

# “Clinical case and literature review: influence of the Covid-19 pandemic on the development of anorexia nervosa and comorbid depression in adolescents”

Austė Janušauskaitė<sup>1</sup> and Jūratė Baltrėnė<sup>1</sup>

<sup>1</sup>Lithuanian University of Health Sciences

September 28, 2022

## Abstract

We present a case of a 16-year-old female patient who has recently been diagnosed with anorexia nervosa. Although our findings reflect one clinical case, they are consistent with new reports showing that restrictions during a pandemic situation have long-term significant adverse effects on the mental and physical health of adolescents.

## Clinical case and literature review: influence of the Covid-19 pandemic on the development of anorexia nervosa and comorbid depression in adolescents

Austė Janušauskaitė

Faculty of Medicine, Lithuanian University of Health Sciences, Lithuania

**Tutor:** Jūratė Baltrėnė, MD. Child and adolescent psychiatrist at Hospital of Lithuanian University of Health Sciences Kaunas Clinics (Department of Psychiatry), Kaunas, Lithuania. Assistant at Lithuanian University of Health Sciences, Kaunas, Lithuania.

**Introduction:** In March 2020, the World Health Organization (WHO) declared an outbreak of coronavirus (COVID-19) a pandemic that affected the economy, health care, and mental well-being. „It appears that the COVID-19 pandemic has unmasked a global eating disorder public health crisis that was already building“ [1]. In a recent study of adolescents with various mental disorders, not only did they report a deterioration in their mental health during the COVID-19 pandemic, but a quarter stopped using mental health care [2]. This finding is of particular concern for adolescents who have developed eating disorders because they require multidisciplinary interventions. Activities that promote emotional regulation (extracurricular activities, meetings of friends, live communication, visits to therapists) were inaccessible or partially allowed during quarantine. Closure and limited communication become one of the major causes of eating disorders [3].

**Case report:** We present a case of a 16-year-old female patient who has recently been diagnosed with anorexia nervosa, who expressed a desire to lose weight, was reluctant to eat, was afraid of gaining weight, and did not like her appearance. These symptoms occurred and worsened against the context of a COVID-19 pandemic. Written informed consent was obtained from the patient to publish this report in accordance with the journal’s patient consent policy.

The patient has a younger sister under the age of 14, her mother is a medical worker, and her father is an agronomist, and holds a senior position. The father is very restrained and categorical, not very communicative, does not maintain a close relationship with his daughter. The patient notices that the father pays more attention to her little sister, being closer to her. Mom talks about herself as controlling, anxious. The patient feels the importance of family and health to her mother. The girl notices that her mother

is in control but also very caring. The patient's relationship with her mother was strengthened when she developed anorexia.

Early psychomotor development was timely. According to her mother, before kindergarten, the patient was more of an observer and in no hurry to make contact with others. She attended kindergarten from the age of 3, adapted well, was very friendly, a leader, and took care of other children. She was very responsive and constantly cared for her little sister, with whom she went to the same group in kindergarten. She attended school from the age of 7. She was always successful in school; she was active, a leader, and had good grades. In the 9th grade, she changed schools, rejoicing at the new school, although she got along well with her former classmates. As a child, she was afraid to be alone and afraid of thieves. At the age of 10, she experienced a panic episode on the plane, vomited, shook her hands, beat her heart, and was afraid to die.

2 years ago, the COVID-19 pandemic began, in March 2020, due to quarantine restrictions, distance learning was introduced in Lithuania. Having more free time, the patient became interested in weight loss and diets. She lost weight in a few months, but when she returned to class in the fall of 2020, she no longer had time to exercise and plan her diet, claiming to gain up to 57 kg again (in October 2020). She wanted to slim down, so she started reducing her portion of food at the beginning of 2021. The patient actively loses weight for about one year. The patient distanced herself from family and friends, avoided collective activities, became introverted, reduced social contacts, changed her behavior, „from a leading child full of life, became sad, unwilling, uninterested, closed, quiet and isolated”. In July 2021, after a conflict with her mother, the patient intensified her efforts, began counting calories carefully, and became more active. At that time, she weighed 52 kg, later losing her period. The patient adhered to dietary rituals, sports routines, her circle of interests narrowed, and her entire daily routine became focused on diet, weight loss and thinking about it. The patient ate very little, counted grams, avoided fat, sugar, flour products, threw out egg yolks, and ate only beef or chicken. The patient visited the Eating Disorders Center on an outpatient basis for about 3 weeks. Despite the following, the patient began to restrict not only food but also water and stopped taking food supplements. As a result, she was admitted to a psychiatric hospital at the time, weighing 42,7 kg and having a BMI of 14,20 kg/m<sup>2</sup>. After starting treatment in the child and adolescent psychiatry department (inpatient), non-drug treatment was given: adequate nutrition, art and employment therapy, occupational therapy, individual and group psychological counseling, family counseling, social worker counseling. After a few days, she gained up to 43.5 kg, but the patient did not gain weight for a month later. Although she ate full portions, took food supplements, she was constantly negotiating food, hiding food, and secretly exercising. After eating, she felt guilty and was afraid to gain weight, and the anxiety intensified in the evenings. After ensuring a complete diet, persistent mood and anxiety symptoms were observed, so the diagnosis was supplemented: anorexia was accompanied by depression. The situation began to change with the introduction of fluoxetine, which reduced anxiety and stabilized mood. The next step occurred in family therapy; The patient dared to tell her father that she was angry, felt abandoned, and wanted more of his time "only when I am very ill, then I am important." During treatment, the weight increased to 47.7 kg, and the patient was prescribed to continue treatment at home.

**Discussion:** Preventive measures that helped control the Covid-19 pandemic also led to social restrictions, changes in the daily lives of adolescents. Various studies conducted during the pandemic provide reports showing an increase in the number of patients seeking care for eating disorders [4,5]. In Lithuania, while working in clinical practice, we have also observed an increase in eating disorders; unfortunately, we do not have statistics at the national level.

Social constraints of the pandemic deprived adolescents of social support and adaptive coping strategies - decreased protective factors, elevated barriers to care increased eating disorder risk, and burdened their management [3]. Social media also influenced, even the publication of personal images on social networks worsened mood and body image [6]. Although our findings reflect one clinical case, they are consistent with new reports showing that restrictions during a pandemic situation have long-term significant adverse effects on the mental and physical health of adolescents. As in our case, eating disorders were observed in some adolescents during quarantine because they simply had no activity and had more time for diet and exercise

[7]. In the case we discussed, the patient began to recover when her needs in the relationship were met. It is therefore important to note the positive consequences of the COVID-19 period, which in some cases include improved family relationships, being less stressed, and having more time for self-care [8].

This clinical case contributes to the practical understanding of how a pandemic affects adolescent mental health. The major findings of this study suggest that the experience of a pandemic situation, isolation, may provoke changes in daily life and interpersonal relationships that form a pathway to anorexia nervosa manifestation. On the other hand, it may complicate the diagnostics of comorbid pathologies.

This clinical case's limitations were: no possibility to establish a cause-effect relationship, emotional bias and, findings cannot be representative of the entire population. Future research is needed to better understand the impact of the pandemic on the clinical course and outcomes of adolescent eating disorders.

**Conclusion:** It is likely that social isolation, in this case, was the most important factor in reflecting and highlighting relationship problems in the family and inducing the onset of anorexia. Anorexia, on the other hand, was accompanied by depression, which was not observed at the beginning of treatment because it hid under the symptoms of anorexia and, in the context of social isolation, seemed to be the norm. Against the background of a pandemic, it is important for mental health professionals to remain vigilant and to be able to notice any developing mental health disorder and their comorbidities.

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