

## Current situation and clinical burden of pediatricians for children with eating disorders during the COVID-19 pandemic

Yuki Mizumoto<sup>1,2</sup>, Yoshinori Sasaki<sup>1,3</sup>, Hikaru Sunakawa<sup>1</sup>, Shuichi Tanese<sup>1</sup>, Rena Shinohara<sup>1</sup>, Toshinari Kurokouchi<sup>1</sup>, Kaori Sugimoto<sup>1</sup>, Manao Seto<sup>1</sup>, Masahiro Ishida<sup>1,4</sup>, Kotoe Itagaki<sup>5</sup>, Yukino Yoshida<sup>5</sup>, Saori Namekata<sup>5</sup>, Momoka Takahashi<sup>2</sup>, Ikuhiro Harada<sup>6</sup>, Shoko Sasaki<sup>7</sup>, Kiyoshi Saito<sup>8</sup>, Yusuke Toguchi<sup>9</sup>, Yuki Hakosima<sup>1</sup>, Kumi Inazaki<sup>1</sup>, Yuta Yoshimura<sup>1,5</sup>, Masahide Usami<sup>1,2,4,\*</sup>

<sup>1</sup> Department of Child and Adolescent Psychiatry, Kohnodai Hospital, National Center for Global Health and Medicine, Chiba, Japan;

<sup>2</sup> Clinical Center of Children's Mental Health, Kohnodai Hospital, National Center for Global Health and Medicine, Chiba, Japan;

<sup>3</sup> Department of Psychiatry and Behavioral Science, Tokyo Medical and Dental University Graduate School, Tokyo, Japan;

<sup>4</sup> Department of Psychiatry, Faculty of Medicine, Fukuoka University, Fukuoka, Japan;

<sup>5</sup> Department of Clinical psychology, Kohnodai Hospital, National Center for Global Health and Medicine, Chiba, Japan;

<sup>6</sup> Department of Social worker, Kohnodai Hospital, National Center for Global Health and Medicine, Chiba, Japan;

<sup>7</sup> Department of Psychiatry, Kansai Rosai Hospital, Hyogo, Japan;

<sup>8</sup> Department of Psychiatry, Narimasu Kosei Hospital, Tokyo, Japan;

<sup>9</sup> Department of Psychiatry, Komagino Hospital, Tokyo, Japan.

**Abstract:** During the COVID-19 pandemic, the incidence of eating disorders (ED) has increased not only in Japan but also worldwide. This online survey for pediatricians showed that caregivers tend to visit specific pediatric institutions or child psychiatry departments when children under junior high school age develop eating disorders. There are few pediatric institutions regarding treatment acceptance for children with ED. Of the 34 respondents, 16 (47.1%) answered that the number of visits for children with eating disorders had "stayed the same", one answered it had "decreased" and 17 (50.0%) answered it had "increased" or "increased very much". In addition, 28 of the 34 respondents (82.3%) experienced difficulties with psychotherapy for children with ED. For treating children with ED, pediatricians usually conducted physical examination and have some clinical burden. ED are increasing in the COVID-19 pandemic. Because children with severe ED need to be hospitalized, child and adolescent psychiatric wards are overcrowded and some children with other mental disorders can't be admitted.

**Keywords:** eating disorder, Child, COVID-19

During the COVID-19 pandemic, the number of children with eating disorder (ED) who visited the Department of Child Psychiatry at Kohnodai Hospital, National Center for Global Health and Medicine (NCGM), has increased by 2.3 times from 1.3 to 3.1 patients/month from March 2020 to May 2021 (Table 1) (1-7).

We conducted a questionnaire survey of pediatricians in Chiba Prefecture to report on the current pediatric setting for children with ED under junior high school age during the COVID-19 pandemic. This online survey was conducted from the end of October to the end of December 2021, targeting approximately 200 pediatricians who belong to the Chiba Association of Pediatricians. This study was conducted with the approval of the Ethics Committee of NCGM (NCGM-S-4398).

The survey response rate was 34 of 200 (17%), of which 32 respondents (94.1%) were working in

pediatrics and the remaining two respondents (5.9%) were working in internal medicine. Eighteen respondents (52.9%) worked in general hospitals and 14 (41.2%) in clinics. Regarding the respondent's qualifications, 30 respondents (88.2%) were pediatric specialists, and two respondents (5.9%) were children's mental health specialists.

Regarding the inpatients and outpatients with ED, about 85% of the respondents had experienced treating children with ED: 16 (47.1%) reported that they "currently treat", 13 (38.2%) reported that they "treated in the past but not now", and 5 (14.7%) reported that they "have never treated". When the 16 respondents with current patients with ED were asked about the number of patients under junior high school, 15 of the 16 respondents answered "1-5 children", which accounted for most of the patients, and one respondent answered "21-30 children". Of the 16 respondents, 4 respondents

answered "one child", and one respondent answered "5 or more children".

When the children with ED under junior high school age visited the clinic, height and weight measurements were conducted, followed by blood tests in 34 of the 36 respondents (94.4%). Additionally, "conduct an electrocardiogram" and "clearly inform the patient that specialized treatment is not available" were followed, and "refer the patient because there are no inpatient facilities" was the least common response (Table 2). Of the children with ED who had been hospitalized, 14 respondents (41.2%) reported that "they had been hospitalized in the past but not now", 13 respondents (38.2%) reported that "they had never been hospitalized" and 7 respondents (20.6%) reported that "they were currently hospitalized". Regarding the age and sex of current hospitalized patients with ED below junior high school age, there were no boys in either primary or junior high school, with primary school girls being the most common (all responses) and junior high school girls (3 out of 7 responses).

In terms of the number of visits for children with eating disorders, of the 34 respondents, 16 responders (47.1 %) indicated "unchanged", 1 respondent indicated "decreased", and 17 respondents (50.0%) indicated "increased" or "very much increased". Furthermore, 28 out of 34 (82.3%) had difficulties with psychological treatment of children with ED.

In terms of problems in treating ED in secondary school students, "lack of referral sources/specialist facilities" was the most common problem encountered by all respondents. This was followed by "dealing with overeating, anorexia and hyperactivity", "diagnosis of depression, anxiety, *etc.*", "psychological treatment" and "parental support". Respondents struggled with managing their symptoms, diagnoses and responses to psychological symptoms, and parental support. In terms of treatment, 6 respondents reported "difficulty in finding a specialist facility to refer to (or be accepted by)", while another 6 respondents reported "lack of a collaborative system", followed by "not knowing the goal of treatment" and "not knowing medications for comorbid

**Table 1. ED in the pre- and post-pandemic period**

Characteristics	Pre-Pandemic Jan. 2016–Feb. 2020	Pandemic Mar. 2020–May. 2021
Number of children with eating disorders	66	54
Average outpatient/month	1.3	3.1
Boys/Girls	8/58	0/54
Average age	12.3 (8–15)	13.0 (9–15)
Elementary/Junior high school students (rate of elementary school students)	23/43 (34.8%)	11/43 (20.3%)
Rate of inpatients	30.3%	25.9%
Elementary school students	39.1%	63.6%
Junior high school students	25.6%	16.3%
Referral rate from other hospitals	80.3%	80.8%

ED, eating disorders.

**Table 2. Problems in the pediatric clinical field**

Problems	Not troubling	Not much	Neither	Sometimes	Severe trouble
<b>Diagnosis</b>					
Diagnosis of ED	2 (5.9%)	9 (26.5%)	2 (5.9%)	12 (35.3%)	9 (26.5%)
Diagnosis of developmental disorders	0 (0.0%)	8 (23.5%)	4 (11.8%)	14 (41.2%)	8 (23.5%)
Diagnosis of depression and anxiety disorders	0 (0.0%)	3 (8.8%)	3 (8.8%)	8 (23.5%)	20 (58.9%)
<b>Treatment</b>					
Physical treatment	1 (2.9%)	11 (32.3%)	5 (14.7%)	7 (20.6%)	10 (29.4%)
Psychological treatment	1 (2.9%)	3 (8.8%)	2 (5.9%)	9 (26.5%)	19 (55.9%)
Parental support	0 (0.0%)	3 (8.8%)	1 (2.9%)	14 (41.2%)	16 (47.1%)
Prolonged hospitalization	0 (0.0%)	2 (5.9%)	9 (26.5%)	11 (32.3%)	12 (35.3%)
<b>Behavioralization</b> ( <i>e.g., overactivity/overeating</i> )	0 (0.0%)	2 (5.9%)	9 (26.5%)	9 (26.5%)	14 (41.2%)
<b>Few experience</b>					
Treating elementary school children with ED	0 (0.0%)	4 (11.8%)	6 (17.6%)	8 (23.5%)	16 (47.1%)
Treating junior high school children with ED	0 (0.0%)	3 (8.8%)	6 (17.6%)	9 (26.5%)	16 (47.1%)
Dealing with AN	0 (0.0%)	3 (8.8%)	0 (0.0%)	15 (44.1%)	16 (47.1%)
Dealing with overeating	2 (5.9%)	0 (0.0%)	2 (5.9%)	12 (35.3%)	18 (52.9%)
Dealing with overactivity	0 (0.0%)	2 (5.9%)	1 (2.9%)	12 (35.3%)	19 (55.9%)
Collaborate in local area					
Lack of referral specialists	0 (0.0%)	0 (0.0%)	0 (0.0%)	8 (23.5%)	26 (76.5%)
Cooperation with schools	0 (0.0%)	5 (14.7%)	3 (8.8%)	14 (41.2%)	12 (35.3%)

ED, eating disorders.

anxiety, depression and other psychiatric symptoms".

The data from this survey were underpowered due to the low response rate. Almost all respondents were pediatricians working in general hospitals or clinics, and almost 90% of them were consultant pediatricians.

Approximately 60% of the pediatricians had experience with inpatient treatment, and currently "elementary school girls" were the most frequently hospitalized, as in previous reports in Japan (1).

This survey showed that the children with ED in pediatric unit during the COVID-19 pandemic was increased compared with the situation before the pandemic as same as the psychiatric department (8). This suggests that when children under junior high school age with ED, they may be more likely to choose a specific pediatric institution and child and adolescent psychiatric institution. However, "lack of referral sources/specialized institutions", "dealing with actual symptoms", "diagnosis and response to psychiatric symptoms" and "parental support" were very serious problems in the Japanese pediatric field. It was found that pediatricians in both general hospitals and clinics carefully follow up patients on an outpatient basis, taking height and weight measurements and performing blood tests, but they observed lack of a specialized hospital to which they could refer patients in an emergency and a lack of coordination between them.

Several reasons for this increase in children with ED visits have been explored, but the evidence is clear. In the clinical setting, regardless of the COVID-19 pandemic, some children with ED need to be hospitalized for treatment, as their excessive eating problems, low body weight and poor nutritional status make it an extremely life-threatening condition.

Several social problems have been observed. Only a limited number of hospitals have wards specializing in child and adolescent psychiatry, and even fewer general hospitals in Japan can provide physical treatment for severely underweight children (1). In addition, the rate of admission to child and adolescent psychiatric wards has increased rapidly due to the rapidly increasing incidence of children with ED. This makes it difficult to treat cases with problems such as severe self-harm, suicide attempts, obsessive-compulsive symptoms, and domestic violence, for which inpatient treatment would be preferable. The clinical implications are that pediatrics and child psychiatry need to work together to manage children with eating disorders in the community.

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*\*Address correspondence to:*

Masahide Usami, Department of Child and Adolescent Psychiatry, Kohnodai Hospital, National Center for Global Health and Medicine, 1-7-1 Kohnodai, Ichikawa, Chiba 272-8516, Japan.

E-mail: usami.masahide@hospk.ncgm.go.jp