

To examine the pattern of psychiatric emergencies that occur in children and adolescents

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Abstract:

Aim: The purpose of this research is to examine the pattern of psychiatric emergencies that occur in children and adolescents who get care at a tertiary care center. **Material and methods:** For the purpose of the study, participants consisted of consecutive child and adolescent patients of either gender who were registered in the emergency department of the Institute and visited by the on-call psychiatric emergency referral team at some point over the course of the research. Case records that were unclear or incomplete, as well as those that were lacking data, were disregarded. Notes were taken on the patient's available demographic and clinical data, which included diagnosis, co-morbidities, treatment suggestions, and referrals to other medical disciplines. **Results:** There were a total of 150 child and adolescent patient records that were examined, with 50 of those records coming from before the pandemic. This represented 20% of all-age emergency psychiatric visits during that time period. The evaluation for possible self-harm was the most prevalent cause for referral in both sets of patients (48% vs 46%). When compared to the group that existed before the pandemic, the pandemic group had a much reduced percentage of emergency patients who were diagnosed with medical or neurological surgical conditions. On the other hand, whereas 90% of those in the pandemic group had no known medical diagnosis, this was only the case for 72% of those in the pre-pandemic group. However, as compared to the pre-pandemic group, the percentage of patients in the pandemic group who were prescribed benzodiazepines was considerably higher ($P = 0.01$, or 43 percent vs. 28 percent). **Conclusion:** During the pandemic, there was no discernible rise in the number of children and adolescents who required emergency psychiatric care on a monthly basis. In the younger demographic, self-inflicted injuries were the most prevalent reason for psychiatric referral during times of mental health crisis involving emergency services.

Keywords: Psychiatric, emergencies, children, adolescents

Introduction

According to research conducted around the globe, there was a drop of 26% to 60% in emergency visits shortly after the pandemic, particularly during confinement times [1-4]. Studies conducted on mental health crises during the peak months of the pandemic similarly indicated a reduction in the number of patients who visited psychiatric emergency departments; however, this decline was comparable to the fall in the number of patients who visited emergency departments overall. Nonetheless, there were noticeable shifts in both the pattern and character of mental health problems over the pandemic era.

Some studies indicated a rise in the number of people who attempted suicide or overdosed on substances, while others identified an increase in the number of people who presented symptoms of worry, stress, or neurosis [5-10]. There is a dearth of literature on child and adolescent psychiatric crises, and most of what is available is contradictory. There is just one previous research that was conducted in India on mental emergency department visits during the COVID-19 epidemic; however, the majority of the people who participated in the study were adults, and there was no particular emphasis placed on younger age groups [16]. According to the findings of the research, there was a significant

drop in the total number of emergency room visits for patients of all ages. In terms of the distribution of diagnoses, there was a rise in the number of patients with schizophrenia and a reduction in the representation of delirium, but the number of visits for self-harm remained consistent at around the same rate both before and after the lockdown. We aimed to assess the pattern and profile of psychiatric emergencies in younger age groups after the onset of the COVID-19 pandemic in comparison to the pre-pandemic period, and we explored for a relationship, if there was one, with month-by-month COVID-19 statistics in the country. This was done in light of the fact that there are very few reports coming from India regarding the mental health emergencies that have been caused by the COVID-19 pandemic in children and adolescents.

Material and methods

At the Department of Pediatrics, the mental emergency records were looked at in the form of a retrospective study. Before beginning the research, approval from the institute's ethics committee was obtained. It is the policy of the department to keep a record of everyone who comes through the emergency department. Following the completion of a psychiatric assessment of the patient, a treatment plan is developed and the patient is given medication. The patient is then either sent home, detained for observation for a period of time (often up to 24 hours), or admitted to the ward, depending on whether or not the situation calls for it.

For the purpose of the study, participants consisted of consecutive child and adolescent patients [17] of either gender who were registered in the emergency department of the Institute and visited by the on-call psychiatric emergency referral team at some point over the course of the research. Case records that were unclear or incomplete, as well as those that were lacking data, were disregarded. Notes were taken on the patient's available demographic and clinical data, which included diagnosis, co-morbidities, treatment suggestions, and referrals to other medical disciplines.

Statistical analysis

Statistical analysis was done using SPSS 24.0. Descriptive analysis was done for socio-demographic and clinical variables.

Results

There were a total of 150 child and adolescent patient records that were examined, with 50 of those records coming from before the pandemic. This represented 20% of all-age emergency psychiatric visits during that time period. The socio-demographic and clinical factors that differ between pre-pandemic and pandemic groups are outlined in Table I. Both groups were similar with regard to the demographic characteristics that were examined. The medico legal presentations were given by about half of them. The evaluation for possible self-harm was the most prevalent cause for referral in both sets of patients (48% vs 46%). When compared to the group that existed before the pandemic, the pandemic group had a much reduced percentage of emergency patients who were diagnosed with medical or neurological surgical conditions. On the other hand, whereas 90% of those in the pandemic group had no known medical diagnosis, this was only the case for 72% of those in the pre-pandemic group.

Following the beginning of the pandemic, the most prevalent diagnostic category was neurotic, stress-related, and somatoform disorders, which accounted for sixteen percent of all cases. This was followed by deliberate self-harm with no clear mental diagnosis, which accounted for fifteen percent of all cases. Regarding the ICD-10 diagnostic categories, there were not, however, any changes that could be considered statistically significant between the groups. It was found that an equal number of people used antidepressants, antipsychotics, and several other psychotropic drugs. However, as compared to the pre-pandemic group, the percentage of patients in the pandemic group who were prescribed benzodiazepines was considerably higher ($P = 0.01$, or 43 percent vs. 28 percent). When compared to the pre-pandemic group, around nine percent of children and adolescents who were treated during the pandemic were recommended to be admitted to a mental facility ($P = 0.07$).

Table 1: Characteristics of Children

Basic profile	Pre-pandemic=50	Pandemic period=100	Mean difference (SD)/ OR (P value)
Age	16.58±2.58	16.85±2.89	0.31±0.12
Male	26(52)	57 (57)	0.24
Medico-legal cases	24 (48)	50(50)	0.36
Carry-over cases from previous day	3 (6)	8 (8)	0.44
Past medical history			0.33
Medical	2 (4)	6 (6)	
Neurological	5 (10)	7 (7)	
Surgical	2 (4)	2 (2)	
None	41(82)	85 (85)	
Past psychiatric history	11 (22)	25	0.18
Medication/s before presentation			
Psychotropic	11 (22)	26 (26)	0.52
Other medication	4 (8)	5 (5)	
None	35(70)	69 (69)	
Reasons for referral			0.11
Self-harm	24 (48)	46 (46)	
Neglect	1 (2)	1 (1)	
Harm to others	3(6)	12 (12)	
Diagnostic clarification	21 (42)	39(39)	
Psychiatric clearance	0 (0)	1 (1)	
Others	1 (2)	1 (1)	
Precipitating factor			0.37
Biological	8 (16)	12 (12)	
Psychosocial	13 (26)	35 (35)	

None apparent	29 (58)	53 (53)	
Comorbid medical diagnosis in emergency visit			0.001
Medical	7 (14)	4 (4)	
Neurological	6 (12)	5 (5)	
Surgical	1 (2)	1 (1)	
None	36(72)	90 (90)	

Table 2 Psychiatric Emergencies in the Pre-pandemic and Pandemic Periods (N =150)

Diagnosis/management	Pre-pandemic=50	Pandemic=100	P value
ICD F00-09	4 (8)	10 (10)	0.36
ICD F10-19	3 (6)	6 (6)	0.44
ICD F20-29	7 (14)	14 (14)	0.19
ICD F30-39	8 (16)	13 (13)	0.14
ICD F40-49	11 (22)	16 (16)	0.37
ICD F60-69	3 (6)	5 (5)	0.16
ICD F70-99 ^a	1 (2)	4 (4)	0.22
ICD X60-84 (without F00-99)	7 (14)	15 (15)	0.48
Adverse effect of medication	1 (2)	2 (2)	0.69
Diagnosis deferred	9 (18)	16 (16)	0.58
Drugs – antipsychotic	7 (14)	20 (20)	0.12
Drugs – antidepressant	6(12)	19 (19)	0.63
Drugs – mood stabiliser ^a	1(2)	2(2)	0.59
Drugs – benzodiazepine ^a	14 (28)	43 (43)	0.01
Other drugs	3 (6)	8 (8)	0.44
Referral made (Any)	19 (38)	44 (44)	0.29
Advised psychiatric admission	8(16)	9 (9)	0.07
Admitted under psychiatry	2 (4)	4 (4)	0.45

Referred to psychiatry OPD	35(70)	67 (67)	0.58
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All values in no. (%). ICD-10: International Classification of Diseases, 10th Edition; OPD: outpatient department. $P < 0.01$

Discussion

The results of this study contribute to those found in the small body of previous research on child and adolescent mental crises, particularly as they relate to the COVID epidemic in India. The clinical prevalence of child and adolescent mental crises was 20% among the total number of all-age psychiatric emergencies that were treated at our facility. The overall monthly service consumption during the pandemic was similar to the pre-outbreak group for the whole of the pandemic. However, there was a short-term drop in months that coincided with times of active lockdown in the city with restricted mobility facilities. This finding is consistent with the literature that is now available [10,12-15]. In the setting of COVID-19, people avoided traveling as much as possible and stayed away from hospital victims out of concern that they would get an illness by being in close proximity to other people. In spite of the fact that the epidemic is still going on, the monthly average of child and adolescent psychiatric referrals throughout the pandemic period has remained similar to the year before to the pandemic. This indicates that there is still a need for mental health services among younger patients.

McAndrew and colleagues reported [11] a drop in mental emergency visits across patients of all ages, but they discovered a rise in visits among patients less than 18 years old. At least in the first two months following a lockdown, a significant decrease in the number of mental presentations was identified in a large retrospective analysis of emergency presentations in children less than 18 years old that was conducted in 10 different countries [12]. Leeb et al. [13] discovered that after a lockdown, there was an initial decrease in the number of mental crises, but in the months that followed, there was an increase in the percentage of younger age group emergencies. The research conducted by Davico and colleagues [14] discovered that when the pandemic began, there was a considerable drop in the number of child and adolescent mental health

crises; however, there was no significant change in the number of hospitalizations or the prevalence distribution [14]. In comparison to the previous year, the number of overall presentations decreased by 47.2%, but the number of mental health diagnoses increased by 35%, as observed by Cheek et al. [15]. However, child and adolescent patients had more new onset disorders and were more likely to be admitted to inpatient care. On the other hand, they were less likely to present with suicide attempts, impulse control disorders, and agitation/aggression. This was discovered by Ferrando, et al. [10], who discovered a decline in the number of pediatric psychiatric emergency visits.

ICD-10 neurotic, stress-related, and somatoform disorders accounted for 16% of all cases of child and adolescent mental disorders in the pandemic group. This was followed by ICD-10 schizophrenia and other psychotic disorders, which accounted for 15%, and ICD-10 mood disorders, which accounted for 12%. However, when comparing the pre-pandemic group to the pandemic group, researchers found no statistically significant variations in the frequency of ICD-10 diagnostic categories. However, those surveys used screening instruments without diagnostic confirmation and must be viewed as a measure of psychological distress in younger age groups rather than a psychiatric diagnosis. This finding may contrast with findings from web-based surveys of community-residing adolescents, which have indicated a substantial rise in symptoms of depression and anxiety during the COVID-19 outbreak [18]. In contrast, the current research solely focused on adolescents with a mental health crisis who presented to emergency and were evaluated by a qualified psychiatrist, rather than an adolescent sample drawn from the population.

During the pandemic, over 48% of emergency referrals were related to the pandemic group's attempts at self-harm, which was comparable to the pre-pandemic sample. Regardless of the pandemic scenario at the time of this research,

self-harm continued to be a significant problem in the mental health of the child and adolescent population. A previous research conducted by Ferrando and colleagues reported that suicide ideation was a presenting symptom in nearly 44% of patients, self-injurious behavior was found in 8.8% of patients, and suicidal attempts were identified in nearly 5% of patients, with the latter being less prevalent in the post lockdown group of that study [10]. Another research that was quite comparable to the first indicated that the presentations with self-harm or suicidal ideations stayed the same in teenagers, despite the fact that there was an increase in the prevalence of anxiety disorders following the lockdown that was caused by COVID [11]. The proportion of children and adolescents presenting with self-harm significantly increased from 50% in 2019 to 57% in 2020, according to the findings of a large-scale, retrospective cohort study carried out in 23 hospital emergency departments in ten different countries [12]. However, there was no difference in the proportion of those who presented with severe self-harm. Even in our own research, somewhere between 46 and 48 percent of the sample arrived to the emergency room with signs of self-harm.

In most cases, a preliminary diagnosis is established to the best of one's ability, and care is commenced in accordance with this. Prior to the assignment of any psychiatric diagnosis, however, individuals with uncertain presentations or sub-syndromal presentations are submitted to psychological examinations and extensive assessments. As a result of the mortality that was caused by COVID-19, concerns about bereavement and loss were brought to the forefront, particularly during the second wave, when younger populations who are still developing their coping abilities are the most susceptible [19]. In the sample taken after the pandemic, one out of every three mental crises indicated a psychosocial precipitant. This finding was qualitatively comparable to what was seen before the epidemic, but quantitatively different. The nature of the psychological precipitants, risk factors, and protective variables could not be determined from the data that were retrospectively evaluated.

It was found, which was rather interesting, that the rates of prescriptions for benzodiazepines

rose dramatically in the pandemic group (43% vs 28%), in contrast to the rates of prescriptions for other psychiatric medications, which stayed the same. Benzodiazepines may be helpful in the reduction of milder, sub threshold, or non-specific anxiety symptoms, in the treatment of sleep-related issues, or in the treatment of sub-syndromal mental symptoms [20,21]. On the other hand, these symptoms can cause psychological distress, which would then need medical intervention.

In contrast to a previous study [10], our research revealed that the rate of hospitalization for psychiatric crises was lower than it was during the pre-COVID era. This may be due to the increased emphasis placed on the care of mental health disorders in the home. In addition, emergency admissions were the only kind that were allowed under the protocol of the institution during the first several months after the pandemic broke out. This restriction was placed on ordinary admissions. Other studies that are comparable and have been conducted on emergency situations involving younger age groups have shown either a decrease [6,22] or equivalent rates of hospitalisation before and after the commencement of the pandemic [14].

When compared to the pre-COVID group, the percentage of referrals that had a known medical or surgical diagnosis dropped significantly during the pandemic. This may be related to a reduction in referrals for mild mental symptoms, as well as avoidance owing to concern of a bad prognosis associated with becoming hospitalized with COVID-19 when combined with medical comorbidities [23].

Not only has the pandemic caused a rise in the number of cases of acute stress or adjustment responses, but it has also caused a broad range of mental diagnoses, including anxiety, depression, and others [24]. Social variables played an essential part across both waves; however, the age groups that were most impacted by COVID-19 mortality varied considerably from one wave to the next. Social factors played an important role throughout both waves. In the first wave, it was observed that the emphasis was primarily on elderly age groups suffering from pre-existing health issues and having greater vulnerabilities in their physical and mental health. This was the

case since these age groups are more likely to suffer from poor health. During that period, children and adolescents were also affected since schools, playgrounds, parks, and other locations where they might socialize with their peers were closed down. This was the case. The apparent advantages that some children initially had, such as less pressure to do well in school, were ultimately outweighed by the fact that they had less opportunity to engage with their peers and develop their social skills [25]. In contrast to the first wave, the second wave (and the corresponding lockdown) was more severe and resulted in a greater number of fatalities. This caused COVID orphans to be born as well as the appearance of linked mental health difficulties, the long-term effects of which have not yet been documented [26]. In addition, anxiety related with school closures, gap years, entrance tests, mourning or death of loved ones, escalation of domestic violence, or financial restrictions within families may have contributed to the pressures that the younger population was experiencing [27, 28].

Nevertheless, we need to evaluate the outcomes of the study taking into account the limitations of the research. It's possible that the findings of one tertiary care facility in one area can't be applied to other facilities in that region. Due to the nature of the research, which was a retrospective chart review, we were unable to acquire more thorough psychological characteristics during the pandemic and had roughly 10–20% of our data missing for different months. In addition, the assessments for temperament, personality characteristics, and other psychosocial components were not noted in the records, although it is possible that they were evaluated.

Conclusion

During the pandemic, there was no discernible rise in the number of children and adolescents who required emergency psychiatric care on a monthly basis. In the younger demographic, self-inflicted injuries were the most prevalent reason for psychiatric referral during times of mental health crisis involving emergency services.

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