

## **Modern approaches to the treatment of anorexia nervosa. “The third wave” of cognitive behavioral therapy**

Małgorzata Starzomska<sup>1</sup>, Ewelina Wilkos<sup>2</sup>, Katarzyna Kucharska<sup>2</sup>

<sup>1</sup>Institute of Psychology, Faculty of Christian Philosophy,  
Cardinal Stefan Wyszyński University, Warsaw

<sup>2</sup>Institute of Psychiatry and Neurology, Department of Neuroses,  
Personality Disorders and Eating Disorders, Warsaw

### **Summary**

Anorexia nervosa (AN) is being considered one of the most difficult mental disorders to treat. The ego-syntonic nature of this mental disorder makes patients particularly reluctant to engage in or consent to treatment with relatively high drop-out rate. For all these reasons the treatment often takes a very long time, and the illness progresses to the chronic form, increasing the suffering of patients. Researchers have been discussing for many years how to provide these patients with measurable aid. Recent years have seen the emergence of a range of new treatment methods for eating disorders, including AN, that provide evidence of their effectiveness, especially in adults. Among them, of special note are those belonging to the third wave of cognitive therapy, mostly offered in the form of training programs. They are discussed in this paper in conjunction with evidence based therapy. This knowledge may help clinicians to decide how to complement traditional forms of treatment in outpatient and inpatient settings.

**Key words:** anorexia nervosa, third wave of cognitive behavioral therapy

### **Introduction**

Anorexia nervosa (AN) is a mental disorder with serious and sometimes irreversible psychological complications, accompanying psychosocial issues and a high mortality rate, which is why it poses an important challenge for modern healthcare services. While treating patients, according to good medical practice, it is recommended to follow the treatment standards for eating disorders established by expert teams in Europe

and the United States. The best-known standards include the guidelines developed by the American Psychiatric Association (APA) [1] in 2006 and the standards developed in Great Britain under the auspices of the National Institute for Clinical Excellence (NICE) for eating disorders therapy [2] and eating recovery [3], as well as for comprehensive management of really sick patients with anorexia nervosa (MARSIPAN) [4]. The authors of the standards focused on the low number of follow-up studies, randomized studies, comparative studies with placebo and double-blind studies carried out on large groups of patients with eating disorders.

The most effective psychotherapeutic approaches to the treatment of AN, proven through research and recommended by NICE [2], include cognitive behavioral therapy (CBT), cognitive analytic therapy and interpersonal therapy in adult population. In case of children and adolescents, NICE recommends family therapy. APA (the American Psychiatric Association) [1] proposes the use of family therapy and behavioral functional nutrition programs in the course of treatment, and for relapse prevention: cognitive behavioral therapy, interpersonal therapy and psychodynamic therapy. In the recent years, a number of new eating disorder treatment models have been developed, including treatment options for AN sufferers. Among them, so-called third wave cognitive behavioral therapies are growing in popularity.

The aim of this article is to present an overview of several selected modern approaches to anorexia nervosa treatment over a wide age spectrum.

### **Acceptance and Commitment Therapy**

One of possible reasons for failure in the treatment of patients with AN is insufficient focus on important aspects of the disorder, i.e., a strong tendency to avoid upsetting inner experiences [5], such as bodily sensations, feelings and thoughts, poor awareness of inner feelings and a lack of motivation. These variables are the main focus of Acceptance and Commitment Therapy (ACT), developed by Steven Hayes et al. [6].

Most of the available data concerning the application of ATC therapy in eating disorders come from case studies [7, 8]. ACT has been reported to improve body image [9], alleviate AN symptoms [7, 8], and mitigate subclinical eating disturbances [10]. One such study [11] encompassed 140 females (mean age – 26.74 years). In addition to suffering from eating disorders, most patients were diagnosed with at least one other psychiatric condition, often a mood disorder, generalized anxiety disorder, or substance abuse. The control group participated in “treatment as usual” (TAU), which contained elements of psychodynamic, interpersonal, and cognitive behavioral therapy, and was aimed at normalization of eating patterns, stabilization or restoration of body weight and elimination of compensatory behaviors. In addition to standard treatment, the experimental group twice a week participated either in ACT for AN ( $n = 66$ ) or ACT for bulimia nervosa (BN) ( $n = 74$ ). While in both protocols (with and without ACT) patients exhibited significant improvement in eating disorder psychopathology, the

outcomes for the ACT group were better and led to a lower number of rehospitalizations within 6 months post-discharge.

The purpose of another randomized study carried out by Parling et al. [12] was to compare 19 ACT sessions with 24 patients with standard therapy (TAU) involving 19 patients in a day care environment. The study also aimed to assess any improvement and decreased risk of a relapse over the next consecutive 5 years (after 6, 12, 18, and 24 months after treatment and after 5 years of follow-up). It showed a lack of significant differences between the groups in terms of body mass index (BMI) and clinical test results, among others, the Eating Disorders Examination Questionnaire (EDE-Q). However, the ACT group showed better results in all further tests, except for the 12-month period. Psychotherapy provided in the course of the study (19 weekly sessions) was relatively short-term in comparison to outpatient studies with 40 sessions over 10 months [13] or 25 sessions held over the course of more than a year [14]. Moreover, Fairburn proposed and tested a protocol for 40 sessions for individuals with BMI <17.5 [15, 16]. In order to increase treatment efficiency, it may be necessary to prolong the treatment with the use of ACT for AN sufferers. Initial test results indicate that ACT constitutes a promising treatment option for patients with eating disorders.

### **Dialectical behavior therapy**

Dialectical behavior therapy (DBT), initially designed by its author Marsha Linehan for borderline personality disorder (BPD) [17], is now considered first-choice treatment for that condition. According to Linehan’s assumptions, it is the nature of DBT primarily to balance the strategies focused on legitimizing the experiences of the patient against the strategies which confront the experience of helplessness in the face of problems. Therefore, a therapist should, on the one hand, legitimize the patient’s emotions, look for the areas of hurt, and encourage noticing and accepting psychic discomfort while teaching the patient the skill to tolerate discomfort in order to prevent impulsive emotional reactions leading to crises on the other.

The main objective of DBT is to promote mindfulness, thus enabling a departure from dysfunctional thinking habits by concentration on the “here and now”, acceptance of reality and one’s limitations, appreciation of one’s life, as well as embracing constructive ways of resolving emotional problems. At the core of DBT are mindfulness skills based on openness and involvement, such as body scanning, breath awareness, body work, awareness of the present moment, and mindful eating. The basic therapy (symptom eradication) lasts at least 12 months, and may be extended to further increase the patient’s comfort. Typically patients attend two DBT sessions per week; one of them consists of individual therapy, while the other one is devoted to skills training in workshop form [17]. Most data on DBT effectiveness have been reported from case studies.

One pilot study [18] evaluated the effectiveness of outpatient DBT adapted for adults with AN in two groups: one undergoing standard DBT and one following the same treatment in conjunction with workshops on coping with excessive control. In the first group, 5 out of 6 patients exhibited reduced AN symptoms, including increased BMI, while in the second group higher BMI was observed in 8 out of 9 patients and continued at 6 and 9 month follow-ups. Chen et al. [19] revealed that a DBT version modified to suit patients with BPD with comorbid eating disorders led to reduced symptoms. 24 patients with BPD – 9 with comorbid AN and 15 with BN – who did not exhibit improvement following a previous hospitalization for eating disorders, underwent inpatient DBT. While the weight of women diagnosed with BPD and AN did not change sizably upon treatment completion, a significant increase was observed at follow-up. In turn, in the BPD and BN group, the frequency of bulimic episodes declined both during the course of treatment and at 15-month follow-up. Both groups revealed improved psychosocial functioning and a marked decrease in complaints concerning eating problems and general psychopathology. In another study [20], adolescents suffering from eating disorders and their parents were highly appreciative of DBT. Research results show that DBT adapted for individuals with AN may be used as an efficient treatment for that condition; however, there is a dearth of studies on larger groups of subjects.

### **Cognitive remediation and social cognition training programs**

Social and emotional difficulties are widespread in the AN population [e.g., 21]. The latest research results have shown that although individuals with AN have high IQ [22] and good working memory [23], they reveal deficits in terms of abstract and flexible thinking [24, 25], low emotional intelligence [26], emotional thinking (so-called hot) [27], low positive emotional expression [28], problems with interpersonal relations [29], and high levels of social anhedonia [30]. These deficits gave rise to the need to develop cognitive and emotional remedial therapies, such as Cognitive Remediation Therapy (CRT) [31] and Cognitive Remediation and Emotion Skills Training (CREST) [32].

CRT is a neurobehavioral therapy focused on the biological mechanisms underlying mental disturbances [33]. CRT for AN was developed on the basis of systematic neuropsychological studies, which indicated that patients with AN exhibit deficient cognitive functioning (i.e., low cognitive flexibility – low set-shifting ability) [34] as well as excessively detailed information processing at the expense of holistic thinking (i.e., weak central coherence) [35]. Although malnutrition may exacerbate those difficulties, they do not arise from low body weight alone as weight gain on its own does not improve patient's performance in this area [36]. CRT offers individuals with AN an opportunity to actively discover new, more helpful thinking strategies [37]. CRT for AN consists of 10 sessions with a duration of 30–45 min held twice a

week. The clinician helps the patient perform simple cognitive tasks and formulate conclusions. The main objective of the therapy is to motivate the patient to reflect on his/her cognitive style and the behavior it entails, and to aid him/her in using new, more adaptive thinking strategies in daily life through introducing small behavioral changes.

Results of CRT studies have indicated that CRT is an effective therapeutic intervention in supporting therapeutic process in patients with AN [38–40]. Tchanturia et al. [41] studied 23 patients with AN using a battery of neuropsychological tests (including tools evaluating cognitive flexibility and central coherence) before and after 10-session CRT. The results showed a significant improvement in most of the studied areas, and “end-of-treatment feedback letters” from the patients expressed their satisfaction from participation in treatment.

The main objective of CREST is to improve emotional processing, including the ability to recognize, describe, and express emotions, and to learn new strategies for coping with emotions. In addition to providing psychoeducation on the nature and function of emotional processes, CREST teaches patients a range of skills through carefully selected exercises, e.g., patients are encouraged to name their feelings (they are given a list of words describing emotions and asked to choose the one that best reflects how they are feeling at the time). A study [42] evaluating the effectiveness of CREST involved 37 adults (mean age – 24.5 years) hospitalized for severe AN. The treatment was found to reduce social anhedonia, increase the ability to describe one’s emotions, and promote confidence in one’s capacity to change. CREST also led to improved BMI (from 15.1 to 16.4).

Training programs initially developed for the rehabilitation of schizophrenic patients, such as Social Cognition and Interaction Training (SCIT) [43] and Cognitive Remediation Therapy (CRT) [44], provided the foundation for Social Cognition and Neurocognition Training [45] adapted for the needs of AN patients. It was experimentally used at the Children and Youth Psychiatry Clinic and currently it is being implemented at the Department for Neuroses, Personality and Eating Disorders, Institute of Psychiatry and Neurology in Warsaw. Results from a pilot study on 40 female patients with AN indicate that it is a promising method supporting other forms of therapeutic interventions. The training program consists of 20 group sessions taking place twice weekly. Social Cognition Training (SCT) facilitates empathy and emotional perception (identification and differentiation of emotions in self and others as well as appropriate expression of emotions) and teaches the basic strategies of coping with cognitive distortions (through adopting different points of view and collecting evidence). SCT participants are taught about the most common attributional styles and their consequences and learn an active approach to solving interpersonal problems. Parallel participation in Neurocognition Training (NT) enhances the effectiveness of the therapeutic process. During NT patients learn about the cognitive

difficulties accompanying AN and its comorbidities, such as depression. The topics of the sessions correspond to the main cognitive processes, such as attention (mostly attention shifting), memory and learning, visuospatial perception, thinking, and executive functions, including mental flexibility, problem solving ability, planning, and metacognition. During NT sessions, the patients are encouraged to implement small behavioral changes.

Due to improved emotional and cognitive functioning resulting from cognitive remediation and social cognition training programs, patients with AN are better prepared for participation in other therapeutic interventions [45].

### **Body image therapy**

Body image therapy (BAT) [46] mostly derives from mindfulness-based cognitive therapy (MBCT) with its defining element being mirror exposure. The sessions are usually presented in the following modules: definition and development of body image, motivation and goals for change, discovering your mental reflection, body awareness and self-defeating behaviors, distorted thinking and core beliefs, body awareness and environmental pressure (including media), and positive body image. In addition, sessions involve psychoeducation, motivational enhancement therapy, guided self-help, cognitive therapy, and mindfulness training. The intervention consists of ten 90-minute cognitive-behavioral sessions led by two facilitators for a maximum of 8 participants [46]. Morgan et al. [47] evaluated the effectiveness of 10-session BAT in 55 adult inpatients with AN (mean age – 28.4 years, mean BMI – 18.4). The therapy was found to significantly reduce body checking, body image avoidance and related anxiety, as well as shape – and weight-concern.

Another distorted body image therapy program – BodyWise – was developed by Mountford et al. [48], based on the cognitive-behavioral approach. The program consists of eight one-hour sessions held once a week in groups of a maximum of eight participants, targeted at issues related to body image and identity, role of the media, changes in current habits which obstruct self-acceptance, as well as at learning techniques which help develop non-judgmental attitudes. Among 50 participants, a statistically significant improvement was found in the scales used to measure disturbed body image, taking into account body checking behaviors and the related issue of quality of life.

### **Maudsley Model of Anorexia Nervosa Treatment for Adults (MANTRA)**

MANTRA is a cognitive interpersonal treatment approach developed by a team of specialists at the Institute of Psychiatry, King's College London, based on the observation that AN is usually developed and maintained by individuals with obsessive or anxious/avoidant personality [49]. Such individuals typically exhibit a) a think-

ing style characterized by rigidity, excessive focus on details, and a fear of making mistakes; b) deficits in the emotional social sphere; and c) positive beliefs about the role of the disorder in managing their lives [50]. MANTRA is designed to modify the above characteristics with a view to alleviating the symptoms and restoring weight. The treatment program consists of 20 to 40 weekly individual therapy sessions and 4–5 follow-up visits (spread over 4 months) following the end of therapy. In addition to treatment sessions, the patient uses a manual from which, upon consultation with the therapist, he/she selects issues to be addressed; he/she may also participate in facultative meetings with a dietitian. The main treatment modules include the following: working with support, nutrition, my anorexia: why, what, and how?, goals and experiments, exploring thinking styles, the emotional and social mind, my identity/my self, as well as a special module devoted to building a non-anorectic identity in chronic patients. Although this treatment is form-based and has a clear-cut structure and hierarchy of therapeutic procedures, it may still be tailored to the patient’s needs by flexible module selection. The therapeutic style focuses on motivational communication and a reflective strategy to facilitate change.

A controlled and randomized study [51] compared MANTRA for AN adults with Specialist Supportive Clinical Management (SSCM) in a group of 142 outpatients with AN ( $BMI \leq 18.5$ ); 72 of them underwent MANTRA, and 70 – SSCM. In both groups, patients participated in 20 weekly sessions of individual therapy and several follow-ups within 4 months. In patients with BMI 15, the treatment was extended to 30 sessions. In both groups, the participants were offered the option of additional two sessions with family and friends as well as 4–5 meetings with a dietitian. Both treatment methods were reported to significantly reduce typical eating disorder symptoms and increase BMI, as well as led to positive changes in neuropsychological indicators of mental rigidity during the performance of cognitive tasks. Anxiety and comorbid clinical conditions were alleviated. Similarly, a MOSAIC controlled randomized trial (CRT), aimed to compare the efficiency of MANTRA therapy ( $n = 72$ ) vs. SSCM ( $n = 40$ ), was performed twice in sixth and twelfth month of the study in a group of 142 female patients diagnosed with AN, receiving outpatient treatment. After 12 months, patients engaged in MANTRA therapy achieved statistically significantly higher results in method acceptance and reliability assessment as compared to the results of SSCM therapy [52, 53].

### Recapitulation

Apart from mainstream psychotherapy described in APA [1] and NICE [2] standards, source literature makes promising references to the efficiency of so-called third wave cognitive therapies, which may serve as an important supplement to the integrative psychotherapy model in the treatment of AN directed at improved treatment efficiency. The ACT method is a promising treatment options for patients suffering

from anorexia and other eating disorders, with more and more evidence pointing to its efficiency. Meta-analyses show that ACT is at least just as effective as cognitive behavioral therapy or behavioral therapy [54, 55]. An undisputed advantage of ACT and DBT is that the improvement lasted for a long time after the end of treatment and that the therapeutic periods are relatively short when compared to standard therapies. An additional strength of DBT is its focus on personality-related issues, which often co-exist with AN [56].

Training programs focused on specific social and cognitive skills, such as CREST, CRT, SCNT, may help individuals with AN benefit greater from other treatment options, as improved emotional regulation and cognitive and behavioral flexibility enable a more productive therapeutic involvement. Due to the application of gradual exposure to body-related stimuli, BAT may be considered an efficient short-time therapy accepted by patients with AN. Another very promising and evidence-based approach is MANTRA, focused on personality traits contributing to the development and maintenance of AN.

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Address: Katarzyna Kucharska  
Institute of Psychiatry and Neurology  
Department of Neuroses, Personality Disorders and Eating Disorders  
02-957 Warszawa, Sobieskiego Street 9