally distributed variables were expressed as median with interquartile range (IQR) and compared using the Mann – Whitney *U* test. Binomial logistic regression models were applied to assess temporal changes in the prevalence of AUD and SUD. Separate models were constructed for male and female patients to investigate gender-specific trends. A *P*-value of $<.05$ was considered statistically significant.

Results

In 2018, 1515, and in 2023, 1674 adult patients who applied to the ED were evaluated by psychiatry. In these consultation data, 759 (50.1%) patients were female in 2018, and 840 (50.2%) were female in 2023. A total of 300 (19.8%) and 470 (28.1%) patients with ASUD received psychiatric consultation, respectively. In 2023, 96 patients were diagnosed with comorbidity of AUD and SUD. Additionally, 91 (94.8%) of these patients were diagnosed with polysubstance use disorder. The demographics and characteristics of ASUD patients in 2018 and 2023 are shown in Table 1. In 2023, among the 50 hospitalized patients with ASUD, 28.0% ($n = 14$) were admitted due to suicidal ideation or attempts, 26.0% ($n = 13$) due to violent behavior, 18.0% ($n = 9$) for acute psychotic episodes, 10.0% ($n = 5$) for substance intoxication or withdrawal, and 8.0% ($n = 4$) for alcohol withdrawal or intoxication.

The demographics and clinical characteristics of patients with ASUD admitted to the emergency department in 2018 and 2023 were compared. The total number of ASUD-related admissions increased significantly from 19.8% ($n = 300$) in 2018 to 28.0% (n

Table 1.
Demographics and Characteristics of Patients with Alcohol and Substance Use Disorders

Demographics and Characteristics		ASUD in 2018 (n = 300*)	ASUD in 2023 (n = 470**)
Age (years), mean ± SD		31.98 ± 12.17	32.44 ± 10.91
Female gender, n (%)		58 (19.3)	132 (28.1)
Substance use disorder, n (%)		220 (73.7)	297 (63.2)
Alcohol use disorder, n (%)		112 (37.3)	269 (57.2)
Co-use, n (%)		32 (10.6)	96 (20.4)
Hospitalization, n (%)		21 (7.0)	50 (10.6)
Ambulance use, n (%)		N/A	82 (17.4)
Accompanied by law enforcement, n (%)		N/A	7 (1.5)
Parenteral injection/sedation needed, n (%)		N/A	225 (47.9)
History of past psychiatric admission, n (%)		N/A	373 (79.4)
Reason for ED application, n (%)	Suicide attempt	88 (29.3)	139 (29.5)
	Violent behavior	86 (28.6)	70 (14.9)
	Suicidal thoughts	75 (25.0)	48 (10.2)
	Psychotic symptoms	18 (6.0)	48 (10.2)
	Others	33 (11.0)	165 (35.1)
Suicide attempt methods (n = 80 in 2018, n = 139 in 2023 for suicide attempts), n (%)	Drugs	33 (41.2)	59 (42.4)
	Cutting	36 (45.0)	48 (34.5)
	Jumping	6 (7.5)	11 (7.9)
	Others	5 (6.2)	21 (15.1)
Substance types (n = 220 in 2018, n = 297 in 2023), n (%)	Multiple SU	168 (76.3)	220 (74.0)
	Pregabalin	N/A	25 (8.4)
	Cannabinoid	29 (13.1%)	20 (6.7)
	Methamphetamine	N/A	18 (6.0)
	Others	2 (0.9)	14 (4.7)
Comorbid psychiatric diagnosis, besides ASUD, n (%)	BPD	9 (3.0)	84 (17.8)
	Psychotic disorders	19 (6.3)	46 (9.7)
	Depression	10 (3.3)	14 (2.9)
	Others	57 (19.0)	35 (7.4)

Note: ASUD = Alcohol and substance use disorder; BPD = Bipolar disorder; ED = Emergency department; N/A = Not available; SD = Standard deviation; SU = Substance use.

*n = 300 otherwise noted.

**n = 470 otherwise noted.

= 470) in 2023. The detailed comparisons of demographics and clinical characteristics between years are shown in Table 2a.

A gender-specific analysis was conducted, and the gender distribution of SUD and AUD among patients admitted to the ED in 2018 and 2023 is shown in Table 2b.

The gender disparity in AUD persisted across the years, but the increase was particularly notable among females, where the percentage more than tripled from 2018 to 2023. The gender distribution specifically for AUD among patients in 2018 and 2023 is shown in Table 2c.

To further explore the temporal dynamics of substance and AUDs by gender, stratified binomial logistic regression analyses was conducted for males and females separately. Among female patients, there was a significant increase in the likelihood of both AUD and SUD. Specifically, the odds of AUD increased by approximately 3.5 times per year (OR = 3.52, 95% CI = [2.12 – 5.81], $p < .001$), while the odds of SUD increased by 1.76 times annually (OR = 1.76, 95% CI = [1.20 – 2.57], $p = .004$). However, among male patients, a significant increase was observed only for AUD (OR = 2.22, 95% CI = [1.69 – 2.91], $p < .001$), whereas no statistically significant change was detected for SUD over time (OR = 1.15, 95% CI = [0.91 – 1.44], $p = .248$).

Table 2a.
Comparisons of Data from 2018 vs. 2023. The Demographics and Clinical Characteristics of Alcohol and Substance Use Disorder

Variables	2018 (n = 1515)		2023 (n = 1674)		Statistics
Total ASUD application	300 (19.8)	470 (28.0)			<i>p</i> < .001* , <i>x</i>² = 29.729
Total ASUD age, years, median (IQR)	29.0 (16)	29.0 (16)			<i>p</i> = .87**, <i>Z</i> = -1.457
SUD, <i>n</i> (%)	Yes	220 (14.5)	297 (17.7)	<i>p</i> = .01* , <i>x</i>² = 6.072	
	No	1296 (85.5)	1377 (82.3)		
AUD, <i>n</i> (%)	Yes	112 (7.4)	269 (16.1)	<i>p</i> < .001* , <i>x</i>² = 56.911	
	No	1403 (92.6)	1405 (83.9)		
SUD age, median (IQR)	25.5 (11)	26.0 (11)			<i>p</i> = .050**, <i>Z</i> = -1.956
AUD age, median (IQR)	38.0 (21.25)	35.0 (18)			<i>p</i> = .004** , <i>Z</i> = 2.855
Comorbidity AUD and SUD, <i>n</i> (%)	Yes	32 (2.1)	96 (5.7)	<i>p</i> < .001* , <i>x</i>² = 27.088	
	No	1483 (97.9)	1578 (94.3)		
Female SUD, <i>n</i> (%)	Yes	44 (5.8)	82 (9.8)	<i>p</i> = .003* , <i>x</i>² = 8.635	
	No	715 (94.2)	758 (90.2)		
Female AUD, <i>n</i> (%)	Yes	20 (2.6)	73 (8.7)	<i>p</i> < .001* , <i>x</i>² = 26.690	
	No	739 (97.4)	767 (91.3)		
Male SUD, <i>n</i> (%)	Yes	176 (23.3)	215 (25.8)	<i>p</i> = .24*, <i>x</i> ² = 1.335	
	No	580 (76.7)	619 (74.2)		
Male AUD, <i>n</i> (%)	Yes	92 (12.2)	196 (23.5)	<i>p</i> < .001* , <i>x</i>² = 34.331	
	No	664 (87.8)	638 (76.5)		
Total ASUD hospitalization, <i>n</i> (%)	Yes	21 (7.0)	50 (10.6)	<i>p</i> = .88*, <i>x</i> ² = 2.896	
	No	279 (93.0)	420 (89.4)		
SUD hospitalization, <i>n</i> (%)	Yes	19 (8.6)	31 (10.4)	<i>p</i> = .49*, <i>x</i> ² = 0.469	
	No	201 (91.4)	266 (89.6)		
AUD hospitalization, <i>n</i> (%)	Yes	5 (4.5)	34 (12.6)	<i>p</i> = .01* , <i>x</i>² = 5.752	
	No	107 (95.5)	235 (87.4)		

Note: ASUD = Alcohol and substance use disorder; AUD = Alcohol use disorder; IQR = Interquartile range; SUD = Substance use disorder. Statistically significant results are indicated in bold.

*Pearson chi-square.

**Mann – Whitney *U* test.

Discussion

This study found a substantial increase in ASUD-related emergency department psychiatric consultations between 2018 and 2023. The proportion of patients diagnosed with AUD more than doubled, and SUD cases also rose significantly. The most notable increase was observed among female patients, whose rates of both AUD and SUD nearly tripled. Additionally, there was a marked rise in comorbid AUD and SUD, particularly involving polysubstance use.

Table 2b.
The Gender Distribution and Alcohol Use Disorder Comorbidity of Patients with Substance Use Disorder

Year 2018	Substance Use Disorder			Statistics
		Yes	No	
Gender, <i>n</i> (%)	Female	44 (5.8)	715 (94.2)	<i>p</i> < .001* , <i>x</i>² = 93.268
	Male	176 (23.3)	580 (76.7)	
AUD, <i>n</i> (%)	Yes	32 (28.6)	80 (71.4)	<i>p</i> < .001* , <i>x</i>² = 19.233
	No	188 (13.4)	1215 (86.6)	
Year 2023	Yes	No		
Gender, <i>n</i> (%)	Female	82 (9.8)	758 (90.2)	<i>p</i> < .001* , <i>x</i>² = 73.570
	Male	215 (25.8)	619 (74.2)	
AUD, <i>n</i> (%)	Yes	96 (35.7)	173 (64.3)	<i>p</i> < .001* , <i>x</i>² = 70.726
	No	201 (14.3)	1204 (85.7)	

*Pearson Chi-Square conducted, AUD: Alcohol Use Disorder, Statistically significant results are indicated in bold.

The observed increase in the proportion of ED admissions related to ASUD following the onset of the COVID-19 pandemic aligns with findings in existing literature (Mojica - Perez et al., 2024; Venkatesh et al., 2022). The pandemic significantly altered healthcare utilization patterns and substance use behaviors worldwide. Lockdown measures, social isolation, economic hardships, and disruptions in mental health services contributed to increased alcohol and substance use. Studies have reported heightened stress levels and anxiety during the pandemic, leading many individuals to increase their use of alcohol and other substances (Mungmunpantipantip & Wiwanitkit, 2021; Torun & Coşkunol, 2020), which may result in an upsurge in SUDs and related emergencies (Kovačić Petrović et al., 2024; Satre et al., 2020). Additionally, some individuals who previously engaged in social drinking escalated to hazardous levels of alcohol consumption due to increased home alcohol availability and a lack of structured routines (Aydn & Söyler, 2022; Houston et al., 2024). The pandemic also affected healthcare access, with many individuals delaying routine medical care, including treatment for ASUD. As a result, a greater proportion of patients presented to the ED in more severe states, requiring urgent intervention (Houston et al., 2024). The disruption of addiction treatment services, such as in-person counseling and rehabilitation programs, may have further

Table 2c.
The Gender Distribution Specifically for Alcohol Use Disorder

Year 2018	Alcohol Use Disorder			Statistics
		Yes	No	
Gender, <i>n</i> (%)	Female	20 (2.6)	739 (97.4)	<i>p</i> < .001* , <i>x</i>² = 50.289
	Male	92 (12.2)	664 (87.8)	
Year 2023	Yes	No		
Gender, <i>n</i> (%)	Female	73 (8.7)	767 (91.3)	<i>p</i> < .001* , <i>x</i>² = 68.065
	Male	196 (23.5)	638 (76.5)	

*Pearson chi-square. Statistically significant results are indicated in bold.

contributed to the increase in ED visits. Therefore, it is crucial to strengthen outpatient systems to reduce the burden on emergency services.

One of the most striking findings of this study is the marked rise in ASUD among female patients. Between 2018 and 2023, the prevalence of SUD among females nearly doubled, while that of AUD more than tripled. This aligns with emerging literature suggesting that the gender gap in SUD is narrowing (McHugh et al., 2018; White, 2020). Historically, the male population has exhibited higher rates of SUD, but recent findings indicate that the female population has an increasing rate of ASUD (Fonseca et al., 2021; İsmail et al., 2023). This increase is particularly concerning as the female population with ASUD often faces more severe health consequences, including higher risks of liver disease, cardiovascular issues, and mental health disorders compared to their male counterparts (Kay et al., 2010; White, 2020). Additionally, this population has a higher risk for risky sexual behavior and unplanned pregnancies (Connery et al., 2014). Furthermore, the female population tends to progress from initial use to dependence more rapidly than the male population, a phenomenon known as “telescoping” (Fonseca et al., 2021). This significant rise in ASUD in the female population underscores the need for gender-specific prevention, screening, and intervention strategies (Bashirian et al., 2021). Programs tailored to address the unique risk factors and barriers faced by the female population could be crucial in curbing this alarming increase. However, the data show a portion of the female population which reduces the generalizability. It was also found that the median age of patients with SUD slightly increased, while the median age for AUD decreased over the 5 years. This finding is concerning given that the early onset of AUD is associated with a higher risk of developing alcohol dependence and other related disorders later in life (DeWit et al., 2000). Public health interventions should focus on early education and prevention efforts targeting younger populations to mitigate these risks. Another significant finding from this study is the increase in comorbidity of AUD and SUD among patients. From 2018 to 2023, the number of patients in this patient group nearly tripled over the years, and most of those patients were diagnosed with polysubstance use disorder. Comorbidity of AUD and SUD is often associated with more severe health outcomes, including higher rates of emergency applications, psychiatric comorbidities, increased risk of overdose, more complex clinical presentations, and even death (Kaminer et al., 2024; Rizk et al., 2021). Polysubstance use disorder was prominent in both years, which is noteworthy because it is well-established as a contributor to psychiatric comorbidities such as mood disorders and psychotic disorders (Davis et al., 2023). These findings highlight the need for ED healthcare workers to be equipped with the resources and training necessary to manage the complexities of patients with polysubstance use disorder. Integrated care approaches that address both the psychiatric and substance use needs of these patients may be particularly effective and preventive.

It must be emphasized that suicidality and violent behavior are common reasons for ED admissions among ASUD patients, which is another critical finding. In 2023, nearly half of the substance use-related ED consultations were due to suicide attempts or violent behavior. This is in line with existing research that

links SUD, particularly polysubstance use disorder, with an increased risk of violent behavior and self-harm (Fernández-Montalvo et al., 2012; Lamsma et al., 2020). However, a significant portion of ASUD patients had a history of prior psychiatric admissions, with 79.4% reporting such admissions in 2023. This finding suggests that approximately 20% of patients with ASUD receive their first opportunity for intervention for this problem in ED. Therefore, healthcare providers in ED must be knowledgeable about how to approach this population. Additionally, nearly eight out of ten patients had a history of seeking help from a psychiatrist. This can be interpreted as indicating that this population is actively requesting help for their issues. Furthermore, the need for parenteral sedation was notably high. Nearly half of the patients were sedated with antipsychotics and short-acting benzodiazepines during their ED visits. This indicates the severe nature of psychiatric symptoms in ASUD patients, necessitating more robust protocols for managing psychiatric crises in the ED. The association between SUD and psychiatric emergencies underscores the need for comprehensive risk assessments and crisis intervention strategies in ED. The rise in ASUD-related hospitalizations, particularly those related to AUD, further underscores the growing severity of these cases. The significant increase in hospitalizations due to AUD (from 4.5% in 2018 to 12.6% in 2023) reflects the escalating impact of alcohol on public health. This increase is consistent with global reports that have noted an increase in alcohol-related harm (Acevedo et al., 2022), highlighting the need for enhanced screening and intervention strategies within EDs to effectively identify and manage AUD (Strayer et al., 2023). Also, alcohol withdrawal syndrome and its most severe manifestation, delirium tremens (DT), pose significant challenges in EDs for these patient populations (Strayer et al., 2023; Teeratanatorn et al., 2025). Alcohol withdrawal syndrome, which occurs in individuals who abruptly reduce or stop heavy, prolonged alcohol use, can lead to a wide range of symptoms, from mild tremors and anxiety to severe conditions like seizures and delirium (McKeon et al., 2008). DT, characterized by confusion, hallucinations, and severe autonomic hyperactivity, can be life-threatening, with high mortality rates if left untreated (Strayer et al., 2023). However, treatment reduces death rates effectively. Implementing routine alcohol use screening in ED settings, along with brief interventions and referrals to specialized treatment programs, could help reduce the burden of AUD-related hospitalizations.

Limitations and Directions for Future Research

Several limitations must be acknowledged. The study had a retrospective design with data collected from past medical records, which may not always accurately reflect patient medication and follow-up. As this study only analyzed data from psychiatric consultations in the ED, there may be a loss of information regarding patients who did not receive consultation. Additionally, the study was conducted at a single university hospital in Türkiye, which may limit the generalizability of the results to other settings or countries. Future studies should include multiple centers and consider prospective designs to validate and expand upon these findings.

Despite these aforementioned limitations, this study underscores an important health problem and highlights the increase in ASUD-related ED admissions and the associated clinical

challenges. The findings emphasize the need for targeted public health interventions, gender-specific strategies, and integrated care approaches to address the growing burden of ASUD on emergency healthcare services. Future research should continue to monitor these increases and evaluate the effectiveness of interventions designed to reduce ASUD-related harm in the ED setting.

Consistent with global trends, this study highlights a significant increase in ASUD-related emergency department admissions between 2018 and 2023, with a particularly concerning rise in ASUD among the female population. Additionally, a major proportion of these patients exhibited violent behavior and suicidal attempts, which is an important crisis burden for the ED. These increases call for enhanced public health strategies and crisis management strategies, including gender-sensitive prevention programs and improved training for ED staff in managing the complexities of ASUD. Future research should focus on longitudinal monitoring of these increases and the effectiveness of targeted interventions.

Data Availability Statement: The data that support the findings of this study are available on request from the corresponding author.

Ethics Committee Approval: This study was approved by the Ethics Committee of Ege University (Approval No.: 24-8T/94 Date: August 22, 2024).

Informed Consent: Written informed consent was obtained from the patients who agreed to participate in the study.

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