

Villa Garda

# Body image concern and treatment outcome in adolescents with anorexia nervosa: A longitudinal study

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## Introduction

Cognitive behavioural therapy (CBT) considers body-image concern a central construct in eating disorders. However, in patients with anorexia nervosa, the presence of weight phobia has been disputed, and some authors have, in the past, claimed that it should not be taken as the core psychopathology of anorexia nervosa, and even that anorexia nervosa could be considered a form of voluntary self-starvation that does not involve body-image concern.

Few studies have investigated the perceptual components of body image or generic body dissatisfaction in adolescents with anorexia nervosa, and, to our knowledge, no study has evaluated the influence of the different cognitive expressions of the overvaluation of shape and weight on treatment outcomes in this population.

## Objectives

The aim of our cohort study was to:

**assess the role of three body-image concern components (i.e., ‘preoccupation with shape or weight’, ‘fear of weight gain’, and ‘feeling fat’) in the management of adolescent patients with anorexia nervosa treated via intensive CBT-E.**

## CBT-E for underweight adolescent patients

Patients were administered a version of enhanced cognitive behavioural therapy (CBT-E) adapted for adolescent inpatients. There are three main goals to the programme:

1. **to eliminate the eating-disorder psychopathology**
2. **to correct the mechanisms maintaining the eating-disorder psychopathology**
3. **to provide patients with the tools for maintaining these changes after discharge.**

The parents are invited to participate in a CBT-E-based family module. This is designed to identify any family-related factors that might obstruct the patient’s progress and to help the family as a whole to create a home environment that is conducive to the positive changes that the patient is learning to implement.

The family module involves **six family sessions with a CBT-E-trained psychologist and two sessions with a CBT-E trained dietician**

## References

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## Methods

### Participants

**62 adolescent patients with anorexia nervosa** were recruited from consecutive referrals by general practitioners and eating disorder specialists across Italy to a specialist inpatient Eating Disorder Unit .

All the patients were assessed accurately by a physician expert in CBT-E and on the assessment and management of the effect of underweight. Patients were included if:

1. **age was between 13 and 18**
2. **met diagnostic criteria for anorexia nervosa as defined by the DSM-5**

Each was offered a programme lasting a total of 20 weeks (fixed), featuring an initial 13 weeks of inpatient therapy followed by seven weeks of day-hospital

The ethics committee of the Local Health Unit (22 e Bussolengo, Verona), approved the study, and all participants and their parents gave informed written consent to the anonymous use of their personal data.

### Assessment and measures

- **Demographic and clinical variables**
- **Eating Disorder Examination (global EDE)**
- **Brief Symptom Inventory (BSI)**

All data were collected before and at the end of the treatment and after 6 and 12-month follow-up.

- Body-image concern components were measured before and at the end of the treatment using single items from the Italian validated version of the EDE.

### Statistical analyses

In order to assess the different effects of CBT-E on BMI centiles both at the end of treatment and at 6- and 12-month follow-ups a **mixed-effects model** in which the outcome and time variables and the outcome variable × time interaction (to assess changes over time) were fixed was used.

**Univariate linear regression analysis** was applied to assess the role of body-image concern components at baseline and/or at the end of treatment in predicting BMI centile at the end of treatment and at 6- and 12-month follow-ups. Ultimately, linear regression analysis was used to assess whether or not any baseline body-image concern component could predict end-of-treatment eating disorder and/or general psychopathology scores.

## Results

**Age = 16.4 years** (SD=1.2)

**Baseline BMI centile = 1.8** (SD=3.5)

**Body weight = 39.1 kg** (SD=5.6)

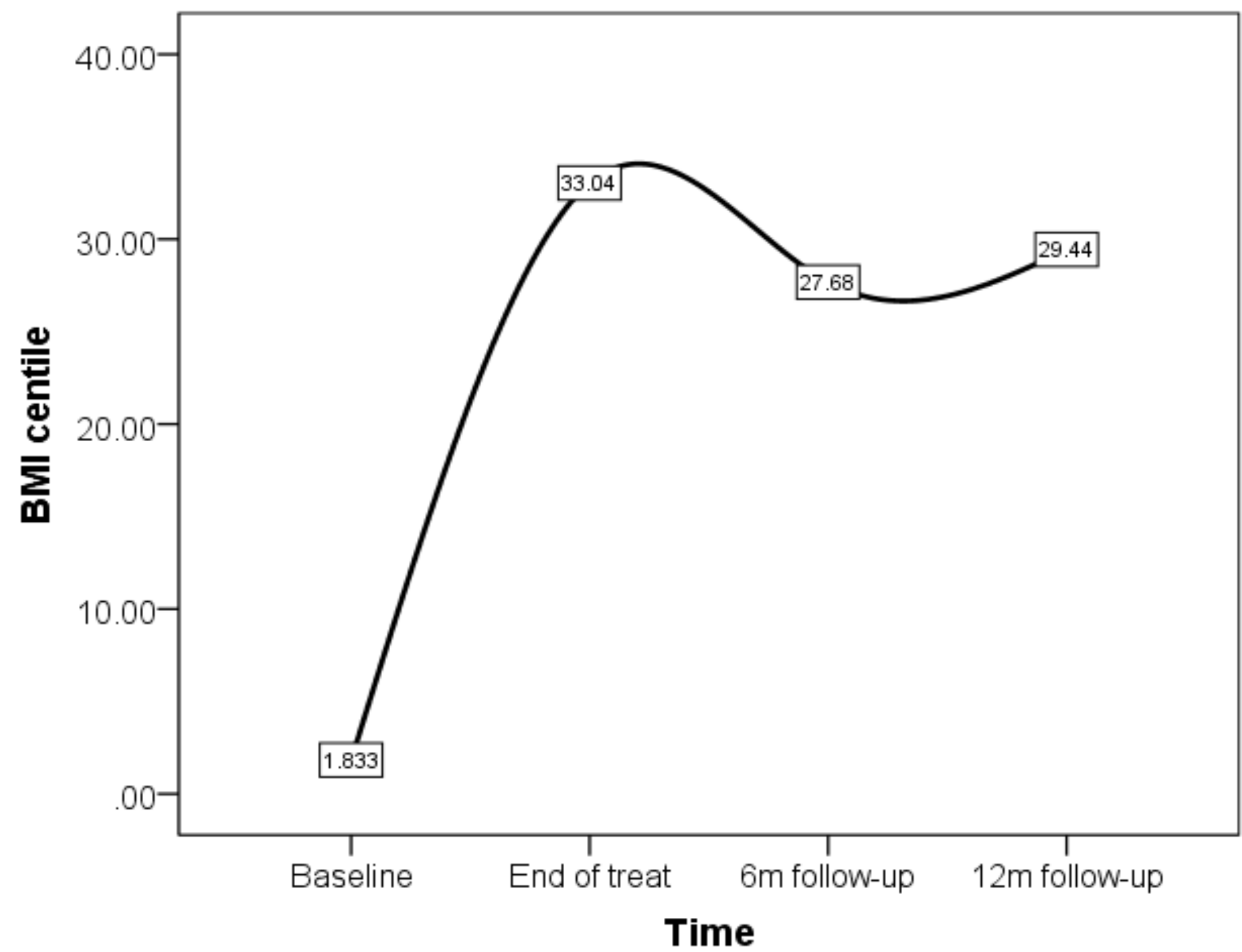
**Age of the eating-disorder onset = 14.5 years** (SD=1.4),

**Duration of illness across = 1.9 years** (SD=1.5).

**Competition of treatment = 90.3%**

**6-month follow-up = 83.9%**

**12-month follow-up = 86.7%.**



**Figure 1.** Estimated means of body mass index (BMI) centile. Estimates were obtained using mixed-effects modelling.

Baseline **‘preoccupation with shape or weight’** and **‘feeling fat’** predicted improvement in BMI centile over time, and all three baseline body-image concern components independently predicted end-of-treatment EDE Eating Concern subscale score. Finally, baseline **‘feeling fat’** also predicted end-of-treatment EDE Dietary Restraint subscale and BSI scores.

## Conclusions

The results indicate that the **intensive CBT-E is able to produce a significant reduction in body-image concern** and psychopathological outcomes by discharge, in addition to **body-weight normalisation in about 80% of completers at one-year follow-up**, in adolescent patients with anorexia nervosa. Importantly, the study also gives some support to the hypothesis that **body-image concern is a core feature of eating-disorder psychopathology**, rather than merely an epiphenomenon and that **should be addressed during the treatment**.

## The official CBT-E website – [cbte.co](http://cbte.co)



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