

## Could the COVID-19 Pandemic Be a Trigger for Eating Disorders?

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### ABSTRACT

The pandemic and the accompanying stress have led to an increase in mental health problems worldwide. An increasing trend has been observed in eating disorders, particularly in adolescents. We aimed to investigate triggering factors in patients whose first application was during the pandemic. In this case series, we examined 4 female patients aged 14-16 years who were diagnosed with eating disorders. We observed that during the COVID-19 pandemic, existing family conflicts worsened with an increase in the time spent at home due to the restrictions. The increase in social media usage and emphasis on healthy nutrition and the decrease in social relations with friends may have triggered the emergence of new eating disorder symptoms. Clinicians should be aware that the stress caused by the pandemic on adolescents may be a trigger for serious psychiatric disorders such as eating disorder.

**Keywords:** COVID-19, eating disorders, anorexia nervosa, adolescents

### INTRODUCTION

With the onset of the coronavirus pandemic, the number of patients admitted to outpatient clinics with complaints of eating disorders (ED) has increased significantly.<sup>1</sup> Especially among the more vulnerable adolescent population, the introduction of home education and the increase in the time spent with the family have led to an exacerbation of existing conflicts. The factors that are thought to affect the relationship between COVID-19 and ED are increased anxiety and uncertainty, increased exposure to social media, greater emphasis on sports and healthy eating, and restricted face-to-face social relationships. It has been emphasized that the need for routine are crucial for patients as a way of coping with change and preventing boredom, which often leads to increased ED anxiety.<sup>2</sup> Decreased social contact and disruptions in daily routines can also increase negative affect.<sup>3</sup> In Italy, where the pandemic was severe at the beginning, nearly half of the 602 respondents felt anxious due to their eating habits, consumed comfort food, and tended to increase their intake to feel better.<sup>4</sup>

This case series aimed to investigate the factors that may trigger ED in adolescents during the COVID-19 period and to share points that can guide clinicians through our own experiences.

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## CASE PRESENTATIONS

In this case series, we longitudinally followed 4 adolescents who applied to the outpatient clinic with eating complaints after the onset of COVID-19. It was striking that all 4 patients were girls between the ages of 14 and 16. Three patients were diagnosed with other psychiatric disorders, such as anxiety disorder and trichotillomania, before COVID-19. Three patients diagnosed with anorexia nervosa (AN) had a body mass index (BMI) of 15, 13.7, and 10.8, respectively. They all started to lose weight and developed reluctance to eat after the onset of the pandemic. Bulimic patient complaints started with episodes of vomiting during gastroenteritis and never ceased afterward.

The first patient was a 16-year-old girl, her complaints started when her mother left home to help her grandmother, who had a COVID-19 infection. As schools switched to online education, the time she spent alone at home increased and she focused more on her body image and weight. In the beginning, she started decreasing the amount and variety of food she was eating, and also she skipped breakfasts. She lost weight day by day and her current weight is 36 kg, height is 162 cm, and BMI is 13.7. She describes her body as "weak" and "unhealthy." She was diagnosed with AN restricting type and comorbid depression. Her follow-up continued with sertraline (37.5 mg), aripiprazole (2 mg/day), and weekly supportive therapy sessions. After 5 months, the sertraline dose was increased to 50 mg. At the end of 1 year, the patient's weight increased to 49 and BMI to 18.67. The symptoms of the ED resolved. The drug dose was then tapered off.

The second patient, a 16-year-old female, was a licensed athlete. Her complaints increased because of the inability to exercise due to the pandemic. She realized weight gain after hearing a comment from relatives and started dieting in June 2020. There was no prior history of dieting. She developed the behavior of increasing restrictions on certain days to eat more food on other days. She had no compensatory behavior, and once she attempted to vomit, but she failed. She explained that she had experienced intense stress before eating. She was diagnosed with the AN restricting type, with a comorbidity of social anxiety disorder and depression. Follow-up continued with fluoxetine (20 mg), mirtazapine (15 mg), and aripiprazole (5 mg/day), accompanied by weekly supportive therapy sessions. After 3 months, the patient left the treatment voluntarily. One month later, she applied again due to relapsing; fluoxetine 40 mg and risperidone 1 mg were started. With 6 months of weekly supportive therapy sessions and drug treatment, her weight increased from 44 to 58 kg. She has not had binge eating attacks for the last 3 months, and her weight has been stable.

The third patient, a 14-year-old girl, noticed that when the pandemic started, many people gained weight and shared many dietary programs and lists on social media. She encountered these pieces of information via social media and worried a lot about gaining weight. At the same time, especially when she got angry, she was doing heavy exercises, jumping, and walking throughout the day at home. She believed that she could not eat freely unless feeling very hungry, this was why she skipped 1 or 2 meals per day. Her weight decreased from 38 to 25 kg (BMI: 10.8, below 3rd percentile), and she experienced pain in her chest and back and hair loss. The patient developed acute renal failure and was hospitalized. Seven months after discharge, she was admitted to our clinic because of weight loss. She emphasized that being exposed to such content increased her

anxiety. She was diagnosed with the AN restricting type. Supportive therapy was administered once a week, in addition to sertraline 50 mg and olanzapine 5 mg/day. After the sixth month of weekly supportive therapy, her BMI gradually increased to 21. Food related preoccupations, fear of gaining weight, and deterioration in body image were diminished, and menstruation resumed. Sertraline and olanzapine were discontinued at the 1-year follow-up. BMI remained stable.

The fourth patient was a 16-year-old girl, who stated that her complaints increased when her family commented on her meals and that vomiting was a relief when she felt that she was overeating. Initially, she felt relieved by vomiting after gastroenteritis in April 2020, and the patient continued her vomiting behavior. After starving for extended periods of up to 24 hours, she usually had binge eating attacks followed by vomiting. She had a strict list of prohibited food items. She started intense weight-lifting exercises at home as compensatory behavior. The patient, whose complaints increased after quarantine, began to have suicidal ideation. During the quarantine period with her family, her anxiety increased due to her family's criticism and lack of empathy. Her mother was still undergoing major depression treatment and had been hospitalized before. The patient was diagnosed as having bulimia nervosa (BN). Supportive therapy once a week in addition to venlafaxine (150 mg) and olanzapine (2.5 mg/day) was initiated. During the treatment, the mother's condition deteriorated, she could not receive support from her family, and she was admitted to the inpatient service due to a suicide attempt. The patient was discharged after 7 days. Her follow-up continues on an outpatient clinic basis with venlafaxine (150 mg) and olanzapine (5 mg/day).

## DISCUSSION

In the follow-up of these patients, it was observed that during COVID-19 pandemic, the existing family conflicts worsen with the increase in the time spent at home with the restriction, the increase in the social media usage and emphasis on healthy nutrition, and the decrease in social relations with the friends might be triggers for emerging new ED symptoms. Adolescents with COVID-19 pandemic-onset eating disorders have been observed by other investigators as secondary effects of pandemic.<sup>5</sup> Katsumi et al's<sup>6</sup> study has shown that social and intrafamilial isolation may be effective for the development of EDs. As in our study, there are studies showing that in contrast to the normal adolescence period, where peer relations are at the forefront, mandatory restriction of meeting with peers may make this age group more vulnerable to the negative mental effects of the pandemic.<sup>7</sup> Agostino et al's<sup>8</sup> study showed that ED severity was worse among patients who were diagnosed during the first wave rather than before the pandemic and more hospitalization was required.

In a qualitative study investigating the impact of confinement in adolescents with AN, the main themes identified involved not only restrictions of personal freedom, interruption of the treatment routine, changes in AN symptoms, more exposure to triggering situations, COVID-19-related fears, and compulsions but also potential opportunities like better family relationships.<sup>9</sup> Spending more time on diet pages on social media and not being able to exercise regularly during the COVID-19 pandemic can be interpreted as sustaining factors for anorexia triggered by weight gain. Jiotsa et al's<sup>10</sup> study found a relationship between the frequency of comparing one's own physical appearance with that of people

following social media and body dissatisfaction. This link may lead to the deterioration of body image and weight loss. In our cases, social media exposure and familial conflicts were prominent triggers. Developing new symptoms during the pandemic may push young people to obtain false information on the internet due to limited access to health services. It has also been shown that it can provide the opportunity to chat, socialize, and seek advice with people who have similar problems.<sup>11</sup>

In addition, 3 of 4 patients were diagnosed with other psychiatric disorders; this may suggest that adolescents with a psychiatric diagnosis may be more vulnerable to this process than their healthy peers. During the therapy processes, it was observed that all patients had problems in the separation-individualization area. Researchers hypothesized that the symptoms of ED might have a regulatory function for negative emotions such as anxiety that may arise from the problems experienced in the separation-individuation process.<sup>12,13</sup> The fact that adolescents who have played sports as a routine of their lives, due to the cancellation of sports activities together with the pandemic, weight gain, and deprivation of the positive psychological effects of sports may have paved the way for the development of eating disorders.

Our case series includes 3 patients with AN and 1 with BN. Although some minor neurobiological and clinical differences have been reported between AN and BN,<sup>14</sup> most mental functioning aspects appear similar.<sup>15</sup> Most studies usually include AN and BN under "eating disorder" title.<sup>7</sup> Researchers place these pathologies within a continuum of symptoms that distinguishes them by the presence or absence of bulimic episodes, and clinicians can observe transitions between diagnoses.

To conclude, the risk of developing ED in periods such as pandemic, when the time spent at home increases and with the restrictions, should be considered for the adolescent age group. It may be useful to inquire about new symptoms during routine examination.

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