

## Brief Report

# Eating Disorders (EDs) and the COVID-19 Pandemic: A Pilot Study on the Impact of Phase II of the Lockdown

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**Abstract:** Background: Recent studies have highlighted the relationship between EDs and COVID-19 and have shown how the change in daily dynamics and lifestyle together with the forced isolation regime have worked as psychopathological risk factors. Prolonged isolation, as an effect of the lockdown, has generated anxieties and fears related to the loss of control, increasing food restrictions. Aim: The aim of this study was to evaluate the impact of COVID-19 on symptoms, body image and the relationship between the onset of symptoms and the second block of the pandemic period. Methods: A total of 14 female patients (mean age = 18.71; SD = 5.59) with anorexia nervosa in treatment before the COVID-19 outbreak contributed to this study. The evaluation included the EDI-3, BUT and Disgust Scale-R questionnaires for general psychopathology, personality and ED severity indexes. Results: A total of 30% of patients reported increased symptoms during lockdown, and 88.2% passed the clinical cut-off on the general psychological maladaptation scale (EDI-3–GPMC > 26p), showing widespread dissatisfaction with body image and increased diet-related stress. Conclusions: Preliminary data on these specific vulnerability factors combined with stressful situations—in our case, the isolation due to the COVID-19 pandemic—can help in the design of personalized preventive and therapeutic approaches.



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## 1. Introduction

Many studies [1–5] have analyzed various factors associated with changes due to the COVID-19 pandemic that could affect the risk of developing symptoms related to eating disorders (EDs). The authors suggested that the factors involved might include a decrease in adaptive coping strategies and an increased risk related to social limitations and changing daily routines.

The limitations and social restrictions implemented to reduce the spread of SARS-CoV-2 infection have negatively influenced the quality of life (QoL) of people and, often, have been the cause of the onset or worsening of symptoms related to eating disorders related to a negative body image [2].

Flaudias and colleagues [3] investigated the relationship between stress due to lockdown measures, binge eating and dietary restrictions in a French student population during the first lockdown, which began in March 2020. The study revealed a correlation between increased stress levels and the high likelihood of binge eating and dietary restrictions associated with specific variables such as female sex, low impulse regulation, high body dissatisfaction, and probable and latent vulnerability to EDs.

The causes of this high risk have been explored and are attributed to disruptions to daily routines and limitations of motor activity, which often favored weight gain and negatively impacted eating, exercise and sleep patterns, which, in turn, increased the risk and symptoms of EDs [6]. Other detrimental factors were anxiety about getting sick and greater exposure to news from the mass media and social networks. Clark Bryan

and colleagues [7] particularly focused on patients with anorexia nervosa (AN) and their caregivers through a study using an interview analysis, and identified four clusters for patients with EDs: 1. reduced access to services for eating disorders; 2. the interruption of routine and socialization activities; 3. greater psychological distress and amplified symptoms of eating disorders; and 4. increased attempts to self-manage seizures without consulting the doctor. Additionally, four clusters were identified for their caregivers: 1. concern about the lack of professional medical support for patients; 2. greater requests from patients; 3. managing the patient's well-being despite social limitations; and 4. new ways of dealing with the stressors that occurred following the pandemic.

Dumitraşcu and colleagues [8] conducted an interesting analysis on the studies carried out on patients with EDs during the COVID-19 pandemic, highlighting that for subjects with AN, there was greater concern about which food plan to follow, whereas for subjects with bulimia nervosa (BN) or binge eating disorders (BED), bingeing episodes increased compared to the pre-pandemic period. Additionally, anorexic patients have been associated with increased compensatory exercise and episodes of disease relapse even if the condition had previously resolved, with compulsive purging and bingeing behaviors.

The pandemic has compromised access and visits for many outpatient health services and, obviously, also for EDs; these changes in routine activities have brought additional stress to all patients regardless of specific diagnosis, resulting in high levels of depression and anxiety, especially for patients with AN.

In line with recent literature, we would like to share our clinical experience of the impact of COVID-19 in Eating disorder (ED) patients during the second phase of lockdowns in Italy, the context of the current study.

Italy was the second country in the world, after China, to be affected by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection (21 February 2020) and the first country in Europe to impose drastic measures to contain the infection. Starting from 5 March, the government of Italy imposed a national lockdown or quarantine, with the closure of schools and many commercial activities deemed non-essential (such as gyms, discos, pubs, etc.). Strict restrictions on the movement and mobility of people were imposed, and smart working was heavily incentivized for companies.

Regular hospital activity, including hospitalizations and routine checks, has also been hit hard, with priority being given to the hospitalization of COVID-19 patients [9]. A study by Boldrini and colleagues [10] on the consequences of the lockdown in the first phase of the COVID-19 pandemic on admissions to general hospital psychiatric wards in Italy highlighted a 41% reduction in psychiatric hospitalizations together with a 35% increase in patients who reported suicidal ideation.

On 18 May 2020, in consideration of the decrease in the number of infections, the Italian government declared “phase 2” of the emergency, putting an end to the restrictive measures, bringing Italian lifestyles back to the pre-pandemic stage and starting a gradual resumption of routine clinical activity.

In this study, we hypothesized that ED patients would exhibit significantly higher levels of ED symptoms. Furthermore, from a longitudinal perspective, we evaluated whether the symptoms already present remained stable or worsened during the period of the lockdown measures.

## 2. Materials and Methods

Data were collected between April and June 2021.

During the lockdown, further procedures were activated to prevent contagion, especially in the hospital setting, which suspended non-urgent outpatient visits. For this reason, we used the telehealth testing mode [11], agreeing to an appointment with patients on Google Meet, during which the psychologists presented the tests selected for the purpose of the research.

During the meeting, after accepting the informed consent that explained the purpose of the investigation, the processing of personal data and the guarantee of anonymity, the patients were subjected to the following structured protocol of tests:

- (a) Eating Disorder Inventory-3 (EDI-3) [12,13]. The EDI-3 comprises 91 items that evaluate psychological constructs known to be clinically relevant to eating disorders. The items are organized into 12 subscales, of which three risk scales (drive for thinness, bulimia, and body dissatisfaction) assess attitudes and behaviors concerning eating, weight, and body shape. The remaining nine psychological scales (low self-esteem, personal alienation, interpersonal insecurity, interpersonal alienation, interoceptive deficits, emotional dysregulation, perfectionism, asceticism, and maturity fears) assess psychological traits that are associated with the development and maintenance of eating pathology;
- (b) Body Uneasiness Test (BUT) [14]. This scale is made up of 71 items with multiple choice answers and is divided into two parts: BUTa, made up of 34 clinical items, and BUTb, made up of 37 items that list parts and functions of the body. Clinical items provide an overall severity score and five scale scores: Weight Phobia (WP: morbid fear of weight gain), Body Image Concerns (BIC: excessive preoccupation with one's physical appearance), Avoidance (A: avoidance linked to body image), Compulsive Self-Monitoring (CSM: compulsive control of physical appearance), and Depersonalization (D: depersonalization, experiences of detachment and alienation from one's own body). The test explores the distortion of the body image, understood as a cognitive-affective attitude for one's body. In the present study, for research purposes, we used only the A scale;
- (c) Disgust Scale-Revised (DS-R) [15,16]. The 27-item DS is rated on a four-point scale (scored 0–4) with regard to the extent that participants find the experience not disgusting at all or very disgusting. A total score for overall disgust sensitivity may be calculated using the mean scores. The DS-R has demonstrated a high degree of internal consistency and adequate convergent and discriminant validity.

### 3. Participants

The group of participants consisted of 17 female patients with AN (mean age = 18.71; SD = 5.59). They were all diagnosed with an ED as they were already being treated at the ED unit “Asl Napoli 2 Nord” (Campania, Italy). All patients were diagnosed according to DSM-5 [17] criteria for anorexia nervosa—restricting type or anorexia nervosa—binge-eating/purging type.

Socio-demographic/clinical information (see Table 1), including age, weight and height, marital status, symptom onset and COVID-related variables, was collected through the open-ended questions of the EDI-3 questionnaire.

**Table 1.** Socio-demographic/clinical information.

Variable		Percent (%)
Marital status	Single	70.6
	Married	29.4
Coffee	Yes	35.5
	No	64.7
Alcohol	Yes	5.9
	No	94.1
Smoke	Yes	17.6
	No	82.4
Pharmacological treatment	Yes	47.1
	No	52.9
<b>Body index</b>	<b>Mean</b>	<b>SD</b>
Weight	44.08	13.10
Height	161.47	6.17
BMI	17.79	2.33

Participants were generally single (70.6%), and 17.6% smoked regularly, 5.9% drank alcohol on social occasions, 35.3% drank coffee, and 47.1% were on pharmacological treatment with antidepressants.

The body mass index (BMI) mean score was 17.79 (SD = 2.33).

#### 4. Results

Specifically, patients in our sample reported greater concerns about the pandemic and an increased sense of loneliness and restlessness during the pandemic [5].

Our data significantly reflect the existing literature based on the following results (see Table 2): all participants in our sample had clinical scores of pathological severity on the Global Severity Index (BUT-GSI  $\geq 1.2$ ), which indicates the clinical and pathological presence of body image distortion; the Weight Phobia scale (BUT-WP  $\geq 1.2$ ), which evaluates an individual's concern about weight; and the Depersonalization scale (BUT-D  $\geq 1.2$ ), which investigates the presence of feelings of detachment and alienation from one's own body. Furthermore, 94.1% of the participants in our sample reported excessive concerns about their physical appearance (BUT-BIC  $\geq 1.2$ ), 82.4% of the participants indicated avoidance behaviors related to body image (BUT-A  $\geq 1.2$ ), and 88.2% of the participants indicated compulsive control of their physical appearance (BUT-BIC  $\geq 1.2$ ).

**Table 2.** BUT-A: GSI and subscales defined as a percentage of the clinical/non-clinical range.

	Clinical	Non Clinical
WP, Weight Phobia	100%	-
BIC, Body Image Concerns	94.1%	5.9%
A, Avoidance	82.4%	17.6%
CSM, Compulsive Self-Monitoring	88.2%	11.8%
D, Depersonalization	100%	-
GSI, Global Severity Index	100%	-

Regarding the eating disorder risk scale (see Table 3), 82.4% of the participants in our sample were at risk of an eating disorder (EDI-3-EDRC > 26p); specifically, 5.9% of the participants fell within a high clinical range, and this clinical level of discomfort was also highlighted on the interpersonal insecurity scale (EDI-3-II > 85p).

**Table 3.** EDI-3: ED risk scales, psychological scales and composite scores defined as a percentage of the clinical/non-clinical range.

	Clinical	Non Clinical
Eating Disorder Risk—EDRC	82.4%	17.6%
Interpersonal Insecurity—II	11.8% *	88.2%
General Psychological	100%	-
Maladjustment—GPMC		

\* 5.9% clinical interest range; 5.9% high clinical range.

We found that 30% of the patients interviewed indicated to the open-ended item of EDI-3 that the onset of EDs occurred during the pandemic ("J. At what age did the weight problems start (if any)?").

Furthermore, a statistically significant negative correlation ( $p = 0.05$ ) emerged between the Disgust Scale (DS-R) and the EDI-3 subscales, specifically "B—Bulimia" ( $p = -0.540$ ) and LSE—Low Self-Esteem ( $p = -0.540$ ).

#### 5. Discussion

According to the published literature, there is widespread body image dissatisfaction, especially following lockdowns [2], and an increased level of stress related to nutrition [3], changes in eating routines and decreased physical activity [4].

In Italy, during the pandemic period, EDs increased by 30% among adolescents, especially AN [18]. Our preliminary results are in agreement with these data: i.e., 30% of the patients interviewed reported the onset of symptoms for AN during the lockdown.

Body image disturbance is, therefore, characterized as a symptom transversal to the different DCA diagnoses, placing itself as a precipitating, worsening and maintenance factor of eating disorders [19].

In scientific literature, body image disorder is commonly described as a condition in which three different components of body image are altered [20]: the affective, cognitive and perceptive components. The affective component concerns the feelings and emotions experienced towards one's body, a body that is far from an internalized ideal of beauty and that manifests itself as an important emotional experience of dissatisfaction [21]. Other emotional aspects may relate to emotions of anxiety, shame or disgust typically felt when observing one's body in the mirror or in photography. In fact, we found from our data a statistically significant negative correlation ( $p = -0.540$ ) between the Disgust Scale (DS-R) and the Bulimia and Low Self-Esteem subscales (EDI-3), showing that as one index increases, the other decreases and vice versa. Specifically, the Bulimia (B) construct assesses the tendency to think about and to engage in bouts of uncontrollable overeating (binge-eating), and the Low Self-Esteem (LSE) construct measures the basic concept of negative self-evaluation.

As suggested by Cooper and colleagues [1], distance learning, distance from friends, and living mainly at home, which has now become the vital space in which to build one's daily life, have contributed to suffering and discomfort, which, very often, have resulted in hyper-control relating to one's diet and in compulsive behaviors related to body checks. In fact, all the participants in our sample exceeded the clinical reference cut-off for the general psychological maladjustment scale (EDI-3-GPMC > 26p); specifically, 82.4% of the participants in the sample fell within a high clinical range.

## 6. Conclusions

Nutrition and EDs, particularly anorexia, bulimia nervosa and binge eating disorder, are public health problems of increasing importance due to their prevalence, increasingly early onset among young people and complex multifactorial etiology. It is important to identify them and intervene promptly because, if not treated properly, they increase the risk of permanent damage to all organs and systems of the body, which, in the most serious cases, can lead to death.

The interpretation of the results further shows the importance of investigating multiple aspects that underlie the etiology of EDs as critical events that compromise the habits and quality of individual life, which can result in risk factors or the maintenance of symptoms.

It is important to draw attention to nutrition and eating disorders during the COVID-19 pandemic for four main reasons: (1) the risk of relapse or worsening of the disease; (2) the increased risk of COVID-19 infection among those suffering from EDs; (3) the possible appearance of an ED from scratch or addictive behaviors; (4) the inadequacy of the offering of psychological and psychiatric treatments during the COVID-19 emergency.

The present study has some limitations: the sample size is quite small, the included patients were all on treatment, and we did not investigate additional socio-demographic variables (for example, demographics and family background). Furthermore, given the restrictions to prevent COVID-19 contagion, it was not possible to schedule follow-up meetings to monitor symptoms.

Future studies should aim at expanding the sample and investigating the complex interrelationships involved in gastroenterological dysfunctions associated with anorexia nervosa and other EDs.



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**Informed Consent Statement:** Informed consent was obtained from all the subjects involved in the study.

**Data Availability Statement:** Anonymized data are available upon request.

**Conflicts of Interest:** The authors declare no conflict of interest.

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