



Anxiety and Depression as Reasons for Interventions by Emergency Medical Teams in Barajevo 2023

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Abstract

Background: Emergency Medical Care (EMC) is the first point of contact with patients. As a part of healthcare system dealing with urgent conditions on-site, Emergency Medical Service (EMS) encounter patients who suffer from psychiatric or mental health conditions. The aim of study is to present the prevalence of anxiety, depression and other psychiatric diagnoses among the filed teams of EMS.

Methods: For the preparation of this paper, protocols of field patients from EMS of the Community Health Center "Dr. Milorad Vlajkovic", Barajevo (HCB) were used. Data on gender, age, diagnoses, and therapy were collected for the period from 00:00:00 on January 1, 2023, to 23:59:59 on December 31, 2023.

Results: Of the total number of patients, 175 (5.23%) had a diagnosis from the F group ICD-10. The total number of psychiatric diagnoses was 187 (3.24% of total number of diagnoses). The average number of diagnoses per patient was 1.06.

Conclusions: Our data partially align with the literature. In addition to reactions to severe stress and adjustment disorders (F43) and mental disorders and behavioral disorders caused by alcohol use (F10), the most frequently diagnosed psychiatric disorders are anxiety (F41) and depression (F32).

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Keywords: Emergency medical; Psychiatric diagnoses; Field interventions.



Introduction

Emergency Medical Care (EMC) is the first point of contact with patients. It represents organized and professional assistance at the site of illness, injury, or condition requiring urgent care. According to the World Health Organization (WHO), EMC can also be viewed as a tool for primary and secondary prevention [1]. As a part of healthcare system dealing with urgent conditions on-site, Emergency Medical Service (EMS) encounter patients who suffer from psychiatric or mental health conditions. Estimates suggest that one in eight people worldwide lives with some form of mental disorder [2]. Given that the World Bank estimated the global population to be over eight billion in 2023 [3], it can be concluded that over one billion people are daily confronted with some psychiatric condition. In Serbia, if we follow the proportion, this number could be around 880,000.

In the United States, according to the National Institute of Mental Health, 22.8% of adults aged 18 and older have some form of mental illness. In absolute numbers, this represents just under 58 million people. Serious mental illness, according to the same source, affects approximately 5.5% of adult population, which amounts to around 14 million people [4].

According to the Australian Institute of Health and Welfare, which is managed by Australian Government, approximately 22% of population, or around 4.3 million people, have experienced a mental disorder. Additionally, one in seven children and adolescents has also been affected [5].

The most common psychiatric conditions are anxiety and depression [6,7]. Similar results were obtained by researcher from Serbia, clinical doctors [8].

Material and Methods

For the preparation of this paper, protocols of field patients from EMS of the Community Health Center "Dr. Milorad Vljakovic", Barajevo (HCB) were used. Data on gender, age, diagnoses, and therapy were collected for the period from 00:00:00 on January 1, 2023, to 23:59:59 on December 31, 2023.

Psychiatric diagnoses (F group of ICD-10) were analyzed, and the diagnoses were categorized into subcategories according to ICD-10. Patients were divided into age groups: under 18 years (y.), 18 to 24 y., 25 to 39 y., 40 to 54 y., 55 to 64 y., and 65 y. and older.

The patients' age was determined by subtracting the year of birth from 2023.

For statistical data analysis, the freely available program SPSS v. 21 was used.

Results

In 2023, EMS HCB intervened in the field 3,345 times. Of the total number of patients, there were 1,501 males (44.9%), and 1,803 females (53.9%). Data on gender is unavailable for 41 patients, which amounts 1.2%. The total diagnoses number is 5,776.

Of the total number of patients, 175 (5.23%) had a diagnosis from the F group ICD-10. The total number of psychiatric diagnoses was 187 (3.24% of total number of diagnoses). The average number of diagnoses per patient was 1.06. The distribution of patients with psychiatric diagnoses by gender is shown in Figure 1.

The youngest patient with psychiatric diagnosis was 10 y. old, and the oldest was 94 y. old (age range for male patient: 10-94 y.; age range for female patients: 16-91 y.). The mean age for the patients with psychiatric diagnoses was 54.09 y. (52 y. for male patients, and 64 y. for female patients). Data on age was missing for three patients (1.7%), and data on gender was missing for one patient (0.6%).

Distribution of diagnoses by subcategories of the F group of ICD-10, by gender, shows Figure 2.

All individual psychiatric diagnoses, with number of patients, shows Figure 3.

It should be noted that the most frequently diagnosed conditions during the interventions by fields EMS teams of HCB were reactions to severe stress and adjustment disorders (F43), mental disorders and behavioral disorders caused by alcohol use (F10), other anxiety disorders (F41), depression (F32), and unspecified dementia (F03).

The total number of patients with anxiety and depression was 23, which constitutes 13.07% of patients with a psychiatric diagnosis in our results. Specifically, the proportion of patients with an anxiety disorder among those with a psychiatric diagnosis was 6.82%, while the proportion with a depressive disorder was 6.25%. When comparing with the total number of patients analyzed in our study, the proportion of patients with an anxiety disorder was 0.36% (of the total number of patients treated by EMS fields teams HCB during the observed period), while the percentage for patients with depression was 0.33%.

Diagnoses in pediatric patients are shown in Figure 4. Diagnoses distribution by age groups can see in figure 5. The distribution of diagnoses by month is shown in Figure 6. Distribution by gender of the five most common psychiatric diagnoses is shown in Figure 7.

Distribution of anxiety by gender and age shows figure 8, while figure 9 shows distribution of depression by gender and age. Mean and median age for anxiety and depression shows figure 10.

Distribution of patients with anxiety disorders by month shows Figure 11. Figure 12 shows distribution of patients with depressive disorders by month.

Of the 12 patients with a diagnosis of anxiety disorder, 10 received treatment (muscle diazepam). Of the 11 patients diagnosed with depression, only one received treatment (muscle diazepam). The remaining patients did not receive any treatment.

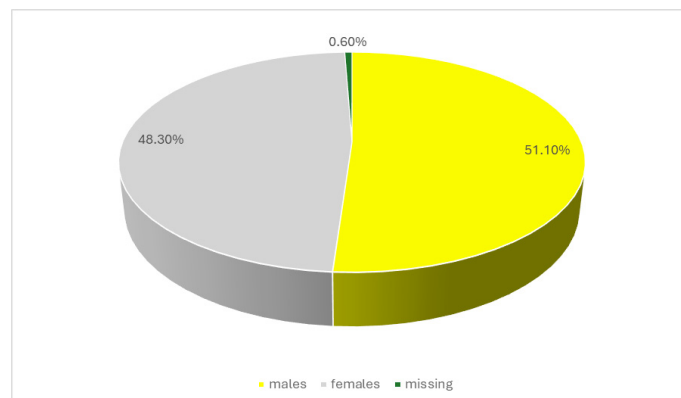


Figure 1: Distribution of patients by gender.

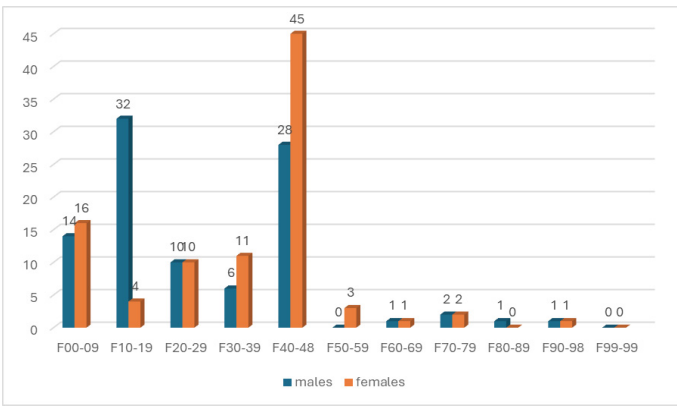


Figure 2: Distribution of diagnoses by subcategories of the F group of ICD-10, by gender; numbers present absolute patient counts.

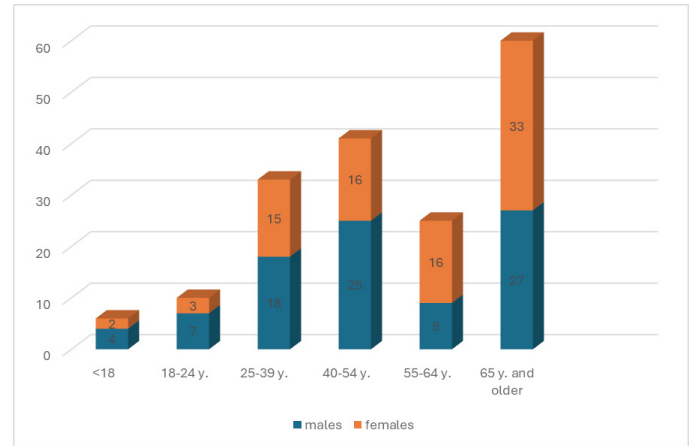


Figure 5: Distribution of diagnoses by age groups.

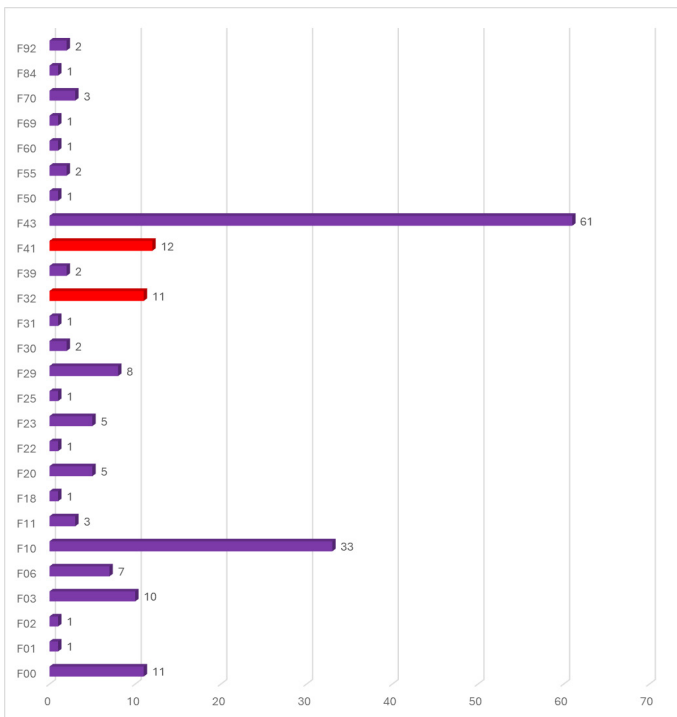


Figure 3: All individual psychiatric diagnoses with patients count.

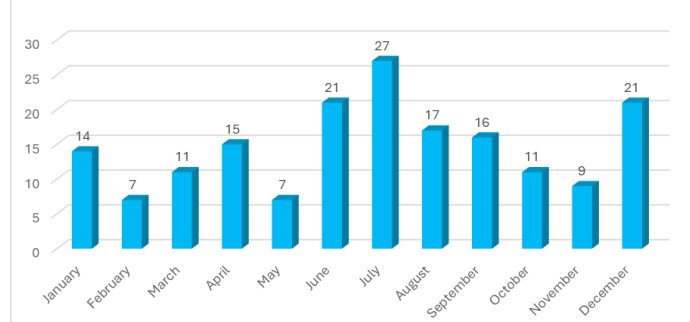


Figure 6: Distribution of diagnoses by month.

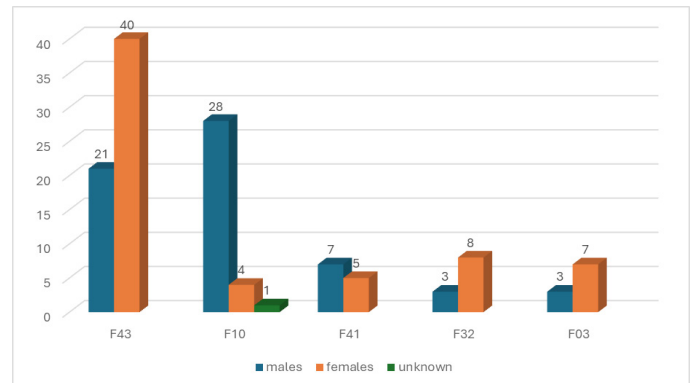


Figure 7: Distribution by gender of the five most common diagnoses.

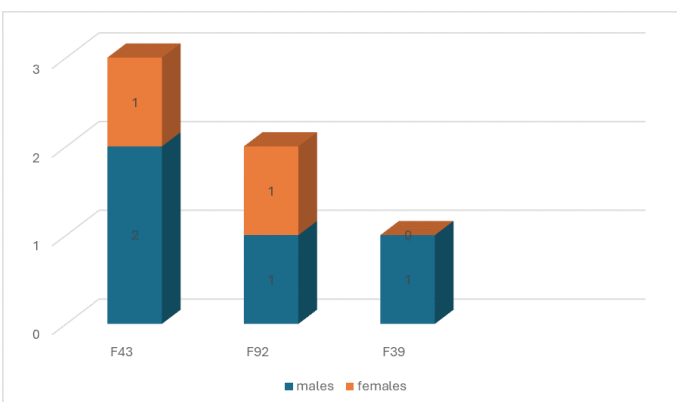


Figure 4: Diagnoses in pediatric patients.

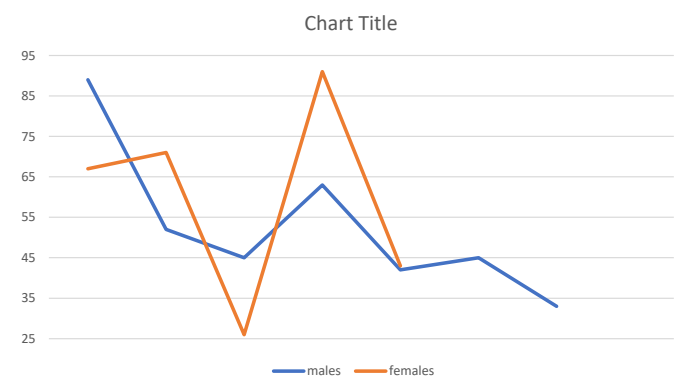


Figure 8: Distribution of anxiety by gender and age.

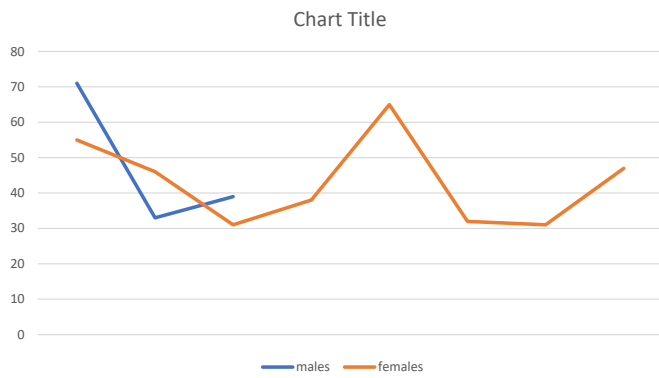


Figure 9: Distribution of depression by gender and age.

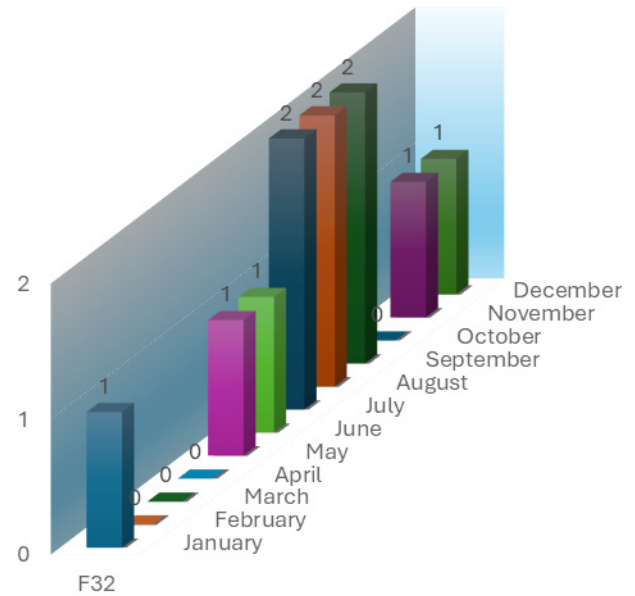


Figure 12: Distribution of patients with depressive disorders.

the relation to inpatient healthcare facilities and hospital activities.

Psychiatric disorders and conditions are not rare in childhood and adolescence, though this segment is not sufficiently researched [12]. According to this source, a meta-analysis of 192 epidemiological studies shows a significant proportion of individuals with onset of illness before the ages of 14, 18 and 25. In our research, there is a small number of minor patients-five (2.84% of patients with a psychiatric diagnosis), and six psychiatric diagnoses (3.2% of psychiatric diagnoses). Some studies suggest an increase in the prevalence of psychiatric diagnoses in childhood and adolescence [13], as well as in early adulthood [14]. The relatively small number of pediatric patients in our results may be related to their more frequent presentation to pediatric service, as well as the fact that HCB covers a territory with approximately 25,000 residents.

According to a study conducted in the United Kingdom, there is a higher prevalence of females compared to our study [15]. This is also confirmed by research conducted in Germany [16]. Additionally, research indicates that women are at higher risk of developing mental disorders [17].

The most common psychiatric condition for which patients seek EMC is depression [18]. This pertains to hospital health-care service. Our study presents a different distribution, but it should be noted that our research analyzed the work of filed teams, who most often deal with acute, life-threatening conditions. Given that reactions to severe stress and mental disorders due to alcohol use are frequently acute conditions, this may be one of the reasons for the higher prevalence of these conditions among our patients, compared to anxiety and depression. It is likely that most patients with depressive and anxiety disorders first consult their psychiatrist. However, the prevalence of these two most common psychiatric disorders is not negligible in our context either, with around 10% of people aged 65 y. and older in Serbia suffering from depression [19]. Additionally, research indicates that over of 50% of the adult population in Serbia suffers from some form of anxiety [20].

The use of diazepam (benzodiazepines group) in the treatment of anxiety is one of therapeutic modalities in pharmacotherapy [21,22]. In the United States of America, up to 94% of

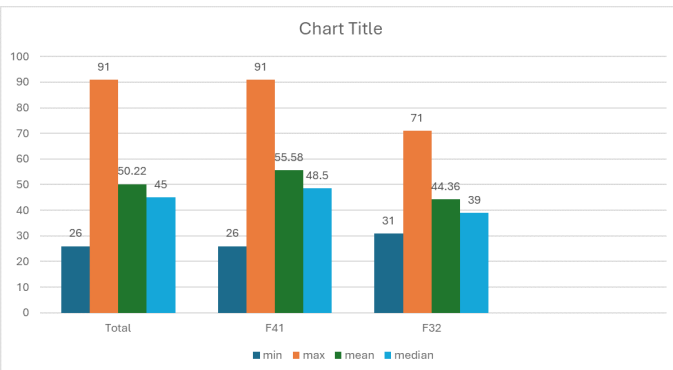


Figure 10: Mean and median age.

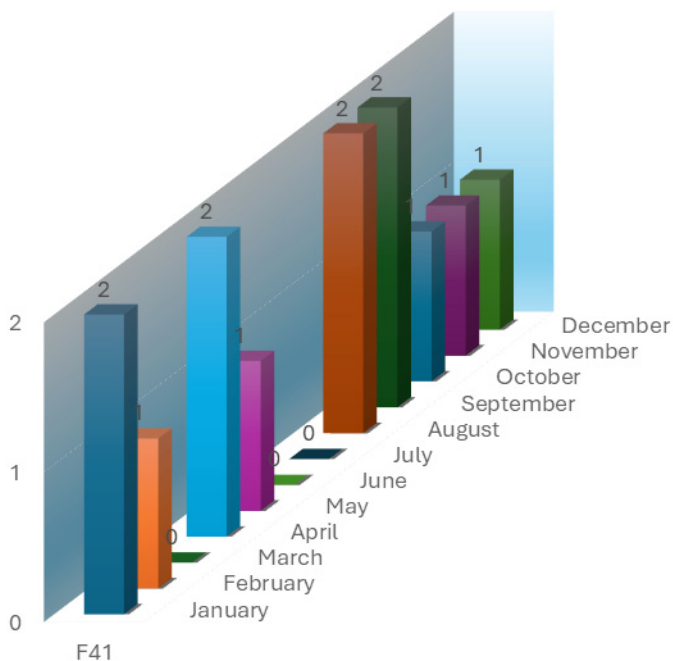


Figure 11: Distribution of patients with anxiety disorders.

Discussion

In professional and scientific literature, there is a relatively small number of studies and data depicting the interventions of field teams in the management of patients with psychiatric diagnoses. According to a study conducted in Italy in 2018, psychiatric patients account for 3% of all emergency department visits in the country [9]. Depending on the country, the percentage of psychiatric patients among all emergency department patients can be as high as 12.5% [10]. The proportion of patients with depression visiting EMS can exceed 11% [11]. The data presents

patients with anxiety disorders are treated with benzodiazepines [23]. However, benzodiazepines are not the first-line treatment for depression. For these patients, the primary choice of medication is antidepressant rather than sedative group [24]. According to a pilot study conducted in Serbia, over 94% of patients discharged from a specialized psychiatric hospital have been prescribed a benzodiazepine [25].

For a comprehensive understanding of the condition of psychiatric patients in the context of field interventions by Emergency Medical (EM) teams, a thorough analysis of EMS both in Serbia and abroad is essential. Additionally, an extensive examination of the work of inpatient healthcare institutions is necessary to assess the urgency of psychiatric conditions in patients who do not visit emergency services but instead go to the Emergency Care (EC) department or admission wards of psychiatric hospitals.

It would likely be beneficial to organize training programs on recognizing and appropriately managing anxiety and depression in the prehospital setting for EM professionals. Such training could enhance the effectiveness of field interventions and ensure that patients receive appropriate care before reaching the hospital. Additionally, this paper could serve as a call to health policy makers to revise the concept of EMC, particularly in terms of the medications available to field teams. This revision could improve the treatment options for psychiatric conditions in the prehospital environment, potentially leading to better patient outcomes and more efficient emergency care.

The limitations of our data pertain to comparison with potential future research at the prehospital level, considering that field work in Serbia is primarily conducted by medical doctors or specialist doctors in specific branches of medicine, whereas in many countries paramedics at the primary providers. The same limitation applies to already published and available data, which mostly pertains to the activities of stationary institutions, such as hospitals. Our sample is not representative, but can serve as a starting point for further researches and comparisons on out-of-hospital care for individuals with anxiety and depressive disorders, as well as those suffering from other psychiatric conditions or states. Additionally, the limitation also concerns of availability of medications used by EM teams in their daily work.

Conclusions

Our data partially align with the literature. In addition to reactions to severe stress and adjustment disorders (F43) and mental disorders and behavioral disorders caused by alcohol use (F10), the most frequently diagnosed psychiatric disorders are anxiety (F41) and depression (F32). The average age of patients with anxiety disorders in our study is 55.58 y., while the average age of patients with depression is 44.36 y. The only medication used during the interventions by EMS teams in the care of patients with anxiety and depressive disorders is diazepam.

Abbreviations

EC: emergency care; EM: emergency medicine; EMC: emergency medical care; EMS: emergency medical service; HCB: Community Health Center "Dr. Milorad Vlajkovic", Barajevo, Belgrade, Serbia; WHO: World Health Organization; Y: year/years.

Statements

The paper is not under consideration elsewhere.

None of the paper's contents have been published.

All authors have read and approved the manuscript.

The authors have no conflicts of interest to declare.

Author contributions

Concept, design, definition of intellectual content: all authors.

Literature search: RL, AO, VV.

Data acquisition: RL, DN.

Data analysis: All authors.

Statistical analysis: RL, MD.

Manuscript preparation, manuscript editing, manuscript review: All authors.

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