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Chapter

Discretion or Disorder? The Impact of Weight Management Issues on the Diagnosis and Treatment of Disordered Eating and Clinical Eating Disorders

Abigail H. Natenshon

Abstract

Eating disorders, the most lethal of all the psychiatric disorders, are frequently misdiagnosed as benign weight management problems, which contribute to their being underdiagnosed and under-reported. Though eating disorders are typically first identified through easily discernible weight change, their unseen origins lie in genetic propensities, neurobiology, environmental and family influences, inborn temperament, and trauma. Non-integrative, behaviorally based weight management solutions that call for dieting and meal plans alone, by ignoring the psychological underpinnings and neurobiological origins of dysfunctions driving these disorders, can potentially lead to loss of life and/or life quality. Conversely, generic psychotherapy protocols typically fail to address and enforce the behavioral prerequisite to re-feed the malnourished eating disordered brain and body, which is required to optimize therapy outcomes. It is for the intuitive and skillful diagnostician to determine whether the patient's desire for weight change is based on healthful autonomous discretion or on the dictates of compulsions based in life-threatening pathology, thus informing treatment. Eating disorders are disorders of the core Self of self-regulation, self-perception, self-esteem and self-care, affecting life spheres far exceeding eating-lifestyle and weight management. Healing weight management problems requires integrative diagnosis and care, re-establishing one's healthy relationship with food, weight, and eating, as well as with one's re-integrated core self.

Keywords: weight management, diets, dieting, obesity, disordered eating, eating disorders, anorexia nervosa, bulimia nervosa, obsessive compulsive disorder, binge eating disorder, purging, food restriction, healthy eating, exercise bulimia, refeeding edema, diabulimia

1. Introduction

Most individuals seeking advice about weight management issues approach healthcare professionals with the intention of improving their health, well-being, and

appearance by losing weight and altering their metabolic function. Typically, first responders, be they parents, nutritionists, physicians, nurses, coaches, or personal trainers, offer non-integrative behavioral approaches to weight management in the form of prescriptive diet plans. In the absence of underlying pathology or compulsions that may drive dysfunctional eating behaviors, such simple solutions may be adequate. But when the origin of an individual's desire and efforts to lose weight resides in underlying eating pathology, purely behavioral solutions can mask potentially life-threatening dysfunctions. Sometimes hiding in plain sight, otherwise benign disordered eating (DE) habits may ultimately take on an element of compulsivity, leading to chronic illnesses such as heart disease, diabetes, and/or as heart disease or diabetes and/or the eventual onset of a life-threatening clinical eating disorder (ED) in genetically susceptible individuals. It is for the astute and intentional diagnostician to sniff out, intuit, or otherwise identify the potential for pathological origins within a constellation of seemingly benign weight management dysfunctions by determining whether a patient's desire for weight change is based on healthful, autonomous discretion or on the dictates of a tyrannical and potentially lethal eating disorder. Overlooking the nature and severity of DE behaviors or warning signs of a clinical ED can carry dire consequences. By partnering with the patient to affirm or negate a diagnostic hunch, the clinician informs appropriate treatment, promoting disease prevention or the achievement of a timely and sustainable problem resolution.

2. The continuum of healthy eating

The nature and quality of eating patterns reside along a continuum that includes eating behaviors and self-care. Along the span of this continuum, healthy eating patterns may evolve into disordered eating patterns, potentially leading to deadly ED in genetically susceptible individuals. At one end of the continuum, healthy eating behaviors mark the achievement of a fit and effectively functional body capable of sustaining its own ideal set point weight through healthy eating and self-care (**Figure 1**). At the opposite end of the continuum, life-threatening ED represent the tip of an underlying emotional, physiological, and neurobiological iceberg. A clinical ED marks the fragmentation or loss of the core self and, with it, the patient's lost capacity for self-regulation, self-trust, self-esteem, and self-care. Feelings of guilt and of shame typically foster secrecy, denial, and reluctance to seek or sustain care. Ambiguous and inconstant DE behaviors exist somewhere between the polarities of healthy eating and potentially life-threatening ED. Some DE patterns that may appear to be pathological may actually represent variations of normal and benign behaviors, being shared by otherwise healthy eaters. As an example, healthy eaters who choose to indulge excessively in the lavish offerings of dessert buffets, typically consider such an opportunity benign and not-to-be-missed, guilt-free, gastronomic sensory and aesthetic delight.

The evolution of dysfunction along the eating continuum is influenced by the melding of eating lifestyle with genetic propensities, inborn temperament, value

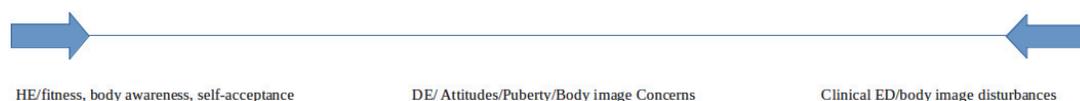


Figure 1.

Along the continuum of healthy eating, the evolution of healthy eating to DE, and from DE to a clinical ED, represents a journey of developing pathology; likewise, recovery from eating pathology represents a journey in the opposite direction, towards developing health.

systems, developmental life stages, and self-concept issues culminating in body image perception and preoccupations. The confluence of normal child development and early bodily maturation, environmental triggers gleaned through social media, attitudes in the home, and peer pressure can lead to high-risk responses in teens and young adults which might include dieting, excessive exercise, abuse of diet pills, purging, food restriction, or eating only when hungry/skipping meals. In response to a societal disconnect between biology and culture, as girls grow older, they are expected to grow smaller. Studies show that 42% of first to third grade girls wish to be thinner [1] and, in the attempt to change one's natural body shape and size, 81% of 10-year-old girls feel better about themselves when they are dieting [2], creating a greater risk of obesity in adulthood. 25% of American men and 45% of American women are dieting on any given day [3], giving rise to cravings, malnutrition, metabolic dysfunction, and increased overweight once the individual "falls off the dieting wagon." It has been reported that 35% of "occasional dieters" progress to pathological dieting and DE, and as many as 25% progress to partial or full syndrome eating disorders [4].

It is for the perceptive and responsive diagnostician to determine at what point, along the healthy eating continuum, eating behaviors cross the thin line between normal eating and various forms and degrees of eating pathology and compulsions. A patient of mine with binge eating disorder (BED) assumed that she was in "remission" until, "It suddenly occurred to me that this was not just about having an extra piece of pie ... this was starting to feel like an all-out binge." Pathology exists when food, exercise, or the abuse of dietary substances is used to resolve emotional problems or in response to posttraumatic stress; when food serves purposes other than satiating hunger, fueling the body, or sociability; when the act of eating evokes guilt and fear; when eating habits become inflexible, immoderate, imbalanced, and excessive; when compulsive thoughts, such as calculating caloric intake, and preoccupations about becoming fat preclude other thinking, interfering with learning and normal daily function; and when attitudes and beliefs about food and eating are misguided.

When a child who is a healthy eater runs out the door without breakfast because (s)he is late for the school bus, she will surely want to snack during the morning or eat a bigger lunch to make up for the calories lost. The child with an ED who runs out the door without breakfast does so because (s)he would otherwise be wracked with fear, anxiety, and guilt that the calories she might ingest would make her fat. This child would feel compelled to calculate how many calories (s)he can allow herself to ingest throughout the rest of the day so as not to gain a single ounce.

3. Weight management diagnosticians face multiple challenges

In the face of weight management issues, information that patients communicate to clinicians is often not accurate or comprehensive; and what patients request of health professionals is frequently not what they need. Falling between the cracks of accurate assessment and appropriate treatment, DE and potentially lethal ED all too frequently remain misunderstood, underdiagnosed, and undertreated [5] by myopic, underinformed physicians, psychotherapists, and nutritionists who lack an integrative "big picture" perspective of the possible existence of underlying, co-occurring diagnoses that need to be revealed, monitored, and treated. The diagnosis of a clinical ED remains elusive, with more than one half of all cases remaining undetected [6].

A patient of mine had been treated by a psychiatrist for 7 years, during which time, she never told him that she vomited 30 times a day, for fear of his finding her “disgusting” and therefore refusing to treat her. This physician failed to “read between the lines” of her symptoms and to intuit and investigate the presence of an ED from the constellation of personality traits, temperament, and behaviors that she did reveal to him. Through our work together, she came to understand her problem and her self. The quality of our relationship led to the improvement of all her significant relationships—with food, with her self, and with others.

The unique requirements of weight management issues demand the uniquely specialized skills of an informed, intentional, and intuitive diagnostician, capable of hearing what has not yet been spoken. Within the context of initial history-taking, the nature of weight-related dysfunctions is likely to remain elusive in the absence of an active probe for problem origins in pathology. The diagnostician’s enlightened line of questioning will substantiate, or negate, such a presence, revealing the subtleties of distinctions between the nature of eating behaviors as they reside along the healthy eating continuum. When eating behaviors do appear to cross the line into pathology, the diagnostician takes on the role of crisis interventionist, through immediate responsiveness to the needs of the moment through an investigation into the past. Because the patient’s quality of life may depend upon assessment accuracy, the obligation for first responders or clinicians to detect, explore, and interpret issues yet to be unearthed becomes a unique challenge within the confines of the limited timeframe of a single-session weight management consultation. On high alert for potentially unseen issues, the proactive first responder must be prepared to offer psychoeducation, a plan of action, and, where appropriate, referrals to collaborating experts and/or higher-level treatment milieus. If it looks like a duck and acts like a duck, it is for the responsible practitioner to treat it like a duck, unless proven otherwise, even before the assignment of a definitive diagnosis.

Esther was a 29-year-old woman who came to treatment for depression, poor self-esteem, and relationship problems. In response to her description of her college days during which she spoke of herself as perfectionistic, highly compulsive, anxious, and depressed, I chose to wonder aloud if she had ever struggled with an ED or other eating-related issues. “My God!” she responded. “How did you know? I have never told a soul!” By understanding the nature of her personality structure and recognizing characteristics of her emotional functioning, I was able to intuit and surmise the possible existence of a past ED, which upon inquiry, I discovered had yet to be fully resolved. Following the tenet of John Muir, “If we try to pick out anything by itself, we find it hitched to everything else in the universe.” By following my hunch and having made this discovery, I was able to launch the ED treatment process immediately.

Where the clinician’s depth and breadth of understanding of weight management issues is limited and non-integrative, the patient is liable to leave the treatment office with a diet plan in hand, yet without a practicable and sustainable solution for pressing weight-related concerns. More significantly, the loss of a timely and poignant opportunity for the patient to discover unknown problem origins and aspects of self and personality represents a lost opportunity for self-reflection, self-awareness, and self-integration, all leading to healthier lifestyle choices.

Factors further clouding the differential diagnosis of eating-related pathology include the elusive assessment of evolving and ambiguous DE patterns, and the widespread misunderstanding and erroneous information surrounding the issues of eating, weight control, and ED. In asking my ED patients what triggered the onset of their ED, a frequently heard response is that they “started to diet in an effort to lose weight, and ultimately found themselves feeling compelled to eat ‘healthier and

healthier.” The term “healthy eating” not infrequently becomes a euphemism for food restriction, or ‘clean eating,’ potentially triggering the onset of orthorexia in ED individuals. Further complicating the diagnostic process, ED symptoms vary appreciably from patient to patient, with; every ED a ‘thumbprint.’ Fully half of the ED population suffers from the difficult-to-identify condition called “other specified feeding or eating disorder” (OSFED), previously known as “eating disorder not otherwise specified” (EDNOS) [7]. OSFED describes atypical AN (without low weight) and atypical BN or BED (with lower frequency of behaviors, purging disorder, and/or night eating syndrome). Patients who do not meet the strict diagnostic cutoffs for full criteria for AN and BN often remain undiagnosed despite the seriousness of their illness, foregoing or delaying necessary treatment [8]. Patients with clinical ED are often reticent, within a diagnostic interview, to divulge a stigmatized disorder. A recent discovery, important for its potential to reduce the degree of stigma that is associated with ED nondisclosure revealed that 20% of the neurobiology of AN could be derived from metabolic genes (possibly activated by a state of starvation) [9].

3.1 Myths and misconceptions regarding clinical ED abound

Consider the following examples of decoys to the recognition and understanding of ED:

- People mistakenly assume that AN is easy to spot, believing that “all anorexic individuals are exceedingly thin.”
- It is a commonly believed misconception that an AN individual’s full restoration of weight marks a full recovery from an ED. In fact, ED recovery is marked by neurobiological, emotional, cognitive, and behavioral changes that lead to the reintegration of the individual’s core self and the normalization of body fat mass and sexual hormones, which have a widespread impact on the body and multiple pathways in the brain [10].
- Despite the widely accepted misconception that ED represent an incurable “life sentence,” about half of those individuals with AN or BN attain a full recovery, 30% achieve a partial recovery, and 20% show no substantial improvement [11].

3.1.1 The physician’s role in weight management detection

Though early detection of ED warning signs is pivotal in disease prevention and/or promoting a timely recovery, the medical community has been known to overlook opportunities for early disease recognition.

- Because signs of an ED rarely appear in blood tests until advanced stages of disease, normal test results in early stages of ED are often misconstrued to represent a “clean bill of health.”
- Pediatricians frequently overlook the significance of precipitous weight loss in children when their numbers fall within the range of normal on the growth charts, precluding early disease prevention.
- Gynecologists regularly prescribe birth control pills for ED patients with amenorrhea, erroneously assuming that hormone replacement will counteract or reverse bone loss and improve reproductive functionality [12].

- Cardiologists, in the face of a co-occurring activity disorder that takes the form of excessive and compulsive exercise, frequently miss an ED diagnosis by attributing a low heart rate and amenorrhea to “healthy athleticism.”

When driven by the fear of weight gain, individuals who suffer from ED, co-occurring anxiety, and obsessive-compulsive disorders (OCD), are particularly susceptible to developing activity disorders. Also known as anorexia athletica, exercise bulimia, or exercise addiction, ED individuals engage in such compensatory compulsions with the intention of burning calories. Between 40% and 80% of AN patients are prone to excessive exercise in their efforts to avoid putting on weight [13].

Binny ran 10 miles a day, followed by 2 hours of working out. She ate no more than 750 calories a day while training regularly for countrywide marathon races. One 26.2-mile event landed her in a hospital, where her legs swelled and she required an emergency blood transfusion. Because her eating and running regime provided her with a sense of being “alive,” upon release from the hospital she felt incapable of curtailing the compulsive behaviors that threatened her life. Her emergency room doctors attributed her blood disorder and amenorrhea to her athleticism, failing to recognize both conditions as signs of ED pathology.

4. Gaining clarity through defining terms

*“The beginning of wisdom is to call things by their right names.”
Chinese Proverb*

4.1 Understanding weight management

Barring origins in genetic, metabolic, or hormonal dysfunctions, weight management dysfunctions typically originate in an individual’s unhealthy relationship with food, leading to a disordered eating lifestyle. The term “weight management” describes the techniques and physiological processes that contribute to attaining and maintaining an individual’s ideal weight. Healthy weight management techniques encompass long-term lifestyle strategies promoting healthy eating and daily physical activity, fostering sustainable change and well-being. In contrast, unhealthy weight management strategies, lacking an integrative treatment perspective, fail to achieve sustainable weight goals. Examples of unhealthy weight management include dieting, skipping meals, food restriction, eating only when hungry, and forms of purging that may include vomiting, spitting, compulsive exercise, and the abuse of laxatives, diet pills, and diuretics. Multiple studies have found that dieting for purposes of weight management is associated with greater weight gain and increased rates of binge eating in both boys and girls [14].

4.2 Understanding healthy eating

Healthy eating is guilt-free, balanced, and fearless eating, with flexibility in accommodating the parameters of the dining moment. Healthy eating includes three meals daily, each including all the nutritionally-dense food groups, as well as snacks. There are no bad foods. What is bad is extremism, compulsivity, and unhealthy attitudes about food and eating, i.e., how we feel about what we eat. What is worse than eating Oreos is never eating Oreos, as forbidding a child to eat Oreos can ultimately lead to sneaking, hiding, or stealing food. Healthy eating results in healthy weight maintenance naturally, through the inherent wisdom of a

body which, when fed healthfully, and having reached its ideal set point weight, will predictably sustain that appropriate weight-to-height ratio indefinitely, through its own natural functions. In most cases, the healthfully fed and exercised body with a healthfully functioning metabolism needs no help from arbitrarily devised dietary interventions to sustain a healthy weight throughout one's lifetime.

4.3 Understanding disordered eating

At times we are all a little eating dysfunctional. Bombarded by nutritional research and food fads in an age of pervasive social media, "normal" eating (i.e., eating all food groups, including moderate amounts of processed foods and sugar) is no longer considered to be "healthy" eating. Certain patterns of DE, in light of their prevalence, are becoming increasingly difficult to recognize as pathological. A study found that nearly 91% of female college students use dieting as a weight control mechanism [15], putting many of them at risk to develop a clinical ED. The prevalence of AN and BN is relatively rare among the general population [16], affecting 1% to 4% of adolescents and young adult women [17]; DE, however, which has been defined as a psychological illness, [18], and the misguided attitudes about food and weight management that lead to them, are widespread and prevalent among all age groups. The consequences of DE, which include rampant dieting and body image obsessions, can be devastating; though not the cause of eating disorders, they are often precursors to their onset. Occasional DE, as well as certain behaviors that manifest themselves in clinical ED, are not in themselves abnormal. Differentiating normalcy from pathology is best accomplished by assessing the patient's attitudes towards food and eating. Benign forms of DE are fully discretionary, dependent upon the individual's capacity for self-awareness, self-regulation, and choice-making through their own free will.

Picky eating syndrome is a DE pattern that originates in early childhood. Typically indicative of a sensory processing disorder (SPD), food choices tend to be limited to bland "white" foods (containing sugar and flour) of specific textures. Picky eating often results in overweight. Studies show that 40% of overweight girls and 37% of overweight boys are teased/bullied about their weight by peers or family members and that traumatic experiences such as these during the formative years are predictive of weight gain, binge eating, and extreme weight control measures [14]. DE patients have experienced a higher frequency of traumas (childhood adversities in particular), especially in circumstances related to childhood obesity [18]. Childhood picky eaters who do not grow out of the condition and who become malnourished because of the limited variety of foods that they eat qualify for a diagnosis of avoidant restrictive food intake disorder (ARFID), a condition which typically extends into adulthood.

Rising obesity rates, the result of DE lifestyles, clinical ED, and hereditary factors have become a major concern worldwide, especially in North America, where more than 2 in 3 adults (70.2%) are considered to be overweight or obese [19]. Obesity, DE, and ED are considered major health problems among adolescents because of their increasing prevalence in this age group and their potentially serious physical and psychosocial consequences [20, 21]. Dieting and unhealthy weight control practices lead to eating psychopathology in DE, ED, and obesity, particularly when associated with variables such as personality characteristics like perfectionism or anxious temperament, a microbial imbalance, or a genetic predisposition to be influenced by an obesogenic environment. Other possible causal mechanisms linking dieting to later problems are neurophysiological mechanisms associated with food restriction (e.g., effects on neurotransmitters that could increase risks for either obesity or ED via influences on food regulation processes) [21]. In the face of a genetic, hormonal, or metabolic predisposition to obesity, following a healthy lifestyle in which the

individual learns to eat differently, not less, may counteract gene-related risks. Individuals with obesity and co-occurring eating disorders are at higher risk for several medical and psychosocial complications than individuals with either condition alone [22]. Because obesity may become a precursor to an ED, and vice versa, collaborative exchanges of experiences and specialized knowledge between healthcare professionals working in the fields of obesity and eating disorders are essential [22].

4.4 Understanding clinical eating disorders

ED onset is an integrative process, stimulated by contributing factors that include genetics, neurobiological vulnerability, physiology, co-occurring mood and emotional disorders, past trauma, and familial and cultural influence. For the individual with AN, BN, BED, or OSFED, behavioral and emotionally based compulsions become etched in neuronal pathways, impacting the structure and function of the brain. ED patients consider their disorder to be a survival tool, an adaptive coping mechanism that they cannot live without. Underlying the clinical ED is the primordial fear of becoming fat. For the ED individual, food is “fattening,” and fat, the enemy of a body that can never be too thin, becomes a “feeling,” a sensation, a perception. ED are self-regulatory dysfunctions. All types of ED share a great number of symptoms and issues, as aspects of the same disease syndrome; however, ED victims vary in the basic structure and function of personality and emotional makeup, and treatment needs to vary, reflecting these differences. BN behaviors tend to be marked by impulsivity, followed by “undoing” practices, such as various forms of purging. AN behaviors reflect behaviors and attitudes marked by rigidity, restriction, and containment.

Though ED are essentially not about food, their successful healing depends upon the resumption and maintenance of a healthy weight and relationship with food [22]. ED are disorders of the core self, characterized by diminished self-control, self-regulation, self-attunement, self-trust, self-agency, self-reliance, self-perception, self-sensing, and self-worth. A full ED recovery is defined by several factors, including the return of a healthy and sustainable eating lifestyle and relationship with food; the reintegration of the mind, brain, and body, reconstituting a fully integrated self; the arrival at one’s set point weight; and a full restoration of healthful physiological functioning leading to the natural resumption of menstruation. Observable weight change is typically the factor that brings ED patients to treatment. Once in treatment, additional predictive assessment factors include the ED mentality, marked by perfectionistic, obsessive, black-and-white thinking, cognitive rigidity, the compulsive quality of behaviors, the intolerance of uncertainty, and the fear of gaining weight and becoming fat. It is important to note that many individuals with various forms of ED maintain a normal weight, a phenomenon observed particularly in BN and BED because of “weight cycling,” where patients alternate between starvation and gorging or compulsive bingeing followed by compensatory forms of purging.

ED do not stand still; any ED that is not in the process of healing is becoming increasingly entrenched in the brain and nervous system, destroying life quality, if not taking lives.

Pamela suffers from BED. She is not overweight, as might be expected, the result of yo-yoing between gorging and starvation for days on end. Aware of her illness and her need for professional help, she spoke of her frustration in not having been able to get the attention of her family or the healthcare professional community, who refused to acknowledge that she had an ED because her weight was “normal.” Having been denied treatment, compassion, much needed support and attention, upon arrival at my office, she spoke of feeling depressed, isolated, and hopeless.

5. Weight management assessment as a form of crisis intervention

In looking beyond simple, nonlinear solutions for weight management problems, the single-session diagnostic assessment needs to become a discovery process, uncovering the possibility of underlying sources of symptoms in eating pathology or past trauma. In establishing a direction for future treatment, the assessment of DE or ED requires treatment tools of subtle refinement that investigate the patient's current disease and recovery status, as well as the history of past efforts to heal. Following Abraham Maslow's hierarchy of human needs [23], the weight management diagnostician attends to the needs of the patient in a sequence designed first to save lives through medical stabilization, then to remediate life quality through emotional stabilization. For ED patients, the need to refeed body and brain becomes a first priority in minimizing the patient's physiological risk, augmenting receptivity to the therapeutic process and to an environment conducive to the use of medication. Physiological or emotional instability that could result in self-harm or death demands an immediate referral to higher levels of care.

Psychoeducation lies at the core of the patient's engagement in the healing process as a mainstay of support, rectifying distorted attitudes and cognitive belief systems; introducing a deeper understanding of weight management problems and their implications; opening the patient's eyes and mind to insights and self-reflection; and creating the patient's sense of trust in the clinician and the clinical process as well as hope for a full recovery. Psychoeducation emphasizes the importance of maintaining a healthy eating and activity lifestyle to insure short-term and long-term goals for unified mind, brain, and body health. A psychoeducational explanation of the set point weight theory becomes critical in assuaging the AN patient's fear of excessive weight gain during refeeding by describing the wisdom of the human body, which, once having restored optimized bodily functioning, will sustain a constant weight. The AN patient also learns to anticipate that the natural course of ED recovery will involve countless trials and setbacks in regaining lost weight, with the recognition that every movement representing progress or regression represents "grist for the learning mill." Patients and clinicians need to anticipate the emergence of previously buried feelings during the refeeding process, evoking states of psychophysiological fear and/or emotional distress. Psychoeducation is also of great benefit for the parents of eating dysfunctional children or young adults living at home. Through family therapy, parents become knowledgeable about the complexities and risks involved with their child's eating dysfunctions and the urgent need for total healing. As advocates for their ED child's recovery, skillfully coached parents become, and remain, effective agents for positive change throughout an ever-changing treatment and recovery landscape.

Aside from psychoeducation, the work of the initial diagnostic session or series of early sessions needs to be richly flecked with trust-building and relationship building, along with an action plan, devised even prior to the development of a definitive diagnosis. The assignment of tasks such as journaling, requests for ongoing open and honest personal feedback, and contingency contracts all foster the patient's learning, trust, and treatment engagement. The initial session may include professional referrals to prospective members of a treatment team, as needed, initiating an integrative treatment process. Evoking motivation for change, the quality of the initial patient/clinician connection awakens the patient's recognition and acceptance of oneself, of co-occurring diagnoses that may require attention, and of the need for commitment to a treatment process that can accomplish full and sustainable healing. Aside from identifying current behaviors, levels of function, and past treatment and recovery efforts, history-taking needs to assess the patient's internal strengths, external resources, environmental influences and mood

dysfunctions, always with attention to the possibility of past or current trauma. Studies that include partial or subclinical forms of posttraumatic stress disorder (PTSD) show that well over half of individuals with BN have PTSD or significant PTSD symptoms [24]. In light of the prevalence of trauma in the background of ED patients, trauma investigation needs to become a central focus within the initial inquiry. The diagnostician does well to become self-aware of personal propensities towards countertransference responses or cultural biases (reflecting weightism). The latter are forces which might preclude the clinician's recognition that many overweight and genetically large individuals who eat healthfully and exercise regularly are physically fit, healthy, and strong.

6. Medical ramifications of weight management in the treatment of DE and ED

A heavy burden of medical comorbidities across multiple body systems, attributable to both the malnutrition of AN and the purging behaviors of BN, contribute to the high mortality rates of these illnesses [25]. Restoration of weight and nutritional status are key elements in the treatment of AN [26]. Nutritional and medical treatment of extreme undernutrition present two very complex and conflicting tasks: the need to avoid “refeeding syndrome” caused by a too fast correction of malnutrition and “underfeeding” caused by a too cautious refeeding [27]. Metabolic, endocrinological, and gastronomic consequences that may develop during the refeeding process for ED individuals in recovery need to be understood and addressed in treatment. For the most part, but not in all cases, adverse consequences are reversible with recovery:

- Efforts of AN patients to restore weight within the refeeding process risk derailment due to the irrational fear that normal eating behaviors will ultimately lead to overweight or obesity following weight restoration. A psychoeducational discussion of optimal set point weight can potentially diminish fears through the knowledge that the body will maintain this optimized weight by using the same energy intake as had been needed for weight restoration. With metabolic normalization and biological functions coming back on line after their dormancy during weight restriction, the extra energy used previously for weight gain becomes expended on usual day-to-day functions [28].
- During initial phases of weight restoration, particularly for restricting ED patients who begin treatment at lower weights, the metabolic rate may overshoot normal levels in a “hypermetabolic” phase in which patients easily lose weight and need to eat an even larger amount of food to gain and sustain weight. This phenomenon is due to increased diet-induced thermogenesis (with calories dissipated as heat) as well as a variety of neuroendocrine alterations [26]. Despite the urgent need for the body to use restored energy efficaciously to replenish fat reserves and repair tissues in the early weeks and months of refeeding following prolonged semi-starvation, metabolic function may not normalize for 3–6 months following weight restoration [28].
- Target weights offer invalid markers of metabolic normalization, providing false indicators of ED recovery progress. It has been shown that ED patients forced to gain weight in hospital settings typically plan to lose it upon discharge [29]. Attempting to attain a target weight that is not reflective of the body's self-determined set point is predictive of a poor long-term prognosis.

Establishing and maintaining a goal-weight range is but one of many integrative physiological, neurobiological, nutritional, cognitive, emotional, and environmental factors contributing to a complete and sustainable ED recovery.

- Weight gain from edema (swelling or bloating) can be caused by hormonal changes brought on by starvation. AN can lead to kidney-related issues that include severe electrolyte disturbances (hypokalemia, hypophosphatemia, etc.), nephrolithiasis, and alterations in water metabolism (with hyponatremia and edema.) Patients with the binge eating/purging subtype of AN are more likely to have kidney disorders, particularly electrolyte disturbances and volume depletion, than those with the restrictive subtype. ‘Refeeding edema’ occurs during the process of weight restoration [30].
- Weight gain is a common side effect for people who take insulin to manage type 1 diabetes. The deliberate insulin underuse with type 1 diabetes for the purpose of controlling weight is known as diabulimia, a condition leading to a threefold increase in mortality risk [27].
- Sarcopenia, the loss of muscle mass in moderate to severe AN is frequently overlooked by clinicians. Appropriate exercise is required to restore muscle mass and strength [31].
- The strongest predictors of osteoporosis include low body weight and amenorrhea. Hormonally based bone softening and/or bone loss may never become restored to a state of normalcy, even following weight restoration.
- AN has consistently been associated with reduced gray matter and white matter brain volumes. It remains unclear if gray matter alterations are present following recovery from AN [32].

Issues complicating the achievement of full weight restoration matter a great deal, as halting the process of weight restoration at much lower levels than needed for full and sustainable recovery increases the rate of treatment dropout [33] and relapse [34]. The restoration of nutrient status and weight needs to start slowly and gradually, accelerating as tolerated. The refeeding process needs to focus on modifying the disordered dietary patterns that AN patients commonly practice, which might include slow and irregular eating, vegetarianism, and the consumption of a restricted range of foods. Severely malnourished AN patients often need to be admitted to a hospital in order to receive more aggressive treatment, with extra care and monitoring required to prevent the occurrence of refeeding syndrome [26], a clinical complication involving kidney dysfunction [30]. A person may finally be considered “in remission” after maintaining a stable weight for a number of years and experiencing the natural resumption of menstruation, as well as other normal hormonal, metabolic, and gastroenterological processes. Sustained remission is marked by the return of the reintegrated core self, following its fragmentation by the encroachment of the ED “pseudo-self.”

7. Discovering and managing the roots of weight management problems in current or past trauma

Trauma in the form of sexual abuse occurs in 30–65% of women with ED [35]. The vast majority of women and men with AN, BN, and BED report a history of

interpersonal trauma, with approximately one-third of women with BN meeting criteria for lifetime PTSD [36]. Unresolved trauma and/or PTSD can be an important perpetuating factor in the maintenance of ED symptoms [24]. DE and ED behaviors typically serve the patient as coping tools and distractions that numb the ongoing effects of traumatic memories. A trauma-focused approach to ED treatment facilitates the resolution of traumatic experience that lies at the root of behavioral, emotional, and neurobiological dysfunctions [37].

Unprocessed traumatic memories stored in the mid-brain region become recycled when triggered, creating undischarged energy in the nervous system. Any traumatic assault on, or insult to, the brain impairs brain integration. High stress levels that lead to an overactive amygdala and hippocampus suppress the activities of the prefrontal cortex, the thinking brain that helps to regulate emotions. Body dysmorphic disorder, a common occurrence in ED individuals traumatized by sexual abuse, represents a mind, brain, and body disconnection within the disparate nervous system. BN and AN pathology reflects the disintegration of the structure of the self within the distributed nervous system, resulting in the patient's inaccurate sensing of self-based experience and perception of self. Psychosomatic expressions of traumatic experience are held as bodily sensations. ED heal in the same way as trauma heals, through the neurophysiological and neurobiological reintegration of the distributed nervous system, marking the return of the patient's reintegrated core self [38]. Because traumatic memories are encoded subcortically, the process of healing ED that originate in trauma requires accessing, and gaining leverage within, the structural coding of the brain and nervous system.

Neurophysiological effects of past trauma that are revealed in the present become accessible and available for remediation [38]. Trauma resolution lies in creating a psychophysiological state associated with decreased adrenergic activity, decreased muscular neuromuscular arousal, and cognitive quieting [39]. The introduction of neurophysiological (sensorimotor) and neurobiological (interpersonal, attachment-based) treatment interventions into mainstream clinical treatment for ED increases exposure to mindful embodied movement experience, fostering mind, brain, and body connectivity. By stimulating integrative neuronal firing and synaptic activity, these "top-down" and "bottom-up" transactions enhance acuity in self-sensing, self-perception, and body image coherence, supporting the unification of the disparate self [38].

Trauma resolution becomes enhanced through a mindful, quality connection between the therapist and patient. Rapid resolution therapy (RRT) is a body-based talk therapy technique shown to alleviate negative effects of trauma and PTSD without requiring the patient to recollect painful memories [40]. Trauma resides in the limbic system and in the perceptual world within a neural network, which has sufficient functional boundary thresholds to largely "disintegrate" it from the rest of the nervous system. When negative feelings become dissociated or "split off" (as they do within the bulimic "pseudo-self"), the potential exists to reintegrate them through the patient's connection with his/her best and resourceful self, through solution discovery, or rediscovery, both past and present [40]. Trauma resolution accesses neuroplasticity, through which neural networks that become lit-up at the same time as the neural network associated with the problem result in the problem's loss of definition. This dynamic allows for a free flow of communication with the rest of the nervous system, as the brain reinterprets new combinations of neural connections to create meaning [40]. By creating connections within the distributed nervous system in the context of a trusted human relationship, the technique connects problems to solutions through consolidating memories of human strengths and resourcefulness.

For decades under the care of dietitians treating Charles' disordered eating, dieting efforts failed, leaving him intractably obese at 100 pounds overweight. Still "feeling fat" following bariatric surgery, he came to therapy struggling to lose weight through old patterns of food restriction, leading to junk food binges. At the start of our treatment, history-taking revealed past trauma at the root of his current eating dysfunction. Since childhood, Charles' family had been forced to flee a war-torn country with only a day's notice, leaving their previously comfortable lives and extended family behind. Moving from country to country, they struggled to survive as refugees, grieving their losses and experiencing years of fear, hunger, and social isolation. In response to the combined work of ED recovery and trauma resolution, within the context of our quality therapy relationship, Charles began to experience a sense of grounded integration and selfhood, evidenced in his growing capacity for self-regulation and self-care. Within several months of treatment, he became a normalized healthy eater and started to exercise regularly. Change in his distorted body image perception as a fat person became apparent when he reported, "During an exercise class, I noticed myself in the mirror and thought, 'Who is that normal weight person? Could that be me?' Despite his weight management problems and eating compulsions, the healthy personality at his core had resurfaced through psychotherapy. In completing his treatment, he described himself as having become "a happy and gratified human being, enjoying a fulfilled existence."

In some instances, a skilled practitioner may be capable of discovering trauma and shepherding the start of the trauma resolution process within the context of the initial time-extended single-session weight management assessment.

It was the sudden recurrence of compulsive bingeing habits that she'd assumed were "in remission" that brought this middle-aged woman with BED to treatment. "This is the one area of my life that has always remained just beyond my grasp ... all I know is that my hunger is insatiable." In probing for the possibility of past trauma, our discussion during that initial session uncovered the source of her erratic eating compulsions in feelings of shame, emptiness, and emotional lability originating in early childhood trauma, a connection that had remained outside of her consciousness for 45 years. Her memories of neglect, alienation, and hunger that she suffered at the hands of her parents throughout her growing-up years, having been buried for decades within her limbic brain, now began to surface. Her brain's rapidly firing neuronal connections brought forth immediate new insights into herself, her current feelings, and past emotions, evoking an enlightened clarity about her previously "incomprehensible, over-reactive responses" (sobbing tears, sleeplessness, irrational fears) in the face of certain types of stressful experiences throughout her life. She wept with relief and gratitude upon leaving, recognizing that significant and sustainable change for her would now be in the offing.

8. Conclusion

Weight management anomalies signify the patient's unhealthy relationship with food, potentially giving rise to chronic disease or the onset of genetically predisposed clinical eating disorders and the metabolic, endocrinological, or gastrointestinal consequences that characterize them. Uncovering the origins of weight management dysfunctions in DE or ED pathology, in providing a direction for treatment, enhances the efficacy and sustainability of healing. From the perspective of a hammer, all things look like a nail; in assessing weight management issues

through a purely behavioral lens, first responders who fail to investigate and probe an underlying emotional landscape are likely to recommend a non-integrative solution, such as dieting, missing the opportunity to address the full complement of impinging psychological, neurobiological, and neurophysiological factors that contribute to weight management dysfunctions. Dieting, and particularly the use of unhealthful weight control behaviors, increase risk for weight gain and later eating- and weight-related problems [21].

It is through a unique use of self within the diagnostic moment that the knowledgeable and informed first responder approaches the uniquely challenging arena of weight management. By “listening with a third ear,” the clinician with clear intention and exquisite sensitivity to implied and unspoken issues intuitively and then skillfully addresses the possibility of a yet unknown and unnamed condition as part of a wider constellation of symptoms. The proactive diagnostician fosters the patient’s self-reflection, self-acceptance, and incentive to heal dysfunctions sustainably at their source; increased self-esteem and positive body image have been shown to be best achieved through self-acceptance rather than weight reduction [41].

Research justifies the need for long-term implementation of interventions that aim to simultaneously prevent the onset of obesity and ED through the prevention of dieting behaviors and the promotion of healthful eating and physical activity as ongoing lifestyle behaviors [21]. Research reveals that fitness center employees, ideally placed to observe clients who exhibit an addiction-like relationship with exercise in an effort to lose weight as part of an ED, require detailed guidelines for intervention, including ways to start conversations to this end [42]. Bottom line, first responders need to determine whether the patient’s desire for weight change is based on healthful choices and discretion, or on the dictates of pathological compulsions that underlie and drive dysfunctional eating behaviors. In either case, the diagnostician sets the stage for the patient’s immediate and compelling engagement in integrative treatment, creating the potential to save lives and promote life quality.

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Conflict of interest

The authors declare no conflict of interest.

Acronyms and abbreviations

DE	disordered eating
ED	eating disorders, eating disorder
BED	binge eating disorder
OSFED	other specified feeding or eating disorder
EDNOS	eating disorder not otherwise specified
OCD	obsessive-compulsive disorder
ARFID	avoidant restrictive food intake disorder
SPD	sensory processing disorder
PTSD	posttraumatic stress disorder
RRT	rapid resolution therapy

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Author details

Abigail H. Natenshon
Eating Disorder Specialists of Illinois: A Clinic Without Walls, Highland Park,
Illinois, United States

*Address all correspondence to: abigailnatenshon@gmail.com

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