



Case Reports of Binge Eating Patterns in the Recovery Phase of Anorexia Nervosa Patients With and Without Food Addiction

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Food addiction refers to a condition in which individuals exhibit addictive-like behaviors toward food, like those observed in substance abuse. Although still debated, evidence supporting the validity and usefulness of the concept of food addiction is growing. Food addiction is particularly associated with obesity and eating disorders involving binge eating. This study discusses the cases of two adolescent patients who presented with anorexia nervosa. During the recovery phase of anorexia nervosa, binge eating was observed, and the patterns of binge eating significantly differed between patients, with and without food addiction. Therefore, healthcare professionals treating eating disorders should be aware of food addiction and modify their treatment strategies accordingly.

Keywords: Food addiction; Binge eating; Anorexia nervosa.

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INTRODUCTION

Food addiction was first reported by Randolph [1] in 1956 and refers to the development of addiction-like symptoms associated with one or more foods that an individual consumes frequently and to which they are particularly sensitive. The concept of “food addiction” remained relatively unexplored for a considerable period following its initial conceptualization. Unlike substances known to cause addiction, such as drugs or alcohol, food is a fundamental necessity for survival. However, as research findings increasingly support the idea that specific types of foods, such as processed foods that are energy-dense and high in sugar, fat, and salt, can induce addiction [2], the concept has gained validity. Studies have demonstrated that refined sugar, while not necessary for survival, is abused as a substance, and exerts drug-like effects on the brain [3]. Numerous studies focusing on food addiction have been published in the last decade [4].

The definition of food addiction, as proposed by Gearhardt et al. [5], included the diagnostic criteria for substance depen-

dence outlined in the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV). Food addiction is defined as a state in which eating behaviors substantially meet the diagnostic criteria for substance use disorders, leading to clinically significant impairment or distress. Although a clear definition or diagnostic criteria have not yet been established, according to numerous subsequent studies, food addiction has been defined as “a chronic and relapsing condition caused by the interaction of many complex variables that increase cravings for certain specific foods to achieve a state of high pleasure, energy, or excitement, or to relieve negative emotional or physical states” [6].

Eating behavior is regulated by the interactions of various neural circuits, including the hypothalamus, dorsolateral prefrontal cortex (DLPFC), amygdala, striatum, and midbrain [7]. Eating behavior is divided into homeostatic food consumption, which is regulated by energy stores and requirements, and hedonic food consumption, which is regulated by reward mechanisms [8]. Hedonic eating refers to the act of consuming food primarily for pleasure, rather than to meet energy requirements. This holds evolutionary significance: for survival, our brains compel us to seek out foods with the highest calorie content. Consequently, when we consume foods rich

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in fat, salt, and sugar, our brains release dopamine to induce a sense of pleasure [9].

Foods that are highly processed and refined with increased fat, sugar, and salt content to maximize the stimulating taste are called highly palatable (HP) foods. The combination of fat and sugar does not normally exist in nature. However, this pairing, by offering added rewarding effects to both the stomach and brain, tends to promote excessive consumption [10]. Food addiction has been linked to HP food, with studies demonstrating that HP food induces dopamine release in the brain. Additionally, naltrexone reduces consumption and preference for sweet, high-fat foods. Moreover, stimulating the DLPFC diminishes cravings for HP food [8-11].

Two ways are used to examine food addiction: a behavior and a substance. The behavioral perspective argues that no substance has yet been identified in food to cause addiction, such as ethanol in alcoholic beverages or nicotine in cigarettes, and that current research is incomplete, therefore, treating food addiction as an addictive behavior, such as a gambling addiction is reasonable. The substance perspective argues that HP food activates reward circuits in a manner akin to drugs but that certain behavior patterns, such as binge eating, can exacerbate food addiction [3,12]. According to Schulte et al. [12], who supports the “substance” side of the argument, individual risk factors such as genetic vulnerability, the addictive nature of certain foods, such as HP food, and behavior patterns such as bingeing, dietary restraint, and using food in response to negative emotions increase the risk of food addiction.

Binge eating and dietary restraint are common symptoms of eating disorders; therefore, it is reasonable to assume that eating disorders and food addiction are highly correlated. The link between binge eating and addictive disorders is well-established. In fact, binge eating overlaps with addiction in terms of diagnostic criteria. Furthermore, substance use disorders are more prevalent in patients with eating disorders than in the general population, and vice versa [13].

However, the therapeutic approach to addiction differs from that for treating traditional eating disorders. Although addiction management focuses on minimizing exposure to substances, treatment for eating disorders centers on addressing the root issue of placing excessive importance on body shape and weight. In this context, dieting is identified as the trigger for binge eating. Standard treatment for eating disorders encourages patients to eat all types of food, as dietary restraint triggers binge eating. When a patient with an eating disorder presents with food addiction, therapists often face conflicts between the aforementioned two approaches.

In this study, we present two patients with restrictive anorexia nervosa who presented to a clinic specializing in treat-

ing eating disorders. Anorexia nervosa is characterized by restricted eating and low body weight; binge eating frequently occurs during treatment. We observed that binge eating during recovery differed significantly between patients, with and without food addiction.

This study was approved by the Seoul National University Hospital Institutional Review Board with appropriate informed consent (2310-096-1476).

CASE REPORT

Case 1. Anorexia nervosa without food addiction

Patient information

Case 1 was a 13-year-old female adolescent patient who was referred to the Eating Disorder Clinic for the treatment of anorexia nervosa, restricting type. At the initial visit, the patient was 158 cm tall with a weight of 33.1 kg (body mass index [BMI]=13.3 kg/m²). The patient was discharged from the pediatric ward after 5 days of hospitalization, the day before the outpatient visit.

The patient started dieting 6 months before her visit when she weighed 52 kg. At first, she ate regularly and exercised, but gradually began to eat less, losing 19.5 kg in 5 months. Although her weight reduced to 30.8 kg; she limited her intake to less than 500 calories due to the fear of weight gain. She weighed herself and examined her body daily. The patient had been amenorrheic for 3–4 months. She was admitted to the pediatric department and gained 2.3 kg in 5 days. After discharge from the hospital, the patient visited the clinic for evaluation and treatment of anorexia nervosa.

Therapeutic intervention and progress note

At the beginning of the treatment, eating behaviors were addressed using Cognitive Behavior Therapy for Eating Disorders (CBT-E) to structure eating and educate the patient. As is the case with most young patients, this patient was receptive to education. Once the meals were structured, we increased the size and diversity of the food. Gradually, she was able to consume sugary and fatty foods that she had previously avoided. Two months after the visit, the patient ate three meals regularly, and her weight recovered to 40.6 kg. After 5 months, her weight returned to 46.4 kg and she resumed menstruation. Her food intake remained stable, and her weight was maintained between 48 and 52 kg (BMI=19.2–20.9 kg/m²) for more than 6 months when the treatment was terminated (Fig. 1). The total treatment duration was 1 year and 3 months.

Therapeutic interventions included psychopharmacotherapy and family therapy, in addition to CBT-E. The patient was medicated with escitalopram and olanzapine and maintained

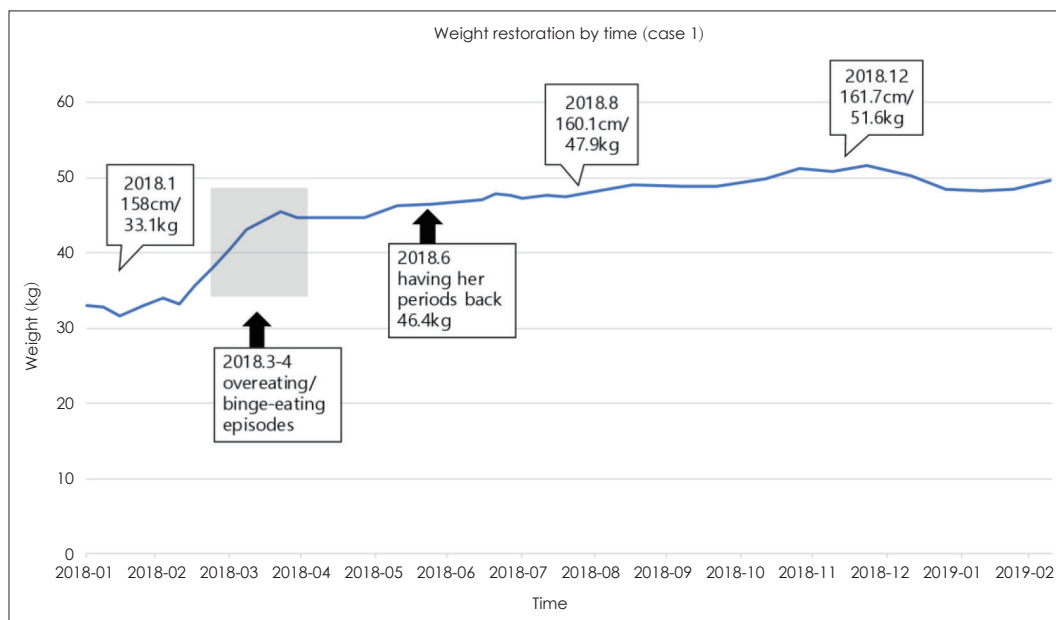


Fig. 1. Case 1 patient's weight restoration graph. During the treatment, the patient underwent significant weight restoration. She primarily regained weight during binge episodes, and her menstrual cycles resumed shortly afterward. As she continued to recover, she also experienced an increase in height and gained additional weight.

at 10 mg of escitalopram and 2.5 mg of olanzapine.

Binge eating patterns in the recovery phase

Binge eating begins at some point of recovery in most patients with anorexia nervosa [14]. This patient began to experience increased appetite, overeating, and binge eating after 2 months of treatment. After overeating, due to fear of weight gain, she engaged in self-harming behaviors, such as wrist cutting and self-hitting. She also forced her mother to consume the same amount of food.

The patient's self-monitoring record displayed heightened fear and anxiety correlating with an escalation in the quantity of food consumed and the frequency of binge eating. Controlling behaviors, such as eating mostly low-calorie foods, holding off on eating high-calorie foods for as long as possible, and prolonged hesitation before eating were observed (Tables 1-3 and Supplementary Tables 1-3 [in the online-only Data Supplement]). Binge eating lasted for approximately 2 months and then gradually decreased.

Case 2. Anorexia nervosa with food addiction

Patient information

Case 2 was a 15-year-old female adolescent patient who visited the Eating Disorder Clinic for treatment of anorexia nervosa, restricting type. At the initial visit, the patient was 162 cm tall and weighed 36 kg (BMI=13.7 kg/m²). The patient had a history of 3 months of psychiatric treatment, including

2 weeks of hospitalization. The patient visited the clinic wanting to continue treatment at a specialized eating disorder facility.

She had maintained a slim physique since elementary school through continuous ballet training. She started dieting in her second year of middle school when she noticed weight gain. At first, she curtailed snacks but gradually reduced her food intake to extreme levels, losing 15 kg in a year. Concerned about her condition, her parents admitted her to the pediatric psychiatric unit of a university hospital, for 2 weeks. She was then referred to the clinic for evaluation and treatment of her eating disorder.

Therapeutic intervention and progress note

At the beginning of treatment, we attempted to establish a regular eating pattern. Based on the principles of the CBT-E, three regular meals, and two to three snacks were recommended, and the patient was encouraged to choose the type of food she ate. Initially, the patient ate cookies and ice cream as snacks, but gradually, all meals and snacks consisted of sweet foods. After a few weeks of observation, she was binge eating sweet foods, and her craving for sweet foods became intense. The uncontrolled intake led to increased conflict between the patient and her mother and an escalation in self-injury, such as picking the skin and self-hitting was observed. A 1-week inpatient hospitalization was used to manage binge eating and regulate the consumption of sweet foods. After discharge, we intervened to reduce the intake of sweet foods.

Her weight recovered to 43.8 kg at 4 weeks, 46.9 kg at 8 weeks,

Table 1. Case 1 patient's self-monitoring records during a binge episode

Time	Food and drink consumed	Place	* V/L	Context and comments	Key features
2018.3.18					
8:20 AM	Special K Strawberry-1/2 bowl Almond Breeze-1 pack Steamed fish+radish	Dining room		Ate and still felt hungry. I had my mom's side dishes with it. I was worried because they were heavily seasoned.	Caloric restriction
10:20 AM	Kalamansi flavored Konjac jelly-1 pack	Dining room		In the end, I ended up getting more stressed out about why I cried about eating in the first place.	Hesitancy
12:30 PM	Tofu kimchi-1/2 portion Bean paste stew-1/2 bowl Bean sprout salad Shredded radish salad Braised beans-2 spoons Kimchi-2 pieces Pickled squid-2 servings Hot pepper pickles-2 servings	Korean Eatery		I was so frustrated because I didn't feel full at all, and I ended up arguing with my mom.	Carbohydrate restriction
4:00 PM	1/5 Sweet pumpkin	Dining room		I was so hungry that I couldn't wait until dinner, so I ate.	Caloric restriction
6:00 PM	Budae-jjigae-2 bowls Udon noodles-1 bowl Fried rice-5 spoons Braised beef brisket-3 pieces Stir-fried beef brisket with mung bean sprouts-1 plate Rice-1 bowl	Parents' friends' house	*	I was in so much pain from my stomach.	

Note the efforts to limit or control carbohydrate intake, the hesitation before eating, and the fear and anxiety after eating. The patient's verbatim is translated in English. The original Korean text has been provided as a Supplementary Table 1. *overeating/ binge eating. V/L, vomiting/use of laxatives

49.9 kg at 12 weeks, 50 kg at 6 months, and 55 kg at 7 months, and she maintained 56–57 kg (BMI=21.3–21.7 kg/m²) for 1 year (Fig. 2). In addition to CBT-E, interpersonal psychotherapy, family therapy, and individual psychotherapy for the patient's mother, and medication was administered. During the treatment period of 20 months, the primary medicines used were fluoxetine 20–40 mg and fluvoxamine 5–150 mg with doses escalating as needed, and naltrexone was also added during the treatment course. For sleep control, lorazepam and trazodone were administered over time. The treatment is ongoing.

Binge eating patterns in the recovery phase

The patient presented with binge eating episodes occurring once a week after treatment at a previous institution. A few days after the initial appointment, her mother contacted the clinic to report that she was binge eating every day and asked for advice. Subsequently, binge eating has continued, and the patient has become obsessed with sweet foods. As binge eating occurs in many patients with anorexia nervosa, we educated the patient and her parents that eating the foods she had been avoiding is normal. However, the number of snacks consumed continued to increase, and the patient felt addict-

ed to them.

As compared to Case 1, in Case 2 the craving for sweetness was significantly greater than the fear of gaining weight. Regret after binge eating and fear of weight gain were also present in Case 2 but played a minor role. The observed behaviors included constant craving for food and excessive consumption, with futile attempts to control them (Tables 4–6 and Supplementary Tables 4–6 [in the online-only Data Supplement]).

After 1 week of inpatient treatment, binge eating was more controlled than before. She packed lunch for school and tried to eat healthy food. After discharge, we intervened with the types of food she was eating and encouraged her to reduce the sweetness. The frequency and amount of binge eating gradually decreased. However, a few months later, she experienced a series of negative events that led to a resurgence in binge eating. She still consumed excessive amounts of sugar, such as 3–4 chocolates and 3–4 ice creams, at a time.

DISCUSSION

The patient in Case 1 exhibited a typical recovery process for treating anorexic nervosa, meanwhile, Case 2 exhibited a

Table 2. Case 1 patient's self-monitoring records during a binge episode

Time	Food and drink consumed	Place	* V/L	Context and comments	Key features
2018.3.28					
7:30 AM	Rice-1 bowl Soybean paste stew-1 pot Cutlassfish-2 pieces Kimchi-1 plate Dried anchovies stir-fried with nuts-1 plate	Dining room		I felt anxious after eating it all because it seemed like too much.	Fear of energy intake
10:15 AM	Two caramels	Classroom			
1:20 PM	Bibimbap-2/3 bowl Egg soup-1 bowl Pecan pie-1 piece Kimchi-3 pieces	School cafeteria		I only ate a portion of the rice. The pecan pie had jam inside and it was incredibly delicious.	Carbohydrate restriction
4:30 PM	Chakani (snack)-2 pieces	School sports field		I wanted to eat more, but I stopped eating.	
5:50 PM	Gamjatang (pork bone soup with potatoes)-2 bowls Hongeosamhap (fermented skate)-8 pieces Kimchi-1 plate Fried rice-1 bowl Almond breeze-1 pack	Dining room	*	I had two bowls even though the bowl was huge. I ate only one piece of hongeoo (fermented skate) because it wasn't tasty and then had bossam (boiled pork). Although I was full, I ate the fried rice because it looked delicious and ended up with a stomachache.	
9:00 PM	Pringles-6 pieces Shabure-4 bags Dried mango-2 bags Potato crisps-1 pack Coconut cookies-1 pack Star Candy-3 packs Whale-shaped snacks-1 fistful		*	The snacks were incredibly delicious. I was worried about the sweetness. I craved the snacks so much that I ate them. As I mindlessly consumed them, it was frightening and saddening to see the empty bags.	Fear of energy intake

Note the efforts to limit or control carbohydrate intake, the hesitation before eating, and the fear and anxiety after eating. The patient's verbatim is translated in English. The original Korean text has been provided as a Supplementary Table 2. *overeating/ binge eating. V/L, vomiting/use of laxatives

less common pattern of food addiction. In Case 2, the patient's self-monitoring record (Tables 4-6 and Supplementary Tables 4-6 [in the online-only Data Supplement]) and clinical manifestations corresponding to food addiction are presented. These include tolerance, withdrawal symptoms, large amounts consumed exceeding what was originally intended, persistent desire or unsuccessful attempts to reduce, excessive time spent using or recovering from a substance, continued use despite negative consequences, and activities ceased because of the use of a substance. Gearhardt et al. [5] suggested that the presence of three of seven symptoms of the DSM-IV diagnostic criteria for substance dependence on eating behaviors is necessary to define food addiction, along with clinically significant impairment or distress. Although food addiction is not yet an official diagnosis, it was determined that the Case 2 patient exhibited clinical features consistent with the definition of food addiction. For more accurate diagnosis and de-

termination of treatment direction, the Yale Food Addiction Scale (YFAS), currently the most widely used self-report questionnaire for the assessment of addiction-like consumption of high-calorie processed foods, would be required [5,15].

Controversy may arise over whether food addiction occurs solely within the context of eating disorders or represents an independent impairment. Considering the clinical features of food addiction, the particular addiction appears to be distinct from eating disorder diagnoses. In anorexia nervosa or bulimia nervosa, the core pathology is over-evaluation of body shape and weight. In contrast, food addiction tends to revolve around symptoms of addiction to specific foods, making it relatively distinguishable. However, controversy exists regarding whether the clinical features of binge eating disorders, such as excessive food consumption, negative emotions after consumption, and loss of control, overlap with those of food addiction. However, although binge eating is the central symp-

Table 3. Case 1 patient's self-monitoring records during a binge episode

Time	Food and drink consumed	Place	* V/L	Context and comments	Key features
2018.4.2					
7:40 AM	Radish greens-2 spoons Lotus root side dish Dried anchovies stir-fried with nuts-4 spoons Japchae (stir-fried glass noodles with vegetables and meat)-1 plate Rice-1 bowl Seaweed soup-1 bowl	Dining room		I got it from my grandmother's place, and it was so delicious that I ate a lot.	
10:10 AM	Two Mentos	Classroom			
11:00 AM	3 Snacks	Classroom			
1:20 PM	Brown rice-1/2 bowl Seaweed soup-1 bowl Seasoned bracken and tofu-2 spoons Cheese buldak (spicy chicken)-2/3 bowl Kimchi-3 pieces	School cafeteria		I received a lot, so I ate almost everything except for a few large portions.	
4:30 PM	Multi-grain bread-2 slices Pocari Sweat-2 gulps	In the car		I was hungry while waiting for my older brother, so I ate.	Caloric restriction
6:00 PM	Tofu kimchi-3 pieces 1 Yellow corn Almond breeze-1 pack Tuna ramen-1 plate	Dining room		Craving for sticky corn, but since it wasn't available, I settled for this. Ate a bit of my mom's tuna ramen.	Caloric restriction
8:10 PM	1 Baby Cream Puff	Dining room		I was happy because it's my favorite bread.	
10:00 PM	Baskin Robbins-1/3 quart 1 fistful of French fries	Dining room	*	I wanted it so badly that I cried, and eventually, I bought it. I was so happy.	Hesitancy

Note the efforts to limit or control carbohydrate intake, the hesitation before eating, and the fear and anxiety after eating. The patient's verbatim is translated in English. The original Korean text has been provided as a Supplementary Table 3. *overeating/ binge eating. V/L, vomiting/use of laxatives

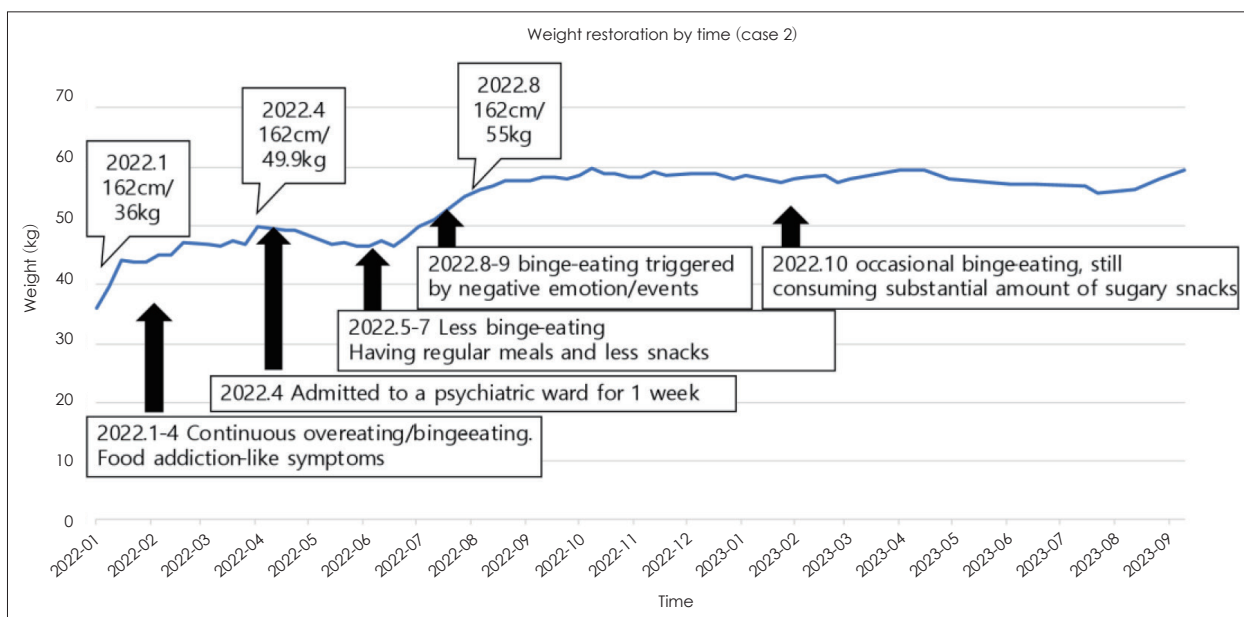


Fig. 2. Case 2 patient's weight restoration graph. After her weight had been restored, there was another weight gain due to binge eating. Since she had been receiving treatment for irregular menstruation prior to the treatment, there is no mention of amenorrhea.

Table 4. Case 2 patient's self-monitoring records during a binge episode

Time	Food and drink consumed	Place	* V/L	Context and comments	Key features
2022.2.9					
8:20–8:45 AM	6 Cheese cookies 10 Chocolate cookies 1 Pack of milk		*	I felt really hungry, so I bought two packets. However, it was too much, so I decided to discard a little before eating the rest. Surprisingly, it satisfied my cravings completely.	Craving
12:20–12:50 PM	Chicken pop snacks 1 packet 1 Pack of milk 12 Pieces of cheese round cookies	Shopping mall	*	While enjoying the food with my mom, I kept seeing an ice cream shop. Couldn't stop thinking about it, just contemplating when to eat. I rationalized, saying to myself, 'I can endure a little discomfort in my stomach.' However, mom suggested waiting for 30 minutes and having it if I still wanted it afterward. During that time, I was fixated on the food, desperately wanting to eat it, even considering binge-eating.	Craving
1:20–2:40 PM	1 Pint of ice cream	Shopping mall	*	After finishing one, my mom stopped me from having more. Afterwards, I experienced stomachache, craving, and self-blame.	Consumption of larger amounts
5:10–6:00 PM	1 Pack of milk 1 Bag of cheese puffs 4 Bags of St.Michel cookies	Home	*	Much more discomfort than feeling nauseous after lunch. Continual reflux of what I ate. Severe bloating in the abdomen. Feeling overall unpleasant due to the greasiness, saltiness, and excessive fullness.	Continued use in spite of negative consequences

Observe the obsession and craving for sweets and the embarrassment about it, rather than efforts to limit intake or anxiety about weight gain. The patient's verbatim is translated in English. The original Korean text has been provided as a Supplementary Table 4. *overeating/binge eating. V/L, vomiting/use of laxatives

Table 5. Case 2 patient's self-monitoring records during a binge episode

Time	Food and drink consumed	Place	* V/L	Context and comments	Key features
2022.2.12					
8:50–9:25 AM	Chicken pop snacks 1 Packet Greek yogurt	Home		The usual morning. The taste of snacks didn't come through.	Tolerance
1:20–1:50 PM	1 Pint of ice cream	Ice cream shop		Ate what I wanted. It's just tasteless.	Tolerance
2:30–3:00 PM	1 Pint of ice cream	Ice cream shop		Wanted to eat more. No matter how full I am, I have no control and am filled only with thoughts of eating. Not sweet.	Consumption of larger amounts, Loss of control, Tolerance
3:50–4:10 PM	1 Bag of SunChips	Outside		Felt like the initial stage of another binge-eating episode.	
5:20–6:20 PM	Chicken pop snacks 1 Packet 1 Quarter of ice cream	Home		Binge-eating. Ruined → Rush. Not sweet, not salty, lost appetite. Can't taste.	Loss of control, Tolerance

Observe the obsession and craving for sweets and the embarrassment about it, rather than efforts to limit intake or anxiety about weight gain. The patient's verbatim is translated in English. The original Korean text has been provided as a Supplementary Table 5. *overeating/binge eating. V/L, vomiting/use of laxatives

Table 6. Case 2 patient's self-monitoring records during a binge episode

Time	Food and drink consumed	Place	* V/L	Context and comments	Key features
2022.2.13					
12:05–12:55 PM	1 Pint of ice cream 1 Pack of butter cookies 1 Pack of milk	Home	*	Eating while talking to mom. Overeating. Not sweet at all. Tasteless. Bland.	Tolerance
5:10–5:55 PM	2 Pack of butter cookies 1 Pack of milk 1 Pint of ice cream	Home	*	Cookies are not sweet for me. I become fixated on anything sweet. Just want sweet things, not other foods. Snacks seem too bland and tasteless, not sweet at all. Ice cream doesn't appeal to me much either. I feel dependent on sugar (tiredness+meals+daily routine). Without sugar, I feel like I might die and lose the desire to live. Honey doesn't taste sweet. Want to eat a lot of honey and sugar. Only crave sweet foods continuously (without engaging in other activities). I want to quit sugar and have a moderate level of consumption. Ice cream - not sweet at all. Even after consuming a large bag of sugar, it doesn't seem sweet. Not sweet and salty, just sweet. Continuously chase after sweetness (like in past diets, until the end). Every day, I feel like I'm deeply immersed in only sugar/sweet things, as if addicted to drugs. Please help me.	Craving, Consumption of larger amounts, Continued use in spite of negative consequences, Withdrawal, Tolerance, Self-report of food addiction ("I feel like I'm addicted to sugar/sweets every day. Please help me with this.").

Observe the obsession and craving for sweets and the embarrassment about it, rather than efforts to limit intake or anxiety about weight gain. The patient's verbatim is translated in English. The original Korean text has been provided as a Supplementary Table 6. *overeating/binge eating. V/L, vomiting/use of laxatives

tom of binge eating disorder, not all individuals with food addiction necessarily encounter this. Only 47% of individuals with binge eating disorders met the criteria for a food addiction diagnosis, and 44% of those with food addiction did not meet any eating disorder diagnostic criteria, supporting this distinction [16].

Although eating disorders and food addiction are separate diagnoses, they are closely related. Contributors to food addiction can include individual risk factors such as genetic vulnerability, behavioral patterns, such as restriction or binge eating, and the addictive potential of certain HP foods [12]. A plausible hypothesis is that vulnerable patients may trigger food addiction through extreme dieting, as observed in anorexia nervosa. Additionally, stress-induced binge eating might serve as a catalyst for food addiction, or increased consumption due to food addiction could potentially lead to obesity.

The treatment of the Case 2 patient presented a significant challenge because of the treatment approach for eating disorders, particularly anorexia nervosa, which emphasizes avoid-

ing restrictions on the type or amount of food consumed. The current leading treatment for eating disorders is CBT-E, as outlined by Fairburn [14]. CBT-E acknowledges that many patients transition between different eating disorder diagnoses, recognizing the core pathology that underlies all diagnoses: over-evaluation of shape and weight and their control [14]. The core pathology causes patients to adhere to strict diets, resulting in the development of eating disorders. We aim to be respectful and ensure that patients consume an adequate amount of food, even if their initial choice of meals primarily includes unhealthy options. This is because restricting specific foods or controlling their quantities may trigger the underlying pathology.

Although the aforementioned approach is effective for many patients with eating disorders, it does not seem equally favorable for individuals with food addiction, as in Case 2. When food addiction is present, limiting the consumption of specific foods is necessary. This does not mean dieting but rather implies abstinence from specific foods representing addictive

patterns, requiring cautious consideration regarding the exacerbation of eating disorder symptoms. However, as eating disorder treatment aims not for unrestricted eating of any food but for a balanced diet, this is a necessary approach.

The reason why CBT-E does not incorporate an approach that considers the aspect of food addiction may be related to historical factors. In 2003, the DSM-IV eating disorder diagnoses consisted only of anorexia nervosa and bulimia nervosa [10]. Over the past two decades, the consumption and production of HP foods, including those containing refined sugars, have significantly increased. Additionally, the emergence of food delivery services and food consumption trends, such as mukbang, has gained popularity. These changes are believed to directly influence symptoms in individuals with eating disorders.

Given recent trends in food culture among Korean adolescents, such as Maratang, Tanghuru, and mega-sized sugary drinks, incorporating an assessment for food addiction into the diagnosis and treatment approach for adolescent patients with eating disorders can enhance the therapeutic effect. Evaluation may include exploring family dietary habits and using questionnaires, such as the Food Craving Questionnaire and YFAS. If food addiction is suspected, initiating nutritional intervention and education from the early stages of treatment and considering the use of medications, such as naltrexone can be beneficial. Currently, research is sparse with no clear treatment protocol, thus more research is needed.

Supplementary Materials

The online-only Data Supplement is available with this article at <https://doi.org/10.5765/jkacap.230069>.

Availability of Data and Material

Data sharing not applicable to this article as no datasets were generated or analyzed during the study.

Conflicts of Interest

The authors have no potential conflicts of interest to disclose.

Author Contributions

Supervision: Hyung Jin Choi, Min-Jung Park. Visualization: Younjoo Song. Writing—original draft: Younjoo Song. Writing—review & editing: Hyung Jin Choi, Min-Jung Park.

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