

Impact of COVID-19 Pandemic on the Mental Health of Children and Adolescents: Analysis of a Consultation-Liaison Psychiatry Service

Sarah Fracci¹; Theodote Pontikes, MD²; Jessica Wuest, DO²; Rachel Klauber, DO²; Anandbhai Patel, MD²; Mary Lou Gutierrez, MD²; Murali Rao, MD²; Edwin Meresh, MD²
¹Loyola University Stritch School of Medicine, Maywood, IL; ²Loyola University Medical Center, Maywood, IL

Introduction

The coronavirus disease 2019 (COVID-19) pandemic and risk mitigation measures have contributed to a co-occurring psychiatric epidemic [1]. Children and adolescents have been particularly impacted, with disruptions in continuity of learning and health care [2]. Psychological stressors such as fear of infection, boredom, decreased socialization, supply shortages and incomplete information can contribute to low mood, irritability, insomnia, and emotional exhaustion [3]. The Loyola University Medical Center (LUMC) Consultation-Liaison Psychiatry Service [CLPS] (Maywood, IL) has anecdotally observed an increase in pediatric hospitalizations during the COVID-19 pandemic for psychiatric conditions. Therefore, we designed a study to identify and analyze data regarding the total number of CLP consult requests, patient presentations to the emergency room (ER), and admissions to the Pediatrics floor and Intensive Care Unit (PICU) for psychiatric-related conditions.

Objective

Quantify the impact of the COVID-19 on pediatric mental health in the consult-liaison setting at a large academic medical center.

Methods

This study was approved by the Loyola University Medical Center Institutional Review Board.

A retrospective chart review was completed for all Pediatric (0-18 years) Emergency Room (ER) visits, Pediatric Floor admissions, and Pediatric Intensive Care Unit (PICU) admissions related to mental health at Loyola University Medical Center. These encounters were identified using ICD-9 diagnostic coding for the dates of March 2019-February 2020 (pre-pandemic) and March 2020-February 2021 (pandemic).

The total number of encounters prior to the pandemic and during the pandemic were then compared. Specifically, we analyzed the impact of the COVID-19 on PICU admission rates related to psychiatric conditions.

Results

Table 1: Total Pediatric (0-18 years) Encounters Prior to (March 2019-February 2020) and during COVID-19 Pandemic (March 2020-February 2021)

Date	Total Encounters	Total Inpatient	Total Inpatient PICU	Total Inpatient ED	Total Observations	Total Observations ICU	Total Observations ED	Total ED Only
March 2019	3679	223	33	51	2464	10	44	992
April 2019	3394	275	59	69	2238	11	56	881
May 2019	3398	247	49	55	2292	8	63	859
June 2019	2982	233	48	63	1984	4	63	765
July 2019	2904	257	36	73	1968	5	56	679
August 2019	3239	283	40	79	2057	10	41	899
September 2019	3250	219	45	53	1889	14	67	1142
October 2019	2766	248	53	53	1682	23	61	836
November 2019	3070	227	49	61	1958	6	47	885
December 2019	3744	293	77	77	2238	5	65	1213
January 2020	3487	283	58	61	2122	9	60	1082
February 2020	3391	255	50	70	2180	18	71	956
March 2020	2103	242	42	51	1196	17	47	665
April 2020	717	189	35	25	334	18	20	194
May 2020	1009	233	47	38	475	38	30	301
June 2020	1122	198	42	28	572	24	24	352
July 2020	1777	226	40	54	1127	19	31	424
August 2020	1619	250	40	56	917	27	40	452
September 2020	1424	234	43	53	774	4	37	416
October 2020	1575	227	51	57	928	6	31	420
November 2020	1372	207	43	48	772	15	24	393
December 2020	1000	185	46	45	481	28	29	334
January 2021	1049	197	37	28	500	8	30	352
February 2021	1012	190	43	41	494	5	28	328

- Prior to the pandemic, total encounters for children ages 0-18 years was 39,304, with 11,189 ED only visits, and 3,043 inpatient admissions (597 in the PICU). During the pandemic, these numbers fell to 15,779 total encounters, with 4,631 ED only visits, and 2,578 inpatient admissions (509 in the PICU).
- Prior to the pandemic, 217 unique pediatric patients required psychiatry consults while in the ED or pediatric hospital, or 0.55% of all pediatric encounters. After the onset of the pandemic, 209 unique pediatric patients required psychiatry consults or 1.32% of all pediatric encounters.
- Prior to the pandemic, 73 pediatric patients required psychotropic medications in the ED, or 0.65% of all pediatric ED visits. After the onset of the pandemic, 73 pediatric patients required psychotropic medications in the ED, or 1.58% of all pediatric ED visits.

Table 2: PICU Admissions for Psychiatric Conditions Prior to and during COVID-19 Pandemic

PICU Admissions Prior COVID-19 Pandemic (March 2019-February 2020):	
Admissions for patients with psychiatric history, hospitalized for non-psych conditions (i.e. DKA, infection, accidental trauma etc):	108
Admissions for intentional ingestion:	25
Admissions for intentional gun violence:	0
Admissions for hanging:	1
Admissions for NMS/catatonia:	1
Admissions for abuse:	0
PICU Admissions During COVID-19 Pandemic (March 2020-February 2021):	
Admissions for patients with psychiatric history, hospitalized for non-psych conditions (i.e. DKA, infection, accidental trauma etc):	110
Admissions for intentional ingestion:	44
Admissions for intentional gun violence:	2
Admissions for hanging:	1
Admissions for NMS/catatonia:	3
Admissions for abuse:	6

- Prior to the pandemic, there were 27 PICU admissions for psychiatric related conditions (i.e. intentional ingestion, suicidal behaviors, catatonia etc.), or 4.52% of all PICU admissions. After the onset of the pandemic, there were 57 PICU admissions for psychiatric related conditions, or 11.19% of all PICU admissions.

Conclusion

- Despite an overall decrease in total pediatric encounters for all causes after the onset of the pandemic, the number of psychiatric-related encounters remained constant, and made up a larger proportion of all encounters after the onset of the pandemic, reinforcing the impact that the pandemic has had on the mental health of the child and adolescent population.
- During the COVID-19 pandemic, routine ER visits for mild to moderate mental health crises declined, but in a sub-group of patients, there appears to be a pandemic related psychiatric decompensation leading to higher number of intentional ingestions and related PICU admissions.

References

- [1] Hossain, MM et al. (2020). Epidemiology of mental health problems in COVID-19: a Review. *F1000Research*.
- [2] Fegert, JM et al. (2020). Challenges and burden of the Coronavirus 2019 (COVID-19) pandemic for child and adolescent mental health: a narrative review to highlight clinical and research needs in the acute phase and the long return to normality. *Child and Adolescent Psychiatry and Mental Health*.
- [3] Brooks, SK et al. (2020). The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *The Lancet*.