

Forty years of the Villa Garda Eating Disorder Clinical Service: From the Eclectic Disease Model to the Psychological Multistep CBT-E Model

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Key words

Eating disorders
Anorexia nervosa
Bulimia nervosa
Cognitive behaviour therapy
Outcome
Drop-out
Relapse

Abstract

The Department of Eating and Weight Disorders at Villa Garda Hospital holds the distinction of being the inaugural unit in Italy solely devoted to the intensive treatment of eating disorders. Established in 1984, the unit has been notable for its pioneering approach, seamlessly integrating clinical practice with research endeavours. This unique blend has significantly shaped the management protocols for eating disorders both within Italy and on a global scale.

In commemorating the 40th anniversary of Villa Garda's eating disorder clinical service, we have authored this article to reflect on the pivotal developments that have marked our journey. We delineate the progressive steps that have culminated in the implementation of the multistep enhanced cognitive behaviour therapy (CBT-E) model and describe the studies underpinning the effectiveness of Villa Garda's multistep CBT-E approach. Finally, we address the prospective challenges that we must confront to advance our treatment methodologies in the years further to come.

Introduction

The Department of Eating and Weight Disorders at Villa Garda Hospital was the first unit in Italy wholly dedicated to the intensive treatment of eating disorders (Figure 1). Since its inception in 1984, the unit has distinguished itself by seamlessly integrating clinical practice with research, significantly influencing the management of eating disorders in Italy and globally.

In commemorating of the 40th anniversary of Villa Garda's eating disorder clinical service, we take this opportunity to delineate the developmental milestones that culminated in implementing the multistep enhanced cognitive behaviour therapy (CBT-E) model. Additionally, we shall address the challenges we must navigate further to advance our treatment methodologies in the years ahead.

Timeline of the Villa Garda Clinical Service

The Villa Garda clinical service for eating disorders was inaugurated in 1984, initially adopting an eclectic approach that integrated operant conditioning behaviour therapy with medical and psychiatric management. This treatment regimen was primarily directed toward managing acute patients with anorexia nervosa. Despite some positive effects on weight regain, this approach was marked by a high rate of weight loss following discharge. A significant challenge encountered was the difficulty in establishing a therapeutic alliance with patients, who perceived the treatment as excessively coercive. Patients were incentivised to regain weight to access certain privileges (e.g., making phone calls and leaving their rooms), but this reinforcement did not align with their autonomy. Additionally, the

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Received: 24 June 2024; **Accepted:** 4 July 2024; **Published online:** 18 July 2024. **doi:** 10.32044/ijedo.2024.01



Figure 1. The Department of Eating and Weight Disorders of Villa Garda Hospital

treatment often resulted in a decline in patients' intrinsic motivation to change. It did not also adequately address the cognitive, emotional, and interpersonal factors underpinning the psychopathology of eating disorders.

The adverse outcomes associated with the operant conditioning treatment precipitated a shift towards incorporating psychoanalytic psychotherapy alongside medical and psychiatric management. This eclectic approach was implemented from 1989 to 1995. While this method improved the therapeutic relationship with patients, its primary focus was not on weight regain but on the identification and resolution of unconscious, repressed feelings, thoughts, memories, and desires that negatively impacted patients' lives. Although the duration of treatment often exceeded six months, many patients were discharged in a state of underweight and experienced subsequent deterioration.

In 1995, the first author of this article assumed the role of medical director of the Eating and Weight Disorders Department at Villa Garda Hospital. Under his leadership, the unit began to adopt a broad cognitive behaviour therapy (CBT) approach to treatment. Initially, this approach was applied to a subset of patients. However, the promising results observed in several patients with anorexia nervosa led to the decision to implement this psychological treatment across all patients admitted to the unit. Despite this shift, the treatment retained an eclectic approach, combining broad CBT strategies and procedures with various medical and psychiatric interventions.

From 2005 to 2008, the Villa Garda eating disorder unit underwent a gradual transition to enhanced CBT (CBT-E), as delineated by Fairburn et al. (2003). Since 2008, CBT-E has been the exclusive treatment provided across three levels of care (outpatient, day hospital, and inpatient) for all patients aged 12 years and older.

Figure 2 shows the timeline of the Villa Garda eating disorders clinical service.

Problems We Had in 2002

Although the treatment incorporated CBT strategies and procedures, it was primarily grounded in an eclectic "disease" model of eating disorders (Dalle Grave, 2023). According to this model, eating disorders are conceptualised as diseases, with clinicians bearing the responsibility to defeat the disorder through an active and prescriptive approach. Patients, on the other hand, were viewed as lacking control over their behaviours, with the eating disorder perceived as controlling them. Within this framework, patients were expected to play a passive role in their treatment. They were instructed not to trust their thoughts regarding shape, weight, and eating, as these were considered symptoms of their disease, generated by the "ill" part of their

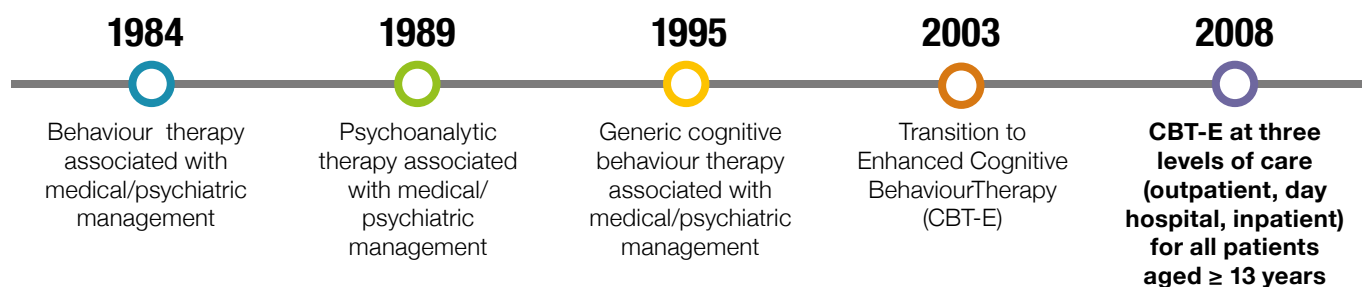


Figure 2. Timeline of the Villa Garda Eating Disorders Clinical Service

brain (externalization). Recovery was contingent on their adherence to their therapists' instructions.

However, this model exhibited several inconsistencies. At the time, four psychologists provided individual CBT to patients, utilising a generic CBT approach to mainly address general psychological problems. At the same time, they also employed an externalization approach to address eating disorder psychopathology. Although the psychologists adhered to a CBT theoretical model, each used different strategies and procedures for addressing psychopathology (four psychologists and four different treatments!). In contrast, other team members (dietitians, nurses, and doctors) maintained a medical-directive approach, which was discordant with the collaborative approach used by the psychologists.

As a result, patients were not focused on addressing the specific psychopathology of eating disorders and the key mechanisms sustaining it. Conceptualising their disorder as a disease deprived them of the opportunity to understand the psychological functions—both perceived and actual—associated with their control over shape, weight, and eating. Additionally, patients often received conflicting information about strategies and procedures for addressing their eating problems from different team members. They also experienced varying treatment approaches when transitioning between different levels of care (e.g., from inpatient to outpatient treatment and vice versa).

This eclectic disease model, which utilised an external control regime, yielded a dual outcome. On the one hand, it produced short-term positive outcomes in compliant patients during intensive treatment, with approximately 70% of patients completing the treatment and around 60% achieving a normal body weight at discharge. On the other hand, it was associated with a high rate of relapse post-discharge, with about 50% of “uncontrolled” patients relapsing upon returning home.

Transition to CBT-E

The above treatment challenges were evident, prompting our search for effective solutions. In 2002, we invited Christopher Fairburn to Verona to conduct a workshop on treating eating disorders. During this workshop, he presented, for the first time in Europe, the new transdiagnostic theory and treatment of eating disorders, known as “CBT-E.” This innovative approach immediately captured our interest for several compelling reasons.

Flexibility and Personalization. CBT-E addresses the psychopathology of eating disorders with a flexible and

personalized approach rather than focusing strictly on DSM-5 diagnoses. This was particularly appealing as our hospitalized patients often complained about being treated uniformly, and in fact, it was so because we treated anorexia nervosa or bulimia nervosa rather than the unique psychopathology of each patient.

Collaborative Nature. CBT-E is a collaborative treatment where the patient and therapist work together to overcome the eating problem, enhancing the patient's sense of control. This collaboration fosters autonomy, independence, and self-efficacy.

Engagement and Motivation. Designed to be engaging and motivating, CBT-E addresses one of the most common obstacles to successful treatment of eating disorders: the ambivalence towards change and recovery.

Personal Formulation. The personal formulation component of CBT-E involves creating a diagram jointly with patients to describe the maintaining mechanisms to be addressed during treatment. This appeared to be a powerful tool for integrating the work of a multidisciplinary team.

Focused Treatment. The method of first addressing the most potent maintaining mechanisms of the eating disorder psychopathology, followed by co-existing psychological problems (e.g., clinical perfectionism, core low self-esteem, and interpersonal problems) only when relevant, was fundamentally helpful. It allowed therapists to focus on issues that were crucial to maintaining the patients' eating disorders.

Lasting Effect. CBT-E has demonstrated lasting effects (Fairburn et al., 2013), as it addresses key maintenance mechanisms of eating disorder psychopathology and helps patients develop personalized skills for preventing relapse—two critical features for an inpatient program, which is often associated with a high risk of relapse after discharge.

Following the workshop, we discussed the idea of adapting CBT-E for inpatient treatment with Christopher Fairburn, who was very supportive. Encouraged by his support, we embarked on this new and exciting project.

The initial step involved designing a new inpatient treatment based on CBT-E theory and treatment and engaging our colleagues in this endeavour. Fortunately, our colleagues were enthusiastic about the new plan and willing to revise their traditional clinical approaches to collaborate in designing the new treatment.

The second step was to implement the new treatment within the unit. Christopher Fairburn's periodic supervision at our facility was invaluable during this phase. These sessions helped us gradually eliminate residual procedures inconsistent with the new CBT-E-based approach and develop new procedures tailored explicitly for inpatient CBT-E.

The third and final step was to evaluate the treatment's effectiveness through a three-year randomized controlled trial, demonstrating its efficacy for many patients (Dalle Grave, Calugi, Conti, et al., 2013). During this period, as we gained experience with the application of CBT-E in an inpatient setting, we developed day-hospital CBT-E and adaptations of CBT-E for adolescents.

Inpatient CBT-E

The Villa Garda inpatient CBT-E is delivered in a rehabilitative unit accredited with the Italian National Health Service. The treatment is mainly indicated for patients who have not responded well to less intensive treatment or cannot be safely managed in outpatient settings. The treatment has been designed to ensure a unified, rather than eclectic, approach to a patient's care, with a particular effort made to maintain all the main strategies and procedures of CBT-E (Dalle Grave, 2012; Dalle Grave et al., 2008).

Like its outpatient counterpart, inpatient CBT-E never adopts 'coercive' or 'prescriptive' procedures. Patients are never asked to do things to which they disagree. All procedures have been designed to ensure that patients feel in control at all times, actively involving them at all stages of the treatment. This includes the decision to be admitted, the choice of problems to address, and the procedures to overcome them. The treatment is transdiagnostic, addressing the main processes maintaining a patient's eating disorder psychopathology rather than focusing on the DSM-5 diagnosis, and it employs a personalized and flexible approach. The therapist and patient work together to overcome the eating disorder through a process of collaborative empiricism. Patients are encouraged to participate actively in their care and prioritize treatment.

Since patients are expected to begin addressing change and weight restoration from the first day of inpatient CBT-E, it is crucial that they have already made the decision to pursue these goals before admission. Similar to outpatient CBT-E, the decision to regain weight must be patient-driven rather than imposed by therapists. Consequently, approximately 4 to 6 preparatory sessions are dedicated to readying patients for inpatient CBT-E. These sessions include procedures akin to those in Step One of outpatient CBT-E, such as real-time self-monitoring, creating a provisional personal formulation, collaboratively weighing and evaluating the pros and cons of change, including weight regain, and being admitted in the unit.

Inpatient CBT-E resembles Step Two of outpatient CBT-E but is more intensive and explicitly targets the eating disorder psychopathology of the patient through tailored CBT-E modules. A key strategy is the creation of a personalized formulation of the main maintenance mechanisms that need to be addressed during treatment. The treatment adopts a variety of generic cognitive behavioural procedures. To achieve psychological (cognitive) change, patients are encouraged to make gradual behavioural changes within the context of their formulation and to analyse the effects and implications of these changes on their thinking patterns. In the more advanced stages of treatment, patients are taught to recognize the early signs of activation of their eating disorder mindset and to de-centre rapidly from it, thereby avoiding relapse.

The treatment is delivered in individual and group formats, with three notable features distinguishing it from the outpatient version (Dalle Grave, 2012). Firstly, unlike the outpatient setting, where a single therapist may provide treatment, inpatient CBT-E is administered by a multi-disciplinary team consisting of physicians, psychologists, dietitians, physiotherapists and nurses, all of whom are thoroughly trained in CBT-E. Secondly, assistance with eating is provided during the initial weeks of treatment to help patients manage their difficulties in real time. Thirdly, adolescent patients are expected to continue their studies while hospitalized, ensuring their educational progress is maintained alongside their treatment.

Table 1 outlines the core procedures and modules of inpatient CBT-E, detailing the structured approach adopted to address the specific needs of this treatment setting.

Inpatient CBT-E incorporates additional elements specifically designed to mitigate the high relapse rates often observed following discharge from the hospital (see Figure 3). One such element is the open nature of the inpatient unit, allowing patients the freedom to come and go. This approach ensures continued exposure to environmental stimuli that may trigger their eating disorder psychopathology while providing consistent access to staff support.

During the weeks leading up to discharge, a concerted effort is made to identify potential environmental triggers for setbacks and address them in individual CBT-E sessions. Additionally, towards the end of treatment, significant others are guided in creating a positive, stress-free home environment to facilitate the patient's transition from hospital to home.

Finally, during the last two weeks of inpatient CBT-E, a post-discharge plan is devised to address residual eating disorder features, prevent relapse, and organize post-inpa-

Table 1. Core procedures and modules of inpatient CBT-E

Core procedures

- Creating a personalized formulation
- Establishing self-monitoring
- Monitoring and interpreting the weight
- Monitoring the course of the treatment
- Assisted eating
- Weekly review meeting (with the clinical psychologist, dietician, nurse, and physician)
- Individual CBT-E sessions
- Group treatment sessions

Modules of focused version

- Underweight and dietary restriction
- Excessive exercising
- Purging
- Binge eating
- Body image
- Dietary restraint
- Events, mood, and eating
- Setbacks and mindsets
- Preparation of return home

Modules of broad version (one of the following additional modules in a subgroup of patients)

- Clinical perfectionism
- Core low self-esteem
- Marked interpersonal difficulties
- Mood intolerance

Abbreviations: BMI, body mass index; CBT-E, enhanced cognitive behaviour therapy.

tient outpatient CBT-E. This comprehensive approach ensures continuity of care and supports sustained recovery.

The post-inpatient outpatient treatment spans 20 weeks and includes 20 individual CBT-E sessions. The session

schedule is as follows: twice weekly during the first month to ensure high intensity in the initial phase of the transition, once weekly in the second and third months, and every two weeks in the fourth and fifth months. The primary objectives of post-inpatient CBT-E are to assist patients in addressing the residual eating disorder features and preventing relapse, managing difficulties encountered upon returning home.

A detailed description of the treatment protocol can be found in previous publications (Dalle Grave, 2012; Dalle Grave, 2013; Dalle Grave et al., 2008; Dalle Grave & Calugi, 2020).

Day-hospital CBT-E

This treatment was designed for patients who require more intensive intervention than what outpatient CBT-E provides yet whose condition does not necessitate full hospitalization (Dalle Grave, 2013; Dalle Grave et al., 2008). It incorporates all the procedures and strategies of outpatient CBT-E and includes several features tailored specifically for this intensive approach.

The treatment lasts 12 weeks, although it may be shorter if patients make significant progress in areas previously challenging with outpatient CBT-E, such as weight regain, binge eating, or establishing regular meals. The treatment is adaptable to both the clinical needs of the patient and the logistical characteristics of the clinical service providing it. However, the optimal treatment regimen, in our view, should include the following components on weekdays: (i) supervised daily meals; (ii) individual CBT-E twice weekly; (iii) sessions with a CBT-E trained dietitian to plan and review weekend meals; and (iv) regular reviews with a CBT-E trained physician.

As the treatment progresses and patients show positive responses, they are gradually encouraged to eat meals out-



Figure 3. The main strategies and procedures of inpatient CBT-E prevent relapse after discharge

side the unit. This transition allows the intensive treatment to evolve into conventional outpatient CBT-E, supporting a smooth and effective shift back to less intensive care.

CBT-E for adolescents

During a visit by Christopher Fairburn at Villa Garda Hospital, while supervising the inpatient CBT-E trial, we conceived the idea of adapting CBT-E specifically for adolescents. Noting that young patients with eating disorders exhibit the same specific psychopathology as adults, empirically demonstrated using a network approach by Calugi et al. (2020), we hypothesized that adolescents could benefit from CBT-E, given its focus on addressing eating disorder psychopathology. CBT-E's additional features, in our view, render it particularly well-suited for younger patients.

CBT-E is designed to engage patients through various strategies—an essential factor when treating adolescents, who often exhibit ambivalence towards initiating treatment. The collaborative nature of CBT-E enhances the patient's overall sense of control, aligning with adolescents' desire for control, autonomy, and independence. Furthermore, CBT-E is straightforward to understand and implement, offering a flexible and individualized approach that can be adapted to the specific needs of young patients at different stages of physical and cognitive development.

CBT-E's transdiagnostic approach allows it to address all diagnostic categories of eating disorders, making it applicable to many adolescents who frequently overvalue eating control rather than shape and weight.

Recognizing adolescents' unique physiological and psychological developmental stage, we designed a version of CBT-E tailored to the needs of this population. The modified treatment incorporates significant changes to ad-

dress the distinctive features of eating disorders in adolescents effectively.

Adolescents with eating disorders often experience their condition as egosyntonic and may be unaware of their problem, which can make engagement in treatment challenging. This has led to the development of treatments based on the "disease model," which treats the illness as separate from the patient (i.e., externalization). Such approaches enable parents or clinicians to take decisive action against the eating disorder rather than expecting the patient to self-manage. Family-Based Treatment (FBT) (Lock et al., 2010), also known as Maudsley Family Therapy, exemplifies this model. FBT treats adolescents as unable to control their behaviour due to the disorder's influence, requiring parents to supervise and control their child's eating behaviours (Dalle Grave, Eckhardt, et al., 2019).

In contrast, CBT-E operates from a "psychological model," which does not separate the eating disorder from the adolescent patient. Instead, it emphasizes that young individuals can regain control by actively participating in treatment (Dalle Grave, Eckhardt, et al., 2019). Accordingly, CBT-E for adolescents introduces a novel procedure: formally educating prospective patients about the distinctions between the disease model and the psychological model of eating disorders and their implications for treatment (see Table 2).

The psychological perspective underpinning CBT-E elucidates why the treatment avoids employing "prescriptive" or "coercive" methods. Such approaches are eschewed because they can heighten resistance to change in adolescents. Consequently, Step One of the treatment does not prioritize immediate weight regain but aims to help the adolescent understand the nature of their eating problem and decide to initiate change. This is achieved through a collaborative process where the therapist and patient develop a personal formulation detailing the primary pro-

Table 2. The different conceptualization of eating disorders between the disease model and the psychological CBT-E model of eating disorders and the implications for the treatment

	Disease model	CBT-E Psychological model
Conceptualization of eating disorders	Separates the eating disorder from the patient (externalization)	Does not separate the eating disorder from the patient
Patient Involvement	Is not actively involved in the decision to change and in the treatment	Is actively involved in the decision to change and treatment
Therapists	Prescribers	Collaborators
Involvement of family members	Vital (controllers)	Useful but not essential (helpers)

cesses that sustain the eating disorder. This formulation aids the adolescent in comprehending their eating disorder and the self-perpetuating cycles that maintain their issues, predominantly driven by a self-evaluation system centred around controlling shape, weight, and eating.

Following this understanding, some sessions are dedicated to exploring the implications of change. Developing a more functional self-evaluation system necessitates the adolescent's decision to address weight regain and other extreme weight-control behaviours. If the adolescent does not reach the conclusion that they need to overcome their problem, the treatment cannot progress and may need to be deferred, although such cases are not so frequent.

Once the adolescent is engaged and consents to the change process, their eating disorder psychopathology is addressed through a flexible and personalized set of sequential strategies and procedures integrated with progressive education. CBT-E for adolescents mirrors the adult version in its adaptability; it can be administered in a 'focused' form, concentrating solely on the eating disorder psychopathology, or in a 'broad' form, which also addresses one or more external maintenance processes such as clinical perfectionism, core low self-esteem, marked interpersonal difficulties, and/or mood intolerance, if these are present in the patient.

Parents play an active role in creating an optimal family environment to support the adolescent's change. With the

adolescent's agreement, parents assist in implementing specific procedures of the treatment thereby facilitating the treatment process.

Figure 4 illustrates the three steps and principal procedures of the adolescent version of CBT-E. Description of CBT-E version for adolescents can be found in manuals for therapists (Dalle Grave & Calugi, 2020), patients (Dalle Grave & Calugi, 2024), and parents (Dalle Grave & el Kha-zen, 2022).

Eating Problem Check List

A significant advancement in the adolescent adaptation of CBT-E, now implemented across all patient groups and care settings, is the integration of the Eating Problem Checklist (EPCL)—a newly developed self-report questionnaire designed for weekly monitoring of changes in eating disorder psychopathology (Dalle Grave, Sartirana, Milanese, et al., 2019). The EPCL was introduced to capture the rapid fluctuations in eating disorder symptoms—termed 'sudden gains'—which are often observed in adolescents undergoing treatment. These sudden gains have been linked to a stronger therapeutic alliance and improved treatment outcomes (Tang et al., 2005), which may inform the treatment process.

After the collaborative weighing and revision of monitor records, the patient compiles the EPCL weekly in the

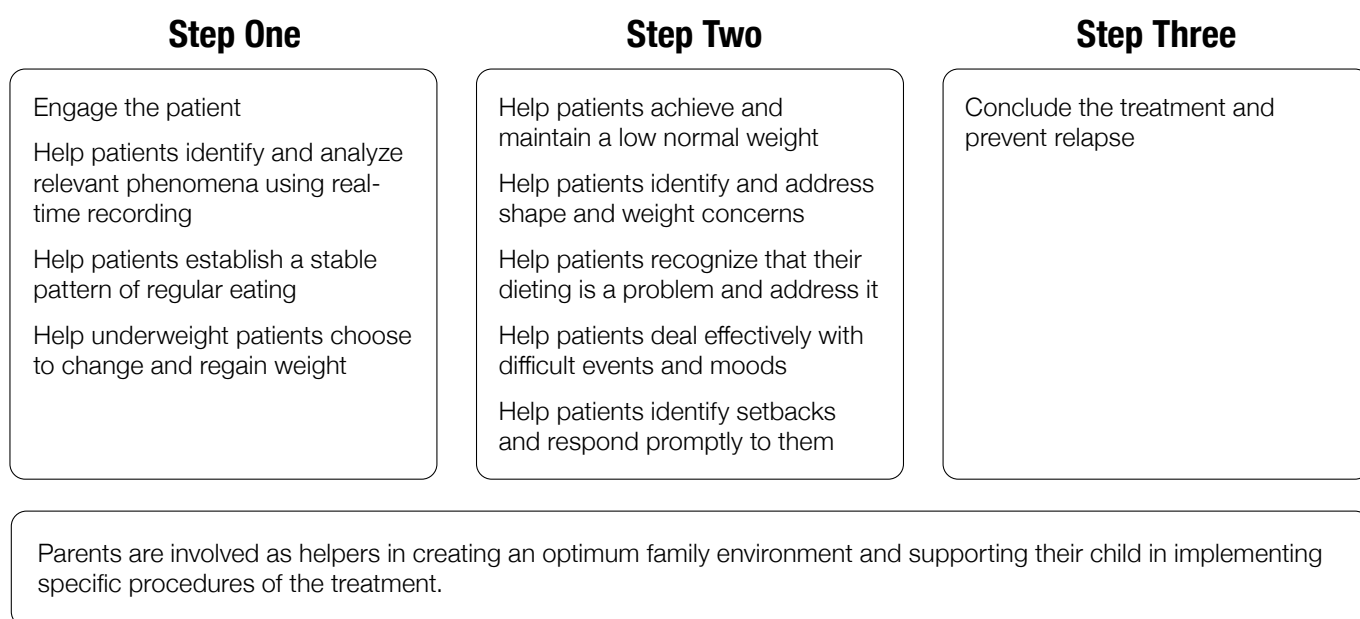


Figure 4. The three steps and the main procedures of the adolescents CBT-E focused form

sessions. These reviews aim to enhance motivation and engagement, identify potential barriers to change, and develop a plan for the subsequent week.

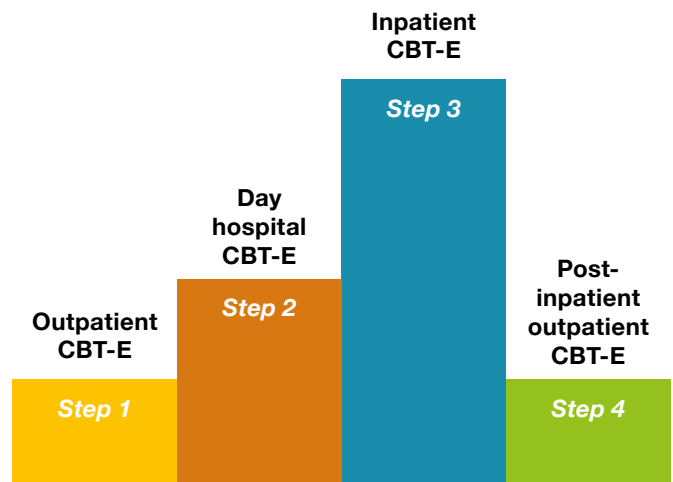
The EPCL and its scoring system can be accessed and downloaded at <https://www.cbte.co/for-professionals/measures/>

Multistep CBT-E

In clinical practice, the treatment options available to individuals with eating disorders are significantly shaped by the clinicians' judgment and training, as well as by the local availability of treatments. Despite the existence of evidence-based psychological interventions such as CBT-E, these treatments are not always consistently applied or available. Some clinical services overly focus on inpatient care, leading to substantial variations in the treatments offered when patients transition between different levels of care, such as from outpatient to inpatient settings. This discontinuity often results in patient confusion regarding the procedures and strategies required to address their eating disorders effectively.

CBT-E is specifically designed to address all diagnostic categories of eating disorders across various care settings, thereby offering a solution to the fragmentation commonly observed in traditional services. This is exemplified by the 'multistep CBT-E' approach (Dalle Grave, 2013), which maintains consistent theoretical foundations and procedures across different care settings (see Figure 5). The primary distinction lies in the intensity of the treatment: patients with less severe symptoms receive outpatient CBT-E, while those with more severe conditions are treated with inpatient CBT-E. This approach also allows for more intensive day-hospital care for those who do not respond adequately to standard outpatient treatment or need additional support without requiring hospitalization. Consequently, patients can transition smoothly between outpatient and inpatient care, and back, without altering the nature of the treatment itself.

A CBT-E-based clinical service offers two principal advantages. First, it ensures that patients receive a coherent, well-structured, evidence-based treatment rather than an eclectic and potentially ineffective array of approaches. Second, it reduces the difficulties associated with transitioning between outpatient and intensive care settings, thereby avoiding the confusion and potential therapeutic setbacks that often accompany such transitions. Nevertheless, it is important to consider alternative treatments for patients who do not respond to CBT-E.



The intensity and cost of the intervention are represented by the size of the columns

Figure 5. Villa Garda CBT-E Multistep

Effectiveness of Villa Garda Multistep CBT-E

The Villa Garda multistep CBT-E approach has undergone extensive evaluation through multiple studies, focusing on both outpatient and intensive settings for adolescents and adults.

Outpatient CBT-E Studies

Adolescents

The effectiveness of CBT-E for adolescents aged 12 to 19 years has been evaluated through several studies, demonstrating significant positive outcomes for this population.

Dalle Grave et al. (2013) - Anorexia Nervosa

- Participants: 46 adolescents with anorexia nervosa.
- Key findings:
 - Acceptance rate: 93%.
 - Completion Rate: 63%.
 - Two-thirds of those who completed the treatment showed a significant increase in body weight, with a BMI-for-age percentile increase of 27.0.
 - 32.1% gained sufficient weight to reach 95% of the expected weight for their age and sex.
 - The weight gain was associated with marked improvements in both eating disorder symptoms and general psychological well-being.
 - Despite minimal subsequent treatment, these positive outcomes remained stable over the 60 weeks following the treatment.

Dalle Grave et al. (2015) – Non-Underweight Adolescents with Eating Disorders

- Participants: 68 non-underweight adolescents with an eating disorder.
- Key findings:
 - Completion Rate: 75%.
 - 68% of those who completed the treatment exhibited minimal residual eating disorder symptoms by the end of the program.
 - 50% of those who had binge-eating or purging episodes before the program reported cessation of these behaviours.

Calugi et al. (2015) - Comparative Study of Adolescents and Adults with Anorexia Nervosa

- Participants: 46 adolescents and 49 adults with anorexia nervosa.
- Key findings:
 - Completers: adolescents 63.1%; adults 65.3%.
 - Adolescents were more likely to reach normal weight than adults (65.3% vs. 36.5%).
 - The average time for adolescents to restore body weight was about 15 weeks less than adults, suggesting that a shorter duration of CBT-E may be effective for adolescent patients.

Dalle Grave et al. (2019) - Real-World Outcomes and Predictors of Change in Adolescents with Anorexia Nervosa

- Participants: 49 adolescents with anorexia nervosa treated by psychologists in a real-world setting.
- Key findings:
 - Acceptance rate: 96.1%.
 - Completion Rate: 71.4%.
 - 62.9% were classed as having both “good BMI outcome” and “full response” at the end of treatment.
 - 45.7% had a BMI equal to or higher than 95% of the expected ideal body weight.
 - These positive changes were maintained six months post-treatment, indicating that CBT-E is a promising treatment for adolescents with anorexia nervosa in real-world settings.

Conclusion: The studies indicate that CBT-E is effective for adolescents with various types of eating disorders, demonstrating significant improvements in body weight, reduction of eating disorder symptoms, and general psychological well-being. These positive outcomes are sustained over time, showing promise in both underweight

and non-underweight adolescents, and highlighting CBT-E’s versatility and efficacy in addressing the specific needs of younger patients with eating disorders. Furthermore, CBT-E appears to work more effectively and quickly in adolescents than adults.

Transition-age youth

Dalle Grave et al. (2023) - Patients with Anorexia Nervosa Aged 14 to 25

- Participants: 115 patients with anorexia nervosa (61 <18 years).
- Key findings:
 - Acceptance rate: 83.3%.
 - Completion Rate: 62.6%.
 - Considerable weight gain and reduced scores for clinical impairment, eating-disorder, and general psychopathology. Changes remained stable at 20 weeks.
 - 60% of patients had a good BMI outcome or full response at the 20-week follow-up, with similar percentages observed in both adults and adolescents.

Conclusion: The study indicates that CBT-E is effective for transition-age youth (ages 14 to 25) with anorexia nervosa, leading to significant improvements in weight, clinical impairment, and psychopathology. These benefits are sustained over time, with most patients maintaining positive outcomes at the 20-week follow-up. The similar response rates in both adolescents and adults suggest that CBT-E can be effectively applied across a range of ages within this demographic.

Adults

Fairburn et al. (2013) - Effectiveness of CBT-E for Adults with Anorexia Nervosa

- Participants: 99 adult patients with anorexia nervosa (50 UK sample, 49 Italian sample).
- Key findings:
 - Acceptance rate: UK sample 74.6%; Italian sample 87.5%.
 - Completion rate: UK sample 62%; Italian sample 65%.
 - Mean BMI
 - > UK sample: before treatment 16.6, after treatment 19.0, 60-week follow-up 19.0.
 - > Italian sample: before treatment 15.5, after treatment 18.6, 60-week follow-up 18.7.

- Marked improvement in eating disorder and general psychiatric features.
- Minimal deterioration over the 60-week follow-up period despite minimal additional treatment.

Conclusion: CBT-E is effective for adults with marked anorexia nervosa, leading to significant weight and BMI increases and improved eating disorder symptoms, with sustained benefits over time.

Severe and Extreme Anorexia Nervosa

Calugi et al. (2021) - Severe or Extreme Anorexia Nervosa (BMI <16)

- Participants: 30 patients (17 to 48 years)
- Key findings:
 - Acceptance rate: 76.9%.
 - Completion rate: 66.7%.
 - 55% achieved a full response at the end of the treatment and 50% at 60-week follow-up.
 - Significant reduction in clinical impairment, eating disorder, and general psychopathology scores.
 - Positive changes remained stable at 20- and 60-week follow-ups.

Conclusion: CBT-E is effective for patients with severe or extreme anorexia nervosa treated in the outpatient setting, resulting in significant weight gain and improvements in clinical impairment and psychopathology. The benefits are maintained over time, demonstrating the treatment's stability and effectiveness even in more severe cases.

Inpatient CBT-E Studies

Dalle Grave et al. (2013) - Randomized Control Trial: Focused vs. Broad Form of Inpatient CBT-E

- Participants: 80 patients with anorexia nervosa.
- Key Findings:
 - Acceptance rate: 81%.
 - Completion rate: 90%.
 - Significant improvements in weight, eating disorder, and general psychopathology in both programs.
 - Over 85% achieved a BMI ≥ 18.5 or the corresponding BMI-for-age percentile cut-off.
 - Minor deterioration post-discharge, primarily within the first 6 months (47.8% had BMI ≥ 18.5 at 6 months; 50% at 12 months).
 - No significant differences between the two arms.

Calugi et al. (2017) - Severe and Enduring Anorexia Nervosa (SE-AN)

- Participants: SE-AN (n = 32, duration of illness >7 years) vs. NSE-AN (n = 34).
- Key Findings:
 - Acceptance rate: 81%.
 - Completion rate: SE-AN 84.4%; NSE-AN 85.3%.
 - Similar large increases in BMI and improvements in eating-disorder and general psychopathology in both groups.
 - Minor deterioration post-discharge.
 - Similar rates of good BMI outcome (SE-AN 44.0%, NSE-AN 40.7%) and full response (SE-AN 32.0%, NSE-AN 33.3%) at 12-month follow-up.

Dalle Grave et al. (2020) - Adolescents vs. Adults

- Participants: 150 patients (74 adolescents, 81 adults).
- Key Findings:
 - Acceptance rate: 70%.
 - Completion rate: 85%.
 - Significant improvements in BMI from admission to the end of the treatment (adults' BMI from 15.1 to 19.9; adolescents' BMI-for-age percentile from 1.7 to 32.1).
 - Stability until the 20-week follow-up (adults' BMI 19.7; adolescents, BMI-for-age percentile 31.3), slight decrease by the 60-week follow-up (adults, BMI 18.6; adolescents, BMI-for-age percentile 23.2).
 - Significant decrease in eating disorder psychopathology, general psychopathology, and clinical impairment scores at the end of treatment, with only a slight increase at follow-ups.
 - No difference in treatment acceptance, drop-out, and outcomes between adolescents and adults.

Dalle Grave et al. (2022) - Impact of COVID-19 Pandemic

- Participants: 57 patients (16-60 years) with anorexia nervosa treated during the COVID-19 pandemic compared to matched controls treated before the pandemic
- Key Findings:
 - Completion rate: pandemic patients 75%; non-pandemic patients 85%.
 - Significant improvements in BMI, eating-disorder and general psychopathology, and clinical impairment scores in both groups.
 - Improvement was more marked in non-pandemic patients than in patients treated during the pandemic.

Calugi et al. (2024). Adolescents with Duration of Illness <3 vs. ≥3 Years

- Participants: 159 adolescents aged 12 to 18 with anorexia nervosa; <3 years (n = 122) vs. ≥3 years (n = 37)
- Key Findings:
 - Acceptance rate: 81%.
 - Completion rate: 80%.
 - Significant improvements in BMI-for-age percentile and percentage of expected body weight, stable until 20-week follow-up in both groups.
 - Decreased scores for eating disorder psychopathology, general psychopathology, and clinical impairment at the end of treatment, stable from the end of treatment to follow-up.
 - 60.6% with illness duration <3 years, and 55.6% with illness duration ≥3 years have a full response at 20-week follow-up.
 - Absence of differences in outcome measures between adolescents with shorter versus longer illness duration

Dalle Grave et al. (2024) - Adolescents During COVID-19

- Participants: 132 adolescents with anorexia nervosa treated before (n = 64), during (n = 37), and after (n = 31) the pandemic.
- Key Findings:
 - Consistent improvements in eating disorder psychopathology, general psychopathology, and BMI-for-age percentiles across all three periods.
 - Approximately 60% maintained a full response at the 20-week follow-up, indicating robust treatment efficacy.

Conclusion: CBT-E is an effective inpatient treatment for severe anorexia nervosa across various demographics, including adolescents, adults, and patients with long-term conditions. It demonstrates significant improvements in weight, psychopathology, and overall clinical outcomes, with effects maintained over time. Additionally, the adaptability of CBT-E allows it to remain effective even during challenging periods such as the COVID-19 pandemic.

Day Hospital CBT-E Study

Dalle Grave et al. (2022). Effectiveness of Day-Hospital CBT-E Program for Eating Disorders

- Participants: 43 consecutive patients with eating disorders (86% females; mean age 28.8)
- Program: 13-week day-hospital CBT-E

- Participant:
 - Underweight Patients: 25 patients (58.1%) with BMI <18.5 kg/m² (mean BMI 15.4 [SD = 2.2]).
 - Not Underweight Patients: 18 patients (41.9%) with a mean of BMI 23.1 [SD = 6.3] at baseline.
- Key findings:
 - Completion Rate: 86.0%.
 - Substantial improvements of eating-disorder and general psychopathology and clinical impairment
 - Notable increase in underweight patients.
 - Positive changes well maintained at 20-week follow-up.

Conclusion: The study demonstrates that a 13-week day-hospital CBT-E program effectively improves various aspects of eating disorders, including eating-disorder symptoms, general psychopathology, clinical impairment, and body weight (in underweight patients). The high completion rate and maintenance of improvements at a 20-week follow-up indicate the program's effectiveness and sustainability.

Challenges and Future Directions for the Villa Garda Multistep CBT-E

Clarify the Relative Efficacy of CBT-E and Family-Based Treatment (FBT)

To clarify the relative efficacy of CBT-E and FBT for the treatment of adolescent patients with eating disorders, a randomized control trial is essential. The CogFam trial, a non-inferiority randomized control trial, began recruiting patients in 2024. This trial compares CBT-E and FBT in patients aged 12 to 18 with eating disorders, referred to eight outpatient clinics across four regions of Norway (Oslo, Bergen, Trondheim, and Tromsø).

Key variables of interest include CBT-E and FBT's relative acceptability, effectiveness, and ability to produce enduring change. Beyond comparing the relative effects of these treatments, it will be theoretically and practically important to identify any moderators of treatment response that could guide the matching of patients to CBT-E or FBT. This consideration is plausible given the marked differences in these treatments' strategies, procedures, and proposed mechanisms of action.

Increasing the Effectiveness of Outpatient CBT-E

To increase the effectiveness of CBT-E for both adolescents and adults, it is crucial to identify the reasons for the lack of response and modify the treatment accordingly. Although

gh this research type is challenging, identifying mediators of CBT-E's effects will help make the treatment more effective and efficient.

Another potential strategy is to assess the relative effectiveness of the broad and focused forms of CBT-E. Additionally, evaluating the inclusion of specific modules to address comorbidities (e.g., obesity, post-traumatic stress disorder) could improve outcomes for individuals with these coexisting conditions.

It is also essential to determine if and how CBT-E needs to be modified to fit the needs of individuals in the autistic spectrum or with attention deficit hyperactivity disorder (ADHD), or other specific psychological features associated with eating disorders. These considerations will help tailor CBT-E to serve diverse populations better and improve treatment efficacy.

Increasing the Effectiveness of Intensive CBT-E

Improving Patient Engagement. While preparatory sessions before admission have enabled patients to take an active role in the change process, as illustrated in Figure 6, a subset of patients still discontinue hospitalization early despite thorough preparation. We aim to understand the reasons behind early discontinuation and develop new strategies to enhance patient engagement. To achieve this, we are investigating the motivation for change and the egosyntonic nature of eating disorders in patients with anorexia nervosa. By understanding how these factors impact engagement and treatment outcomes, we aim to design more effective strategies and procedures to improve patient engagement and retention in the intensive CBT-E program.

Minimizing the Rate of Relapse in the Long Term. We have successfully reduced the relapse rate within the first 20 weeks after discharge by implementing 20 post-inpa-

tient CBT-E sessions (Dalle Grave et al., 2020). However, some patients still experience relapse beyond this period. To address this issue, we are conducting weekly assessments of all patients discharged from Villa Garda. The goal is to identify the factors influencing relapse after the end of treatment. This ongoing evaluation will help us better understand the reasons for relapse and develop new strategies and procedures to reduce long-term relapse rates.

Maintaining and Improving Treatment Standards. The Villa Garda inpatient CBT-E program has consistently upheld high standards (as shown in Figure 6). Despite this, maintaining these high clinical standards remains a continuous challenge. To address this, we are committed to several key strategies. First, we will adhere to the theoretical framework of CBT-E while staying abreast of its evolution and incorporating new developments and possibilities. Supervising complex cases is conducted weekly to ensure ongoing quality and effectiveness. Additionally, Villa Garda's clinical research will continue to play a crucial role in data collection, studying predictors, and evaluating treatment outcomes, helping us refine and enhance our treatment approach over time.

Improving the Promotion of CBT-E

To improve the promotion of CBT-E, a collaborative effort between the Villa Garda team and the CREDO Oxford team has created a dedicated CBT-E website: <https://www.cbte.co>. This website serves as a comprehensive resource for the general public, therapists, and patients. It includes detailed information on accessing Web-Based Training in CBT-E and offers CBT-E manuals for therapists, patients, and parents. This centralized platform aims to enhance the accessibility and understanding of CBT-E, supporting its broader implementation and effectiveness.

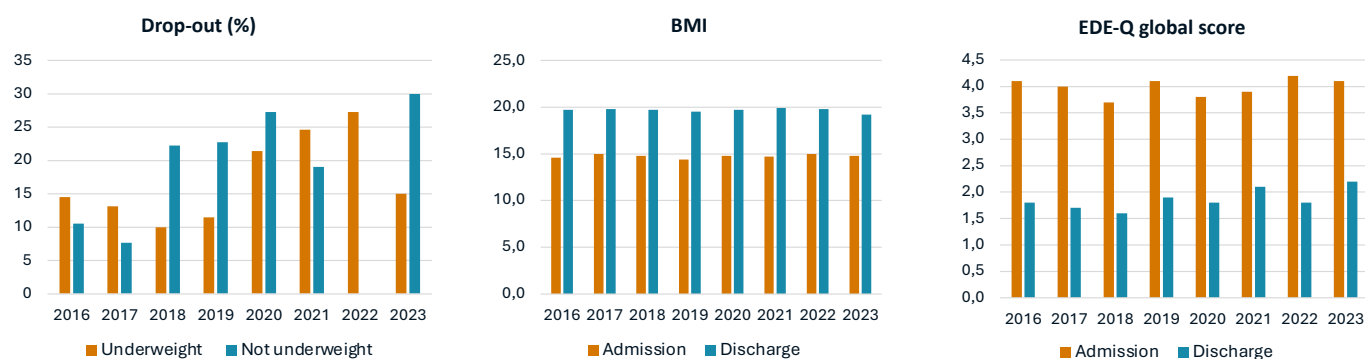


Figure 6. Villa Garda inpatient CBT-E outcome years from year 2016 to 2023. Drop-out (%), BMI= body mass index; EDE-Q = Eating Disorder Examination Questionnaire

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