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Assessing the Role of Play Therapy in Easing Anxiety and Despair in Children with Cancer

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Abstract

The prevalence of eating disorders is steadily increasing worldwide, especially among young adults and teenagers. The societal emphasis on thinness and the desire to emulate celebrities often lead adolescent girls to adopt extreme diets, engage in excessive exercise, and use weight-loss medications. Conversely, persistent stress, bullying, and family conflicts can lead to uncontrolled eating as a coping mechanism, further exacerbating psychological distress. According to the 10th revision of the International Classification of Diseases (ICD-10), eating disorders include conditions such as bulimia nervosa, anorexia nervosa, compulsive overeating, and psychologically induced vomiting. These disorders affect at least 9% of the world's population and can have fatal consequences. Unfortunately, early intervention is rare, as individuals often seek professional help only in advanced stages. Effective treatment requires a comprehensive approach involving multiple specialists, including psychiatrists. This article reviews the characteristics and symptoms of major eating disorders, details the principles of psychotherapy for these conditions, and discusses various psychotherapeutic interventions used in treatment.

Keywords: Anorexia nervosa, Eating disorders, Bulimia nervosa, Cognitive psychotherapy, Compulsive overeating, Behavioral psychotherapy

Introduction

In contemporary literature, eating behavior refers to an individual's typical patterns of food consumption under both normal and stressful conditions, their overall attitude toward food and meals, and their perception of their own body. Essentially, eating behavior is a personal approach to food intake that determines the quantity and type of food consumed in different situations [1].

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Eating behavior can be categorized as either normative or deviant. However, what is considered "normal" eating behavior is influenced by various factors, including geographical location, gender, age, profession, social status, and cultural or ethnic background.

Eating disorders are classified as behavioral psychogenic syndromes characterized by abnormalities in food consumption and processing. A key feature of these disorders is the conflict between an individual's physiological need for food and their desires [2, 3].

Figure 1 presents statistical data on the age groups most commonly experiencing eating disorders for the first time.

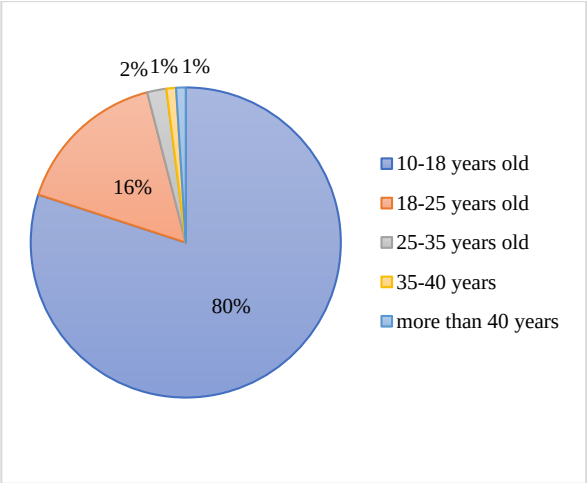

Figure 1. Age groups of people who have experienced eating disorders for the first time.

This article explores the characteristics and symptoms of major eating disorders, details the principles of psychotherapy for these conditions, and discusses various psychotherapeutic interventions used in treatment.

Results and Discussion

Causes of eating disorders

Researchers generally identify two primary causes of eating disorders:

- Preoccupation with body shape and weight
- Heightened anxiety, particularly in cases of orthorexia nervosa and restrictive eating behaviors.

Although the underlying causes of eating disorders are highly individual, they can often be grouped into the following categories:

1. Genetic predisposition: Some studies suggest that anorexia nervosa and bulimia nervosa have a hereditary component, with an estimated 40-60% of cases being genetically influenced. Similarly, binge eating disorder is believed to be inherited in approximately 48% of cases.
2. Biological factors: Gut microbiota imbalances have been linked to obesity, anxiety disorders, and clinical depression. Additionally, eating behavior is influenced by serotonin regulation, type II diabetes, food intolerances, and other physiological factors.
3. Social factors: Experiences such as bullying and societal or familial pressure to maintain a thin physique contribute to eating disorders in 60-80% of cases. **Figure 2** presents statistical data on eating behavior trends among modern individuals.
4. Psychological factors: Traits such as low self-esteem, perfectionism, high achievement orientation, anxiety, depression, and attachment disorders can contribute to disordered eating behaviors.
5. Substance abuse in the family: A history of alcohol or drug addiction in close relatives can increase vulnerability to eating disorders.
6. Family history of affective disorders: Conditions like depression or anxiety disorders among family members may also be contributing factors [4-7].

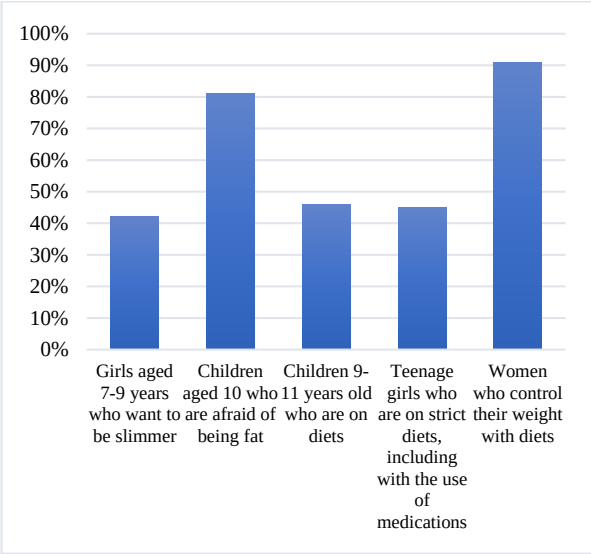

Figure 2. Statistics of eating behavior of modern people

International classification of diseases

According to the 10th revision of the International Classification of Diseases (ICD-10), which is widely used in Europe and Russia, eating disorders fall into the following categories:

Anorexia Nervosa is maintained by the individual. It primarily affects young girls and women and is driven by an intense fear of obesity and body flabbiness, which becomes an obsessive concern. Individuals with this disorder set extremely low body weight goals for themselves.

Key signs of anorexia nervosa

Severe restriction of energy intake leads to significantly low body weight relative to age, gender, and physical health.

Intense fear of weight gain or obesity, accompanied by compulsive behaviors that prevent weight increase despite being underweight.

Distorted body image, where self-esteem is overly influenced by weight and body shape, and a lack of recognition of the seriousness of being underweight.

Atypical anorexia nervosa: A disorder that shares some characteristics of anorexia nervosa but lacks the full clinical criteria required for diagnosis.

Bulimia nervosa: A condition characterized by recurrent episodes of binge eating, combined with an excessive preoccupation with weight control. This results in compensatory behaviors such as self-induced vomiting and laxative abuse. Frequent vomiting can lead to electrolyte imbalances and severe medical complications. **Figure 3** presents statistical data on behavioral patterns in bulimia nervosa [8-11].

Key signs of bulimia nervosa

Recurrent binge-eating episodes, where an individual consumes an excessive amount of food within a short period (typically within two hours), far exceeding what most people would eat under similar circumstances. During these episodes, the person feels unable to stop or control their eating [12].

Compensatory behaviors to prevent weight gain, such as self-induced vomiting, laxative or diuretic use, excessive exercise, fasting, or extreme dieting.

These disorders often require early intervention and a multidisciplinary approach to treatment, including psychotherapy and medical support.

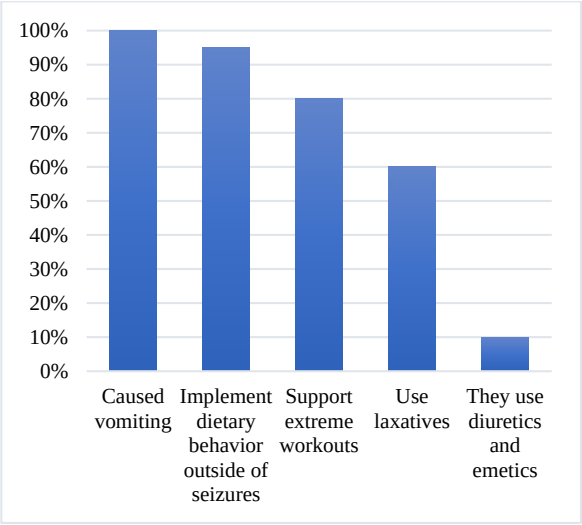

Figure 3. Statistics of behavioral criteria of bulimia patients

Additional eating disorders in the ICD-10

1. Atypical bulimia nervosa: A condition that exhibits some symptoms of bulimia nervosa but does not fully meet the diagnostic criteria for the disorder.
2. Paroxysmal (compulsive) overeating: A disorder linked to psychological distress, often triggered by significant life events such as bereavement, accidents, or childbirth. A diagnosis is made if at least three of the following behavioral criteria are met:
   - Episodes of loss of control over food intake.
   - Binge eating in response to severe stress.
   - Consuming an excessive amount of food in a short period.
   - Eating large quantities without feeling hungry, leads to overeating.
   - Eating is a response to negative emotions such as sadness, boredom, or depression.
   - Preferring to eat alone due to shame or embarrassment about eating habits.
   - Feeling disgust, guilt, or depression after binge-eating episodes.
3. Psychogenic vomiting: Recurrent vomiting associated with other psychological disorders, such as dissociative or hypochondriacal disorders. This condition is not a direct result of any other physical illnesses classified outside of this category.
4. Other eating disorders: This category includes conditions such as:
   - Pica (perverted appetite): The persistent consumption of non-food substances, particularly in adults.
   - Psychogenic loss of appetite: A refusal to eat due to psychological distress.

Emerging disorders: orthorexia

Although not yet formally recognized in ICD-10, orthorexia is an emerging eating disorder characterized by an obsessive focus on consuming only “healthy” and “pure” foods, leading to severe dietary restrictions.

Indicative criteria for orthorexia

- A preoccupation with healthy eating that overshadows all other interests and activities, interfering with social life.
- Food choices are based exclusively on perceived health benefits, disregarding taste, cultural factors, or personal enjoyment.

- Feelings of anxiety or guilt when consuming foods considered “unhealthy.”

While orthorexia lacks standardized diagnostic criteria, its impact on mental and physical health is increasingly recognized by researchers and healthcare professionals [8-11].

General principles of treating eating disorders

Many individuals delay seeking professional help for early symptoms of eating disorders, which often results in the need for more comprehensive and intensive treatment. A multidisciplinary approach is essential, requiring the involvement of specialists such as psychiatrists, nutritionists, psychologists, and gastroenterologists. Depending on the severity of the disorder, additional medical experts may also be needed to address complications that arise from prolonged unhealthy eating behaviors.

The treatment of eating disorders typically follows several stages. First, the central nervous system must be stabilized, as imbalances in neurological function can influence eating behaviors. Once this foundation is established, the next step is weight recovery, where the patient gradually regains or loses weight in a healthy and controlled manner. This is followed by nutritional rehabilitation, ensuring that a balanced diet is introduced to restore normal eating habits. Finally, psychotherapy plays a crucial role in addressing the emotional and psychological aspects of the disorder, helping individuals build a healthier mindset toward food and body image.

Focusing on a single aspect of treatment is rarely effective. For instance, obesity treatment often involves weight loss programs, but without modifying the patient’s emotional and instinctive behaviors, long-term success is unlikely. Similarly, dietary interventions alone can lead to negative side effects such as irritability, fatigue, anxiety, and even depressive symptoms, making it difficult for patients to sustain positive changes. Studies have shown that behavioral psychotherapy is particularly effective for individuals with obesity, as it helps them replace unhealthy eating patterns with more constructive behaviors. Regardless of the type of eating disorder, consulting a psychiatrist is crucial to ensure proper guidance and continuous monitoring throughout the recovery process.

Psychotherapy for eating disorders

Psychotherapy serves as a structured method of verbal or non-verbal communication designed to improve an individual’s psychological and physical well-being. Many eating disorders stem from emotionally driven conditions, also known as psychosomatic illnesses, which are often linked to unresolved psychological conflicts.

One of the primary causes of disordered eating is internal conflict, where a person's conscious and unconscious mind struggles with opposing desires and emotions. In such cases, psychotherapy aims to help individuals reconcile these conflicting aspects rather than suppressing one in favor of the other. Simply eliminating a symptom, such as excessive weight, without addressing its emotional root cause is unlikely to produce lasting results [13-16].

Several psychotherapeutic techniques have proven effective in managing eating disorders. Neuro-Linguistic Programming (NLP) helps reshape thought patterns and behaviors, allowing patients to develop healthier attitudes toward food. Gestalt therapy, on the other hand, emphasizes personal awareness and integration, helping individuals acknowledge and process their internal conflicts. These methods provide valuable tools for patients, guiding them toward a balanced relationship with food and their bodies.

Motivational and psychological aspects of eating disorders

Another significant factor contributing to eating disorders is motivation or the presence of secondary benefits. This aspect is crucial because, in many cases, the disorder provides certain advantages to the individual, making it more difficult to treat. Studies examining the relationship between excess weight and an individual's lifestyle have identified specific motivational advantages that reinforce weight retention. These benefits can be existential, biological, psychological, or social, making them powerful factors in sustaining the disorder.

Motivational benefits function as adaptive mechanisms, helping individuals cope with life's challenges and achieve personal goals. However, they also complicate therapy, as patients may subconsciously resist change due to the perceived advantages of their condition. Ignoring these secondary benefits can make treatment ineffective and allow the disorder to persist.

Several common motivational benefits associated with psychosomatic illnesses, including eating disorders, have been identified. Illness can serve as a means of escaping difficult situations or avoiding complex problems. It may also attract care, love, and attention from others, fulfilling emotional needs that might otherwise go unmet. Additionally, illness can serve as an excuse to avoid external and internal pressures, reducing the expectations placed on an individual [17].

In the case of obesity, secondary benefits may include fewer societal demands and the ability to attribute personal failures to physical appearance. Some individuals may unconsciously use excess weight as a defense mechanism—women, for example, may associate it with protection from unwanted attention, while men might use it as a means to evade responsibilities such as household chores or intimacy. In some cases, being overweight provides a sense of authority or an excuse for life's difficulties, evoking sympathy and reinforcing a need for love and care.

Addressing these motivational benefits requires a two-step approach. First, it is necessary to identify the underlying needs that excess weight fulfills. Once these needs are understood, alternative ways of meeting them—without reliance on the disorder—must be developed. By shifting focus to healthier coping mechanisms, individuals can work toward recovery while still achieving their emotional and psychological goals.

Another key factor in psychosomatic disorders is identification—the desire to resemble someone else, often an idealized figure. Unconscious imitation of parents can be particularly problematic, as individuals may adopt behaviors and patterns that contribute to the development of eating disorders. In some cases, this parental influence may create the foundation for hereditary conditions, reinforcing unhealthy behaviors and making recovery more challenging. Recognizing and addressing these influences is essential for breaking the cycle of disordered eating and fostering healthier self-perceptions.

Psychosomatic factors and psychotherapy in eating disorders

Several additional psychosomatic factors contribute to the development of eating disorders, including the effects of suggestion, self-punishment, "speech of organs," and unresolved traumatic experiences from the past. Given that psychological factors play a significant role in both the onset and persistence of eating disorders and overweight conditions, psychotherapy is an essential component of treatment and rehabilitation.

Correctional programs designed for eating disorders and alimentary obesity typically aim to address multiple aspects of a patient's life. These include modifying unhealthy eating habits and lifestyle choices, improving self-image, and fostering a more objective self-assessment. Additionally, these programs work on restoring self-esteem and confidence, aligning personal values and aspirations with realistic psychophysical capabilities, and enhancing interpersonal skills such as empathy, understanding, and conflict resolution [12].

When treating psychosomatic patients, various psychotherapeutic approaches are employed. The selection of a specific method depends on several factors, including the clinical characteristics of the disorder, the patient's personality traits, the treatment timeline, and the therapist's expertise. Psychotherapy in psychosomatic medicine is typically categorized into two groups: deep psychological methods and techniques focused on symptom and behavior modification. In practice, these approaches can be combined for a more comprehensive treatment strategy.

Deep psychological methods aim to uncover the internal psychological conflicts underlying psychosomatic symptoms. These methods focus on restructuring the patient's overall personality and relationships with the external world. A crucial aspect of therapy—particularly for psychosomatic conditions and addictions—is the establishment of a therapeutic contract. This contract is a formal agreement between the patient and therapist, defining the treatment goals and outlining the steps to achieve them [17].

The initial consultation follows a structured approach. The patient describes their reasons for seeking help and answers the therapist's questions. As the discussion progresses, the therapist gains insight into the core issues driving the patient's eating disorder. This process also helps clarify the patient's desired outcomes. The therapist carefully assesses the patient's statements by considering their observations, professional experience, and the available therapeutic methods that best suit the case.

During the first consultation for eating disorders and obesity, several key topics must be addressed. These include the patient's perceptions of their excess weight and their understanding of how they can influence it. The

therapist also explains the psychological factors contributing to weight gain, using accessible language and metaphors to illustrate the connection between mental state and physical symptoms. If the patient is receptive, the session may also explore the ideological aspects of excess weight, fostering a deeper awareness of the problem [18].

Cognitive behavioral therapy in eating disorder treatment

Cognitive Behavioral Therapy (CBT) is one of the most effective approaches to treating eating disorders. This method focuses on the connection between emotions, automatic thoughts, and behavior, illustrating how irrational thoughts trigger negative emotions that lead to disordered eating patterns. Patients learn to analyze their eating behaviors, identify triggers that precede food consumption, and develop techniques to slow down the eating process. Additionally, CBT emphasizes reinforcing positive eating habits while discouraging pathological behaviors.

A key objective of CBT is to teach patients "proper eating behavior" through structured reinforcement techniques. Since goals and self-imposed standards significantly influence behavior, the therapist and patient work together to establish appropriate daily caloric intake levels. Achieving specific milestones results in self-reinforcement, which increases the likelihood of maintaining self-regulation in the future [15, 19, 20].

Another essential aspect of CBT is enhancing the patient's awareness of their body and internal sensations. Patients are encouraged to recognize signals such as hunger, thirst, psychological discomfort, and anxiety while differentiating them from emotional cravings. This increased self-awareness allows individuals to respond appropriately to their body's needs rather than resorting to disordered eating behaviors as a coping mechanism. By fostering mindfulness and self-regulation, CBT helps patients establish healthier relationships with food and their bodies, ultimately supporting long-term recovery [14].

Suggestive psychotherapy

This therapy utilizes both direct and indirect suggestions, often involving targeted pressure on sensitive zones in areas like the stomach, eyeballs, and the exit points of the trigeminal nerve, combined with breathing exercises. To manage pathological hunger, autosuggestion sessions, along with elements of hidden psychotherapy, are conducted daily. The method helps reshape the value system of individuals with obesity, making their motivation for eating healthier foods align with greater goals like improving health, extending life expectancy, and advancing their career, personal life, and creativity [16].

Gestalt therapy

In Gestalt therapy, the focus is on identifying and understanding the emotions that lead to overeating episodes. The goal is to help patients recognize and process the emotions underlying their behavior. The therapy encourages clients to articulate their feelings and connect them with past events. Art therapy techniques, like drawing, are used to symbolically express these emotions and experiences [21].

Body-oriented therapy

This approach is especially effective for those with distorted body image perceptions, such as individuals with eating disorders. There are various techniques to help patients develop a healthy awareness of their body image. Key components of psychotherapeutic treatment for eating disorders include: fostering motivation for healthy eating, setting a weight loss plan, visualizing goals, creating a nutrition plan, keeping a food diary, changing unhealthy eating habits, and building self-confidence. It's also essential to prepare clients for potential situations where they might slip from their diet [22].

Behavioral psychotherapy

Behavioral psychotherapy addresses weight loss by focusing on calorie restriction based on modern dietary principles [20]. The therapy includes five core elements:

1. Written description of eating behavior: The client records details such as meal times, portion sizes, dining companions, and emotions during meals.
2. Control of stimuli: Identifying and eliminating food-related triggers, like easily accessible sweets or high-calorie foods.
3. Slowing down eating: Teach clients to pace their eating by counting bites and sips, taking breaks between bites, and gradually lengthening these pauses.
4. Increased concomitant activity: Establishing a system of rewards for milestones in modifying eating

behavior, such as counting bites or maintaining a food diary.

5. Self-reward system: Assigning points for positive changes in eating behavior, like controlling meal speed or avoiding triggers [22].

Cognitive therapy

In cognitive therapy, clients are encouraged to challenge their thoughts. The therapist assists by providing counterarguments that help the client recognize the value of losing weight. This method is particularly effective for individuals with regressive psychological defenses or hysteroid personality traits, as it reinforces adherence to proper eating behavior.

Other therapeutic approaches

In addition to cognitive and behavioral therapies, several other methods are used effectively in treating obesity, such as Gestalt therapy, transactional analysis, art therapy, psychodrama, body-oriented therapy, dance therapy, and family psychotherapy. For anorexia, treatment is often carried out in specialized centers, combining various therapeutic methods and involving a collaborative team approach. Family therapy has been found particularly effective for anorexia patients.

Behavioral therapy in anorexia treatment

In anorexia treatment, behavioral therapists use an integrated exposure method. The first stage involves behavioral techniques and training, while the second stage focuses on addressing the client's psychosocial issues. It's crucial to consider the patient's interactions with staff and peers. Alongside behavioral therapy, body-oriented methods are employed to correct distorted body perceptions and address issues related to diet, weight, and physical activity [15-17]. Other therapeutic methods, like Gestalt therapy, transactional analysis, art therapy, and psychodrama, are also used in anorexia treatment.

In the treatment of bulimia, outpatient care is usually sufficient, allowing the client to continue living in normal conditions. However, inpatient treatment may be required if the client exhibits severe personality traits, alcohol abuse, suicidal tendencies, or similar issues. Treatment for bulimia typically involves structured, system-centered interventions and active treatments that are designed to address bulimia symptoms, often in time-limited forms. The treatment outcome is maintained through ongoing protective and supportive therapies, and, when needed, more revealing approaches [15-17].

Family therapy is often effective in bulimia treatment, yielding positive results. Trial therapy involves placing the client in situations that challenge their usual triggers for bingeing, such as taking them to an expensive restaurant, or candy store, or having them try on swimsuits, all to resist temptation and overcome the urge to binge.

Psychotherapy focusing on interpersonal relationships targets the root causes of bulimia related to interactions with others. The therapist examines how the client's eating habits serve as a coping mechanism for stress, substituting for other emotions or actions. Various methods, including Gestalt therapy, transactional analysis, art therapy, psychodrama, body-oriented therapy, and dance therapy, are effectively used in bulimia treatment [19-23].

Conclusion

Psychotherapeutic intervention is essential for addressing any type of eating disorder. Relying solely on diets and exercise will not lead to lasting results. Eating disorders are often rooted in psychological trauma, whether from childhood or current experiences, even if genetic factors are involved. Therefore, collaborating with a psychotherapist and applying different psychotherapeutic techniques—alongside appropriate diets and physical activity—can help overcome the disorder. In behavioral psychotherapy, weight loss occurs through calorie restriction based on modern dietary principles. The primary goal of this therapy is to teach patients "proper eating behavior" using positive and negative reinforcement. Through this approach, the patient and therapist set daily calorie goals together. Achieving these goals reinforces the client's progress, increasing the likelihood of sustaining self-regulation in the long term.

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References

1. Stabouli S, Erdine S, Suurorg L, Jankauskienė A, Lurbe E. Obesity and eating disorders in children and adolescents: the bidirectional link. Nutrients. 2021;13(12):4321. doi:10.3390/nu13124321
2. Were FN, Lifschitz C. Complementary feeding: beyond nutrition. Ann Nutr Metab. 2018;73(Suppl 1):20-5. doi:10.1159/000490084
3. Baraskewich J, von Ranson KM, McCrimmon A, McMorris CA. Feeding and eating problems in children and adolescents with autism: a scoping review. Autism. 2021;25(6):1505-19. doi:10.1177/1362361321995631
4. Hirschberg AL. Sex hormones, appetite and eating behaviour in women. Maturitas. 2012;71(3):248-56. doi:10.1016/j.maturitas.2011.12.016
5. Vartanian LR, Porter AM. Weight stigma and eating behavior: a review of the literature. Appetite. 2016;102:3-14. doi:10.1016/j.appet.2016.01.034
6. Coulthard H, Blissett J, Harris G. The relationship between parental eating problems and children's feeding behavior: a selective review of the literature. Eat Behav. 2004;5(2):103-15. doi:10.1016/j.eatbeh.2003.07.003
7. Watson HJ, O'Brien A, Sadeh-Sharvit S. Children of parents with eating disorders. Curr Psychiatry Rep. 2018;20(11):101. doi:10.1007/s11920-018-0970-3
8. Blinov AV, Siddiqui SA, Nagdalian AA, Blinova AA, Gvozdenko AA, Raffa VV, et al. Investigation of the influence of zinc-containing compounds on the components of the colloidal phase of milk. Arab J Chem. 2021;14(7):103229. doi:10.1016/j.arabjc.2021.103229
9. Gillum RF. New considerations in analyzing stroke and heart disease mortality trends: the Year 2000 age standard and the international statistical classification of diseases and related health problems, 10th revision. Stroke. 2002;33(6):1717-21. doi:10.1161/01.str.0000016925.58848.ea
10. Harris ST, Zeng X, Ford L. International classification of diseases, 10th revision: it's coming, ready or not. Health Care Manag (Frederick). 2011;30(3):227-35. doi:10.1097/HCM.0b013e318225e0a2
11. Siddiqui SA, Khan S, Wani SA. Controlling diabetes with the aid of medicinal herbs: a critical compilation of a decade of research. Crit Rev Food Sci Nutr. 2023;63(33):12552-66. doi:10.1080/10408398.2022.2103088
12. Treasure J, Duarte TA, Schmidt U. Eating disorders. Lancet. 2020;395(10227):899-911. doi:10.1016/S0140-6736(20)30059-3
13. Voderholzer U, Haas V, Correll CU, Körner T. Medical management of eating disorders: an update. Curr Opin Psychiatry. 2020;33(6):542-53. doi:10.1097/YCO.0000000000000653
14. Murphy R, Straebler S, Cooper Z, Fairburn CG. Cognitive behavioral therapy for eating disorders. Psychiatr Clin North Am. 2010;33(3):611-27. doi:10.1016/j.psc.2010.04.004
15. Siddiqui SA, Khan S, Farooqi MQU, Singh P, Fernando I, Nagdalian A. Consumer behavior towards cultured meat: a review since 2014. Appetite. 2022;179:106314. doi:10.1016/j.appet.2022.106314
16. Anusha Siddiqui S, Bahmid NA, Mahmud CMM, Boukid F, Lamri M, Gagaoua M. Consumer acceptability of plant-, seaweed-, and insect-based foods as alternatives to meat: a critical compilation of a decade of research. Crit Rev Food Sci Nutr. 2023;63(23):6630-51. doi:10.1080/10408398.2022.2036096
17. Grenon R, Carlucci S, Brugnera A, Schwartze D, Hammond N, Ivanova I, et al. Psychotherapy for eating disorders: a meta-analysis of direct comparisons. Psychother Res. 2019;29(7):833-45. doi:10.1080/10503307.2018.1489162
18. Fairburn CG, Cooper Z, Shafran R. Cognitive behaviour therapy for eating disorders: a "transdiagnostic" theory and treatment. Behav Res Ther. 2003;41(5):509-28. doi:10.1016/s0005-7967(02)00088-8
19. Agras WS, Bohon C. Cognitive behavioral therapy for the eating disorders. Annu Rev Clin Psychol. 2021;17:417-38. doi:10.1146/annurev-clinpsy-081219-110907
20. Siddiqui SA, Zannou O, Karim I, Awad NM, Gołaszewski J, Heinz V, et al. Avoiding food neophobia and increasing consumer acceptance of new food trends—a decade of research. Sustainability. 2022;14(16):10391. doi:10.3390/su141610391
21. Siddiqui SA, Singh P, Khan S, Fernando I, Baklanov IS, Ambartsumov TG, et al. Cultural, social and psychological factors of the conservative consumer

towards legal cannabis use – a review since 2013. Sustainability. 2022;14(17):10993. doi:10.3390/su141710993

22. Gur E, Latzer Y, Stein D. Editorial: new developments in the psychology, neuropsychology and psychotherapy of eating disorders. Isr J Psychiatry. 2018;55(1):3-7.
23. Sivyer K, Allen E, Cooper Z, Bailey-Straebler S, O'Connor ME, Fairburn CG, et al. Mediators of change in cognitive behavior therapy and interpersonal psychotherapy for eating disorders: a secondary analysis of a transdiagnostic randomized controlled trial. Int J Eat Disord. 2020;53(12):1928-40. doi:10.1002/eat.23390