

Case Report

Eating Causes Clinically Significant Distress: Food Addiction as a Disordered Belief in Anorexia Nervosa?

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Abstract: Anorexia nervosa (AN) is characterized by an intense fear of weight gain, dietary restriction resulting in a significant weight loss compared with what is expected, and a disturbance in body image on a psychological basis. Recently, cases of AN associated with food addiction (FA) were described in almost all patients (69%), bringing a controversial aspect to the restrictive subtype (AN-r) that, in theory, even in the absence of binge eating, would present difficulties regarding control. Objectives: To report a case of an adolescent with AN-r associated with FA. Methods: Clinical history, current status, psychiatric diagnosis, and scores on scales to assess FA, food craving, and binge eating were analyzed. Results: This case report emphasizes the importance of new diagnostic tools to identify FA and whether it exists in people with AN-r beyond distress regarding eating behavior, cravings, and guilt. Eating behavior also presents a negative value that delays the elaboration process and the emergence of food cravings. In addition, an analysis of the association between the diagnostic criteria for substance use disorder, binge eating disorder, anorexia nervosa, and bulimia nervosa with the Yale Food Addiction Scale statements and criteria was discovered. Conclusions: Based on the characteristics of AN, emotional dysregulation and eating difficulties seem to overlap with FA symptoms.

Keywords: food craving; food addiction; anorexia nervosa; eating disorders



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1. Introduction

Regarding eating behavior, there is a new notion surrounding food, in which some foods, in certain circumstances, could generate an addictive-like state. This adds to the difficulty in treating obesity, increased binge eating, and eating disorders, but it is also a consequence of a very well-structured framework in the area of chemical dependency and substance use disorders [1]. Currently, the entire line of research in food addiction (FA) relies on self-reporting, as there are only measures where the participant fills in about their eating behavior themselves. The scale focuses on difficulties in control and considers issues such as binge eating, emotional eating, craving, and impairment in activities because of food. Furthermore, one part of the scale that is proposed is that because of food's effects, the person could have had an accident while driving a car [2].

People with anorexia nervosa (AN) present intense fear of weight gain, a dietary restriction that ensures a significant weight loss compared with what is expected, as well as a disturbance in body image. Brain and neuropsychological alterations are described and corroborated with rigidity and impulse control [3,4]. Cases in which the disease is in its early stages have a better prognosis and are the target of various interventions that aim to break the cycle of disorder maintenance and its worsening [5].

Food cravings (FC) are defined as episodes of elaboration and imagination about food where there is a search for pleasure and/or relief [6]. These episodes involve internal and external factors associated with the emergence of FC. External factors: include positive/adverse events, food environment, advertising, cultural beliefs about food, specific places, and the food itself. Activation by association and responsiveness of these factors contributes to the emergence of intrusive thoughts that could result in the FC episode [7,8].

The internal factors are food restriction (and the role of food deprivation, food reward, and impulsivity/inflexibility) and emotions/thoughts/feelings about food (where the diet mentality resides). Regarding physiological factors, these are hunger/satiation/appetite levels, as well as anxious and depressive symptoms [9].

Considering responsiveness to food stimuli and patients with AN, a negative value is attributed to this response. It delays the elaboration process and emergence of FC, associated with success in restriction in these patients. Veenstra and de Jong [10] described lower levels of FC in individuals with AN compared with the controls. This contributes to dietary restriction and weight loss, while for other types of eating disorders, FC is more dysregulated with greater intensity and frequency of cravings [9]. Adler and colleagues [11] found a total FC score of 95.96 (± 35.31) for AN and 82.41 (± 23.83) for the controls, with very few studies in the literature accessing FC as a multidimensional construct in AN [9].

In 2018, cases of AN associated with FA were described in 69% ($n = 26$) [12] for the first time, bringing a controversial aspect to the restrictive subtype (AN-r) that, even in the absence of binge eating, in theory, would present difficulties in control. Thus, both FC and FA present a transdiagnostic character within eating disorders, going through cases of greater control (like AN) and greater uncontrolled eating, such as binge eating disorder.

Higher scores to the Eating Attitudes Test-26 and to the Eating Disorder Inventory-3's Interceptive Deficits scale have been detected as the major predictors of FA, and more than half of AN-R patients (53.7%) were found to have FA [13]. The same overlap was observed in some studies, being 54% for AN-r and 75% in the AN binge/purge subtype, with scaling in prevalence, as seen in the increase in FC. Specifically, FC and FA in AN have been described in only two studies [14,15] and to date, this overlap has also not been described in detail. Thus, this case study presents a patient with restrictive subtype AN with FA, an assessment of eating disorder, and general clinical features.

2. Case Report

The data presented refers to a 16-year and 1-month-old girl, 1.66 m in height, and 49.8 kg, characterizing the average weight (Z score: -1.03), with low food intake and without binge eating or compensatory practices. She presented a history of food selectivity from age 6 to 8, with her first menstrual cycle occurring at age 14. Around the same age, she had food poisoning, resulting in her first hospital admission, which did not seem to have a significant negative impact. Her grandmother passed away in 2020, and soon after the pandemic came into the world and the lockdowns started. The patient expressed having changed physically and internally. She has also experienced housing instability, having moved houses seven times.

The patient presented significant restrictions related to food variety, did not eat the adequate amount for her context, was not attuned with her hunger sensation, and did not eat in the appropriate intervals for her. In addition, her struggles with food date back to when she was a 6-month-old baby: the introduction of solid foods was challenging, although breastfeeding went well, and she would refuse the food offered at the creche. Then, she was diagnosed with gastric reflux. After brief treatment, the symptoms improved. From 6 to 8 years old, she became more selective in terms of food and would throw tantrums at mealtime. Apparently, in response to this, her mother would ground her, reprimand her, and even hit her. Overtime, from tight clothes, she started wearing looser ones.

At the psychiatric evaluation, she was diagnosed with AN-r according to DSM-5 criteria associated with depressive episodes and amenorrhea, and started treatment with selective serotonin reuptake inhibitors, and was referred for specialized nutritional treatment. Laboratory exams revealed no biochemical alterations. The factors associated with the prognosis were ballet practiced twice weekly, food selectivity without significant impairments, and depression with suicidal thoughts. At the beginning of the nutritional treatment, she denied fear of gaining weight despite the food restrictions. All procedures performed were in accordance with the ethical standards of the institutional and/or national research

committee, as well as with the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards.

3. Results

The patient filled out three questionnaires in the month of her AN-r diagnosis, namely the Binge Eating Scale (BES), which was used to assess the presence of binge eating according to the cutoff point > 17 , which indicates its presence [16]. The BES scale was used to assess both cognitions and the threshold for binge eating, to confirm the diagnosis received during consultation with the psychiatrist. In addition, the FC questionnaire Trait and State assesses FC levels in a multidimensional way in its trait and state aspects [17]. The total score and presence of FA and its diagnosis were also evaluated according to the modified version of the Yale Food Addiction Scale (YFAS 2.0) [18] in the version valid for Brazil that uses the criteria of substance use disorders of DSM-5 to evaluate addictive-like eating.

In YFAS2.0, sufficient criteria for FA were met. The total score in the FCQ-T was 84 points, characterizing low total FC (trait) levels, and 36 points for FCQ-S, which assesses the FC at the time of assessment [19]. On the other hand, in BES, the total score was 18, characterizing the presence of binge eating according to the established cutoff point, which contradicts the clinical diagnosis of AN-r, which contains no binge eating behaviors or the presence of inappropriate compensatory practices, also correlated to the low weight criteria (49.8 kg—IMC 17.78, Z score: -1.03).

4. Discussion

Here, a case was reported for AN-r associated with FA. Although food has no psychopharmacological effect, there are evaluations of FA in children that work with the possibility of developing such a “disorder”, even in childhood. To begin a discussion of such a controversial topic, it is necessary to locate the supporting methodologies. AN diagnosis is observable and can also be accessed in semi-structured clinical interviews and questionnaires, such as the Eating Disorders Examination (EDE-Q). The results about binge eating (BES) indicate the presence of binge eating, an unobserved symptom in clinical interviews and not commonly associated with cases of AN-r. Both the binge eating and FA scales are based on self-completion and self-report, so the FA line of research is supported by self-reporting and identification with the idea of FA. A possibility for the notion of uncontrolled eating, and the positive responses to binge eating, even without such a diagnosis, is the intense fear of weight gain, which affects eating experiences and cognitively distorts notions of food portions. This notion is endorsed by the high frequency in statement #8 “I kept eating in the same way even though my eating caused emotional problems” (Table 1). For AN-r patients, eating causes emotional problems (i.e., guilt; feelings of distorted body image). This phenomenon probably positively influenced the identification with difficulty in control as reported in the YFAS instructions.

At first, the patient denied a fear of gaining weight, which was discriminated against by clinicians and accessed through specific interventions, as the absence of binge eating. Importantly, FA as a distorted belief does not mean these patients lie about their behaviors. They are sincere, claiming that they believe in the need for control, which is never enough due to two factors: (i) increased negative affect by feedback from behaviors that validate this belief and (ii) maintenance of distortion and/or dissatisfaction with body image. This trans-diagnostic cognitive-behavioral model of eating disorders, that is a standard in the field of eating disorders [19], sheds some light on practices and treatments and promotes an understanding about what seems to be controversial in FA but is not. Granero and colleagues [12] were the first to describe a 69% prevalence of FA in AN, and it was subsequently identified that the presence of binge eating is associated with the severity of FA [20,21].

Table 1. Responses to the modified version of the Yale Food Addiction Scale for a patient with anorexia nervosa restrictive subtype.

mYFAS2.0	Threshold for Meeting the Criterion	Symptoms Count	YFAS Criteria
(1) I ate to the point where I felt physically ill.	5 (0)	0	Substance taken in a larger amount and for a longer period than intended.
(2) I spent a lot of time feeling sluggish or tired from overeating.	6 (3)	0	Much time/activity to obtain, use, recover.
(3) I avoided work, school or social activities because I was afraid I would overeat there.	3 (1)	0	Important social, occupational, or recreational activities given up or reduced.
(4) If I had emotional problems because I had not eaten certain foods, I would eat those foods to feel better.	5 (1)	0	Characteristic withdrawal symptoms; substance taken to relieve withdrawal.
(5) My eating behavior caused me a lot of distress.	6 (5)	1	Use causes clinically significant impairment or distress.
(6) I had significant problems in my life because of food and eating. These may have been problems with my daily routine, work, school, friends, family, or health.	6 (3)	0	
(7) My overeating got in the way of me taking care of my family or doing household chores.	3 (1)	0	Failure to fulfill major role obligation (e.g., work, school, or home).
(8) I kept eating in the same way even though my eating caused emotional problems.	5 (6)	1	Use continues despite knowledge of adverse consequences (e.g., emotional problems or physical problems).
(9) Eating the same amount of food did not give me as much enjoyment as it used to.	6 (5)	1	Tolerance (marked increase in amount; marked decrease in effect).
(10) I had such strong urges to eat certain foods that I couldn't think of anything else.	5 (3)	0	Craving, or a strong desire or urge to use.
(11) I tried and failed to cut down on or stop eating certain foods.	6 (1)	0	Persistent desire or repeated unsuccessful attempts to quit.
(12) I was so distracted by eating that I could have been hurt (e.g., when driving a car, crossing the street, or operating machinery).	3 (2)	1	Use in physically hazardous situations.
(13) My friends or family were worried about how much I overate.	3 (7)	1	Continued use despite social or interpersonal problems.
After computing the threshold for each question, if the score for the symptom criterion is >1, then the criterion has been met and is scored as 1. If the score = 0, then the symptom criterion has not been met and is scored as 0.		4	+FA
4 or 5 symptoms and clinical significance		Moderate Food Addiction	

Body image disturbances mark AN-r patients, and all weight loss due to the disease reinforces the feeling of being fat, as this is one of the beliefs associated with this behavior. When YFAS instructions discuss difficulties in control, AN patients probably access this intense fear and discomfort with body image, which goes in line with #5, “My eating behavior caused me a lot of distress” (criteria: Use causes clinically significant impairment or distress), which in the course of the AN disorder is the biggest problem: eating.

The eating behavior seen in AN-r is commonly aimed at correcting a distortion of the body by the experience of it being larger. However, this characteristic is independent of the first criteria according to DSM: intense fear of weight gain, because once weight is lost, there is no criticism, but rather the notion that it would be a failure to gain weight. In Table 2, the mYFAS characteristics with the criteria for substance use disorder and eating disorders are discussed, and it is noticeable how contradictory it is from a consumption and behavioral point of view that a patient with AN-r has FA. Nevertheless, from a subjective point of view, the idea makes much sense and supports beliefs of lack of control and dietary restrictions.

Individuals at risk of anorexia nervosa are not affected as much by external factors and emotional reasons in the short term compared with individuals with bulimia nervosa and binge eating disorder (BED) [14]. Personality alterations are also present in individuals with AN. Many eating personalities present in this eating disorder play a role in food choices, rigid eating rituals, substitutions, and avoidance of foods related to the eating attitudes. In addition, patients with FA had lower self-directedness, and more negative urgency, and lack of perseverance [22]. Thus, the discourse is permeated by specific characteristics of the disordered condition according to Petry et al. [23]: “Sometimes I liked to eat. I felt this strong desire of eating and sometimes I could even dream about it” (Laura).

Considering that substance misuse would cause loss of capacity to drive, a blatant medicalization of eating behavior is observed in this idea. Excessive medicalization is a process that artificially transforms non-medical issues into medical problems [24]. Problems of different orders are presented as “diseases”, “disorders”, and “disturbances”. Unlike other instruments that access constructs based on people’s reports and undergo several validation processes, the Yale scale was an adaptation of the criteria for substance use disorders, only being used in the case of food “misuse”, instead. This could be better understood from the perspective of over-medicalization, as substance use disorders are issues observable by clinicians, with structured diagnostic interviews, and are broken down into several related constructs, such as craving, impulsivity, and compulsivity. Medicalization is a process that artificially transforms non-medical issues into medical problems. Problems of different orders are presented as “diseases”, “disorders”, and “disturbances” [24,25].

During the illness, patients report how their eating experiences are altered and, now, sensations of fear, disgust, shame, and panic arise when eating. This is also endorsed in question: #9, “Eating the same amount of food did not give me as much enjoyment as it used to”, related to the criteria tolerance (marked increase in amount; marked decrease in effect). FA is commonly associated with low levels of FC [9], as also observed in this case, which was not associated with the absence of FA. Would AN-r patients without binge eating and with low weight, with progressive food restriction, not have difficulties controlling this consumption but still present the tolerance criteria?

Thoughts and cravings regarding food also play a role in eating life events for AN patients. Even though they assign a negative value to cravings, they have more food cravings than patients without AN [11]. Finally, a recent meta-analysis described that BED shows higher comorbidity with FA compared with other eating disorders (OR = 1.33, 95% CI, 0.64–2.76; $c^2 = 4.42$; $p = 0.44$; $I^2 = 0\%$), or each eating disorder (anorexia nervosa purging type (OR = 1.93, 95% CI, 0.20–18.92; $p = 0.57$) and restrictive type (OR = 8.75, 95% CI, 1.08–70.70; $p = 0.04$)) [26].

Table 2. Analysis of the association between the diagnostic criteria for substance use disorder, binge eating disorder, anorexia nervosa, and bulimia nervosa with the Yale Food Addiction Scale statements and criteria.

Substance Use Disorder	Binge Eating Disorder	Bulimia Nervosa	Anorexia Nervosa	mYFAS 2.0 Version	YFAS Criteria	Critical Analysis
DSM-5 Criteria						
Definition	(A) A problematic pattern of use leading to impairment manifested by at least two of the following criteria.	(A) Recurrent episodes of binge eating. An episode of binge eating is characterized by the following features.	(A) Restriction of caloric intake from requirements, leading to being significantly underweight.	1. I ate to the point where I felt physically ill	Substance taken in larger amount and for longer period than intended	Loss of control results from (1) physiological aspects of food deprivation, (2) food prohibition cognitions, and (3) forms of coping with stressors and/or presence of anxiety and/or mood symptoms/disorders [9]. In binge eating episodes, not only palatable foods are consumed, but also raw foods, isolated ingredients, or unconventional mixtures (non-specific), which would not be explained by their “addictive” properties [27].
Consumption greater than planned	Criterion 1. Often consumed in larger quantities or for a longer period than intended.	A1. Ingestion, in a given period (e.g., within 2 h), of an amount of food that is definitely greater than most people would consume in the same period under similar circumstances.	Presence of binge eating in binge/purge subtype.			
Inability to slow down or stop	Criterion 2. There is a persistent desire or unsuccessful efforts to reduce or control use.	A2. Feeling of lack of control over eating during the episode (e.g., feeling unable to stop eating or control what and how much one is eating).	(B) Intense fear of weight gain or of gaining weight, or persistent behavior that interferes with weight gain, even though weight is significantly reduced.	11. I tried and failed to cut down on or stop eating certain foods.	Persistent desire or repeated unsuccessful attempts to quit.	Unsuccessful attempts to cease the consumption of these foods are targeted by treatment. Does this question address inappropriate attempts at dietary restriction that reflect ED distorted cognitions?
Time	Criterion 3. A lot of time is spent on activities necessary to obtain, use, or recover its effects.	D. The binge episodes occur on average at least once a week for three months.	C. Binge eating and inappropriate compensatory behaviors occur, on average, at least once a week for three months.	2. I spent a lot of time feeling sluggish or tired from overeating.	Much time/activity to obtain, use, and recover.	As the number of binge eating or compensatory behaviors increases, the greater severity of ED, according to the DSM, can compromise time for daily activities and result in the possibility of self-assessment of FA.
Craving	Criterion 4. Craving or a strong desire or need to use.	-	-	10. I had such strong urges to eat certain foods that I couldn't think of anything else.	Craving, or a strong desire or urge to use.	Individuals with BED/BN have high FC levels, but one must consider the obsessive thoughts about food and food restriction that influence FC itself (which has several physiological determinants) [28]. FC intensity may predict binge eating episodes by correlating with stress and anxiety and may increase after monotonic eating, restrictive diets, and/or fasting.

Table 2. Cont.

Substance Use Disorder	Binge Eating Disorder	Bulimia Nervosa	Anorexia Nervosa	mYFAS 2.0 Version	YFAS Criteria	Critical Analysis
DSM-5 Criteria						
Impairment	Criterion 5. Recurrent use resulting in failure to perform important roles at work, school, or at home.	B. Binge eating episodes are associated with three (or more) of the following: B1. Eating faster than normal B2. Eating until you feel uncomfortably full B3. Eating large amounts of food in the absence of physical sensation of hunger	B. Recurrent inappropriate compensatory behaviors in order to prevent weight gain, such as self-induced vomiting; misuse of laxatives, diuretics, or other medications	7. My overeating got in the way of me taking care of my family or doing household chores.	Failure to fulfill major role obligations (e.g., work, school, home).	The functional impairment is given by how much the ED has occupied the areas of the individual's life and involves all the psychopathology of the ED, not only the binge eating episodes. Excessive chemical substance use compromises cognition and motor behavior and promotes risk behaviors, which do not occur after binge eating. In the case of AN, normal portions are considered excesses, biasing the responses.
Social impairment	Criterion 6. Continued use despite persistent or recurrent social or interpersonal problems caused or exacerbated by its effects.	B4. Eating alone because one is ashamed of how much one is consuming. B5. Feeling disgusted with oneself, depressed or very guilty afterward.	D. Self-evaluation is inappropriately influenced by shape and weight.	13. My friends or family were worried about how much I overate.	Continued use despite social or interpersonal problems.	Social impairment in substance use disorders involves psychopharmacological mechanisms. Withdrawal or impairment from social activities is common for most mental disorders. In the case of AN where "binge eating" is reported, the issue reflect distorted self-criticism [29].
Work/activities impairments	Criterion 7. Important social, professional, or recreational activities are abandoned or reduced due to excessive use.			3 I avoided work, school, or social activities because I was afraid I would overeat there.		Avoidance of places that may represent triggers are common for ED and chemical dependence, as well as the stigma and fear of losing control. Especially in EDs, the fear of getting fat because of being able to consume something outside of what is "allowed" and not only the fear that binge eating will occur or the emergence of cravings and consumption outside of the planning is biased by ED cognitions.

Table 2. Cont.

Substance Use Disorder	Binge Eating Disorder	Bulimia Nervosa	Anorexia Nervosa	mYFAS 2.0 Version	YFAS Criteria	Critical Analysis
DSM-5 Criteria						
Physical impairment	Criterion 8. Recurrent use in situations where this represents danger to physical integrity.	Criteria B1 and B2	(C) Disturbance in the way one's own weight or body shape is experienced, undue influence of weight or body shape on self-assessment, or lack of recognition of the severity of being underweight.	12. I was so distracted by eating that I could have been hurt (e.g., when driving a car, crossing the street, operating machinery).	Use in physically hazardous situations	Binge eating can have a dissociative effect associated but incomparable to the pharmacological effects of the action of a chemical substance. Food, unlike alcohol, does not alter cognitive and motor functions while driving a car or crossing a street.
Use despite the consequences	Criterion 9. The use is continued despite the consequence of having a persistent or recurring physical or psychological problem that tends to be caused or exacerbated.	C. Marked suffering due to binge eating		8. I kept eating in the same way even though my eating caused emotional problems.	Use continues despite knowledge of adverse consequences (e.g., emotional problems or physical problems)	Psychological and environmental aspects maintain the symptoms in ED, but there are no psychopharmacological mechanisms. It is common in EDs to think binge eating should cease at the expense of weight gain and/or health problems.
Tolerance	Criterion 10. Tolerance, defined by any of the following: a. Need for progressively larger amounts to achieve intoxication or the desired effect. b. Markedly less effect with continued use of the same amount.	-	Restrictive subtype: Not involved in binge/purge behaviors in the past three months. Weight loss only with diet, fasting, and/or excessive exercise.	9. Eating the same amount of food did not give me as much enjoyment as it used to.	Tolerance (marked increase in amount; marked decrease in effect)	The psychopathology and presence of other comorbid disorders and their manifestations in conjunction with physical symptoms of dietary restriction can trigger binge eating. Pleasure in eating may be compromised in EDs regardless of quantities, but by the relationship of disgust, fear, and dissatisfaction or “failure” from eating [30].

Substance Use Disorder	Binge Eating Disorder	Bulimia Nervosa	Anorexia Nervosa	mYFAS 2.0 Version	YFAS Criteria	Critical Analysis
DSM-5 Criteria						
Withdrawal	<p>Criterion 11. Abstinence, manifested by any of the following:</p> <p>a. Withdrawal syndrome</p> <p>b. Consumed to relieve withdrawal symptoms.</p>	-	-	<p>4. If I had emotional problems because I hadn't eaten certain foods, I would eat those foods to feel better.</p>	<p>Characteristic withdrawal symptoms; substance taken to relieve withdrawal</p>	<p>The use of food to cope with anxiety / depression symptoms cannot be confused with withdrawal and FC.</p> <p>There is confusion between the physical symptoms of food restriction (increased food cravings), which can be self-described as withdrawal.</p>
Severity	<p>Presence of 2 or 3 symptoms: Mild: 2 or 3; Moderate: 4 or 5; Severe: 6 or more.</p>	<p>Binge eating episodes per week: Mild: 1 to 3; Moderate: 4 to 7; Severe: 8 to 13; Extreme: 14 or more.</p>	<p>Episodes of inappropriate compensatory behaviors per week: Mild: 1 to 3; Moderate: 4 to 7; Severe: 8 to 13; Extreme: 14 or more.</p>	<p>The severity criteria are based on BMI and for children on percentile.</p> <p>The severity level can be increased to reflect clinical symptoms, the degree of functional disability, and the need for supervision.</p>	<p>5. My eating behavior caused me a lot of distress.</p> <p>#6. I had significant problems in my life because of food and eating. These may have been problems with my daily routine, work, school, friends, family, or health.</p>	<p>Use causes clinically significant impairment or distress</p> <p>The severity of a mental disorder should preferably be assessed by a clinical observer, as patients tend to overestimate or deny the severity in both cases [31].</p>

Legend: ED: eating disorder; FC: food craving; FA: food addiction.

The values found for restrictive types also raise questions similar to those presented here. Thus, the concept continues to challenge clinicians, and research is needed about some aspects of the disease that negatively influence the criteria for FA. Could it then be a psychometric flaw of the scale or a reflection of the condition of a thin body with a distorted image? [32].

In the case of FA, we are seeing an increase in the number of clinical interventions, its diagnosis in children and adolescents, and even its presence in cases of anorexia nervosa, the disorder with the highest capacity for control [21,32]. It remains unclear what the contribution of yet another “diagnosis” will be and whether it will be included in the diagnostic and statistical manual of mental disorders. In the last version, it was justified not to enter obesity as a mental disorder. In clinical practice, widespread knowledge has confirmed that people seek treatment for FA.

5. Conclusions

This case report emphasizes the importance of new diagnostic tools to identify FA and whether it exists in people with AN-r beyond distress with eating behavior, cravings, and guilt. In addition, based on the characteristics of AN, new studies are needed to differentiate emotional dysregulation and eating difficulties from FA symptoms, which seem to overlap. Concepts about beliefs surrounding food, eating behavior, and difficulties in emotional regulation in assessments could be compromised when talking about FA. Thus, it seems controversial that brain changes, which guarantee greater food restriction in AN, are not necessarily in tune with food beliefs. Furthermore, patients with AN have bodies that “prove” that they are out of control. Thus, future research should investigate the role of body image distortion and its degrees as contributors to the notion of lack of control. AN-r is still controversial due to its ability to control, low weight, and absence of binge eating. Even so, the notion of difficulties in control is real, as reflected in the YFAS and BES responses.

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