

Cite as: Archiw EuroMedica. 2024. 14; 3. DOI [10.35630/2024/14/3.346](https://doi.org/10.35630/2024/14/3.346)

Received 28 May 2024;  
Accepted 20 June 2024;  
Published 25 June 2024

## COMPARISON OF PSYCHOTHERAPY APPROACHES IN ADOLESCENTS AND CHILDREN WITH ANOREXIA NERVOSA

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### ABSTRACT

#### INTRODUCTION:

Anorexia nervosa (AN) is a serious eating disorder characterized by an intense fear of gaining weight and obsessive calorie restriction, often starting during adolescence. It can lead to severe somatic complications such as hormonal imbalances and heart arrhythmias. Treatment typically involves a multidimensional approach addressing somatic and psychological aspects, primarily relying on psychotherapy. Family support is crucial, providing emotional support, motivation, and of a healthy lifestyle maintenance. Individual or group therapy helps patients understand their behavior, change negative thoughts, and develop healthier coping strategies. Family therapy, often using Cognitive Behavioral Therapy (CBT) or Adolescent-Focused Therapy (AFT), is common. Treatment is prolonged and requires patient commitment and collaboration with a therapeutic team.

#### MATERIALS AND METHODS:

This review of studies is based on articles from PubMed and Google Scholar databases, focusing on eating disorders in adolescents, including treatment, psychotherapy, family-based therapy, and anorexia nervosa.

#### RESULTS:

Studies and guidelines indicate that family therapy is the preferred method for treating anorexia in children and adolescents, leading to significant improvements in body weight and eating disorder symptoms, with long-term positive effects. Behavioral therapy and AFT also yield promising results in adolescents.

#### CONCLUSION:

Further research is needed to tailor therapy to each patient, as there is limited research comparing the effectiveness of individual methods, especially in the long term, despite their widespread clinical use.

**KEYWORDS:** eating disorders, adolescents, treatment, psychotherapy, family-based therapy, anorexia nervosa

## INTRODUCTION:

Anorexia nervosa is an eating disorder characterized by intentional weight loss, fear of obesity, and distortion of body image, often accompanied by somatic complications such as hormonal imbalances, cardiac arrhythmias, and fainting [1].

Eating disorders are a significant issue in contemporary society. Anorexia is most commonly observed among adolescent girls and women, but it also occurs in boys and young men [2,3, 4, 5]. In Western countries, this problem can affect between 0.1 and 5.7% of teenagers [6].

Anorexia continues to pose a significant therapeutic challenge. It carries a high risk of death due to somatic complications or suicide [2, 3, 4]. The aim of treatment in anorexia nervosa is to restore normal body weight, treat somatic complications, teach the patient proper and healthy eating habits, improve body image and self-esteem. Equally important is the improvement of other coexisting psychiatric symptoms. Because AN is associated with other psychopathologies, treatment is often long-term and may involve several stages and types of interventions [7].

A multidisciplinary therapeutic team provides the most effective and comprehensive treatment for eating disorders. It should include many collaborating specialists, such as psychotherapists, psychiatrists, psychologists, occupational therapists, dietitians, nurses, often also internists, diabetologists, and gastroenterologists. The cornerstone in the treatment process of eating disorders is psychotherapy. The method of choice is family-based therapy (FBT). Alternative therapies, in cases where family-based therapy is contraindicated or ineffective, include individual cognitive-behavioral therapy or adolescent-focused therapy for anorexia nervosa (AFT).

1. Family-based therapy (FBT)- focuses on working with the patient's family to improve the functioning of the entire family. In family therapy, communication, conflict resolution, and the development of common goals and values are taught.
2. Behavioral therapy - focuses on changing thinking and behaviors related to eating. Patients learn about healthy eating habits, recognizing and controlling emotions, and coping with negative thoughts. Various techniques are used in behavioral therapy, such as cognitive-behavioral therapy, social skills training, and positive reinforcement therapy.
3. Adolescent-focused therapy (AFT) - This therapy assumes that behavior related to eating disorders represents a maladaptive attempt to cope with the developmental challenges of adolescence and focuses on strengthening the patient's sense of self-worth.

Additionally, treatment also includes nutritional therapy, and in particular cases, pharmacotherapy when other therapeutic methods prove ineffective. Medications are prescribed to improve the patient's physical condition, regulate mood, reduce anxiety symptoms, and hospitalization when the patient requires intensive treatment and medical supervision. Hospitalization allows for monitoring the patient's health status, controlling the nutrition process, and implementing necessary changes in therapy [8, 9, 10, 11].

## PROGNOSIS

The available literature indicates that the prognosis and course of anorexia in children and adolescents depend on various factors, including the severity of the illness, the age of the patient at the onset of the disease, the patient's level of engagement in treatment, the presence of comorbid disorders, and the type of therapy employed. Studies conducted on a group of patients with childhood and adolescent anorexia have shown that the effectiveness of treatment is also largely associated with the time elapsed from the onset of the disease to the start of treatment. Patients who were diagnosed and began treatment within the first three years of the onset of the disease achieved better treatment outcomes in long-term follow-up than those who waited longer for treatment [12].

Based on various observational studies, the prognosis for eating disorders can be characterized as follows: approximately 45-50% of affected individuals achieve full recovery, around 30-35% experience partial improvement, while about 20% of patients develop a chronic form of the illness with multiple recurrent episodes [13, 14].

## FAMILY-BASED TREATMENT

Currently, a psychological intervention considered by some as the first-line treatment for adolescent anorexia is family-based treatment (FBT), especially as developed by researchers from the Maudsley Hospital, also known as the Maudsley's method or approach [15]. This is a therapeutic approach that

focuses on involving the entire family of the patient as a key element of the treatment process. The main goal of family-based treatment is to restore normal eating and healthy development of the patient by engaging the family in the treatment process. The therapy aims to restore healthy body weight, improve family relationships, and develop healthy eating habits and coping mechanisms. The therapeutic process typically involves several stages:

1. Phase 1: Physical health restoration: In this phase, parents take control of decisions regarding eating and monitor the child's calorie intake and weight gain. This is particularly important in cases of anorexia, where the patient typically struggles to make healthy eating decisions.
2. Phase 2: Gradual return of control to the child: In this phase, responsibility for eating gradually returns to the child, while parents provide support and supervision. The child is gradually encouraged to make healthy dietary decisions.
3. Phase 3: Consolidation and preparation for life after treatment: In this phase, therapists assist the family and child in identifying future challenges and developing strategies to cope with them without relapsing into eating disorders [16,17]. Therapy can be conducted as individual or multi-family therapy sessions and typically consist of 18-20 sessions lasting a year.

Family therapy is based on the assumption that family support is a key factor in the treatment process of anorexia in children and adolescents. Research suggests that family therapy can be an effective form of treatment for anorexia in children and adolescents, leading to weight improvement, reduction of eating disorder symptoms, and improvement of family relationships. In a study by Eisler et al. conducted in 1997 based on a five-year follow-up, it was shown that family therapy demonstrated lasting benefits: Adolescent patients with a shorter duration of illness (less than 3 years) achieved better outcomes than those who received individual therapy. This suggests that early intervention may be crucial for achieving better results. However, there are limitations regarding the study's power, therapy standardization, and generalization of results, indicating the need for further research in this field [18].

Other studies indicate that family therapy was more effective in short-term improvement of weight gain and menstrual resumption in patients with anorexia compared to individual therapy. However, after one year of observation, no significant differences were observed between the groups, suggesting that both approaches may be equally effective in maintaining improvement after therapy cessation [19].

In the study by Eisler et al. (2016), classical family therapy was compared with multi-family therapy (MFT). The difference lies in the fact that in the latter approach, 5-7 families participate, who, by sharing their own experiences, learn from and support each other. Both methods showed significant effectiveness in reducing symptoms of anorexia and improving the quality of life of patients (just below 60% of patients in the FT group and over 75% in the MFT group) [20]. The effects of therapy based on the Maudsley model can be long-lasting, bringing benefits in both the short and long term of observation. This suggests that this therapy may have the potential to prevent relapses and maintain mental health in the longer term [21]. While family therapy should be the first-line treatment for anorexia in children and adolescents, it doesn't bring adequate benefits to every patient. Approximately 10-20% of patients require additional, intensified treatment such as health stabilization in a hospital, psychiatric treatment in an inpatient unit, or day treatment, and 10-15% require ongoing treatment into adulthood [22].

## BEHAVIORAL THERAPY

Cognitive-Behavioral Therapy (CBT) is a form of therapy that focuses on identifying and changing thoughts and behaviors contributing to eating disorders. CBT also involves teaching healthy coping strategies and problem-solving skills. The main goal of CBT in treating anorexia in children and adolescents is to change harmful beliefs and behaviors related to eating and improve the patient's mental and physical health. CBT utilizes cognitive techniques, such as identifying and modifying distorted thoughts, and behavioral techniques, such as gradual exposure to eating-related stressors and adopting healthy eating habits. Enhanced Cognitive Behavioral Therapy (CBT-E) is an improved version of traditional CBT developed for treating eating disorders. The main difference between CBT-E and traditional CBT is that CBT-E focuses on the psychopathology of eating disorders as a whole rather than on a specific diagnosis like bulimia or anorexia. A key feature of CBT-E is the individualization of therapy, tailoring it to the needs and characteristics of each patient. Research has shown that this therapy can lead to improvement in eating disorder symptoms, psychological functioning, and quality of life in patients with anorexia. The effects of therapy may vary depending on individual needs and characteristics. Studies have shown the effectiveness of CBT in outpatient settings. The prognosis for CBT in treating anorexia in children and adolescents may be favorable, especially when the therapy is early and tailored to the patient's needs. However, the prognosis may vary depending on the severity of the disorder, family support, and other factors. Cognitive-Behavioral Therapy (CBT) can be an effective alternative in treating anorexia in children and adolescents, especially when family therapy is unacceptable, contraindicated, or ineffective [15, 23]. In studies evaluating the

effectiveness of this therapeutic approach in outpatient treatment, it was found that approximately two-thirds of adolescents completed the treatment, and among these patients, a significant increase in BMI and improvement in eating disorder symptoms and overall health were observed. This state persisted during the 20- and 60-week follow-up periods [23, 24]. Another study also confirms the effectiveness of the therapy and its benefits in both short- and long-term perspectives [25].

One study showed that this therapy appears to be more effective in the adolescent population than in adults. Results from a study comparing the use of CBT-E therapy in children and adults indicate that adolescent patients receiving CBT-E are able to achieve normal body weight more successfully than adults (65.3% vs. 36.5%;  $P = 0.003$ ) and at a faster pace - the average time needed for adolescents to restore normal body weight was about 15 weeks shorter than for adults (14.8 weeks vs. 28.3 weeks,  $P < 0.001$ ). Subsequent studies, on the other hand, have demonstrated that the effectiveness of treatment is comparable in both adolescent and adult patient groups, and the results were sustained after a 60-week observation period [26].

The use of CBT-E therapy appears to be particularly effective in patients who have undergone treatment in hospital settings [25]. Comparing the effectiveness of CBT-E and FBT, it was shown that from the beginning of treatment until completion, the group of individuals treated with family-based therapy achieved better outcomes. However, after 6 and 12 months of observation, both therapies yielded similar results [27].

## ADOLESCENT-FOCUSED THERAPY

In the literature, there is limited research assessing the effectiveness and long-term effects of treating anorexia in children and adolescents with AFT therapy. In studies, family therapy resulted in significantly higher rates of weight gain and higher rates of remission compared to AFT. In Lock et al.'s study (2010), improvement was sustained both at six and twelve months after the end of therapy, although levels of full remission were higher in the FBT-receiving group [28]. However, results from the 2- and 4-year follow-ups indicated that long-term effects persist regardless of the type of therapy chosen, provided remission is achieved [29].

## PHARMACOTHERAPY

The primary form of treatment for anorexia nervosa is psychotherapy, therefore treatment guidelines suggest that medications should not be used as the primary therapeutic approach in children and adolescents with AN [30]. The available literature provides limited evidence confirming that the use of medications yields significant therapeutic effects in the treatment of AN.

Various types of medications have been considered for the treatment of AN, including antidepressants, antipsychotics, dietary supplements, and hormonal medications. [31, 32, 33, 34].

Antidepressant medications were initially considered a promising therapeutic option because many symptoms of anorexia nervosa overlap significantly with symptoms associated with other mental disorders such as depression, generalized anxiety, or obsessive-compulsive disorder. There is only one retrospective study in the available literature comparing 19 adolescents with AN receiving fluoxetine, fluvoxamine, or sertraline with 13 AN patients not taking medication [35]. The results of this study suggest minimal or no effect of SSRIs on BMI index and acceleration of weight gain, as well as alleviation of cognitive disorders associated with eating disorders.

It seems that second-generation antipsychotic medications, especially olanzapine, demonstrate some benefits in increasing weight gain [36, 37, 38]. However, other medications in this group, such as risperidone, quetiapine, were not associated with significant benefits in treating AN [37, 39]. Apart from isolated cases described by Fisman et al. in 1996 [40]; Newman-Toker, 2000 [41], which indicated potential benefits of using risperidone and three cases of successful adjunctive treatment with quetiapine [42].

In summary, pharmacotherapy has a very limited evidence base and should not be used as the primary or sole treatment strategy, but rather as a supplement to therapy.

## HOSPITALIZATION

Patients with AN can be treated on an outpatient, day program, or inpatient basis. Hospitalization is indicated when patients suffer from severe co-existing somatic or psychiatric illnesses and require medical or psychological stabilization. According to Herpertz-Dahlmann and Salbach-Andrae (2009), hospitalization should be considered if at least one criterion is met: BMI below the third percentile, rapid weight loss, refusal to drink, co-occurrence of serious psychiatric illnesses and somatic complications, severe social

isolation, dysfunctional family and lack of its support, inadequate response to outpatient treatment [43].

The effectiveness and costs of treating anorexia in adolescents were compared in two groups: a group of patients who underwent short-term hospitalization followed by outpatient treatment, and a group of patients who underwent long-term hospitalization. The results indicate that both forms of treatment were effective in improving the patients' health. In both groups, there was an increase in body weight, a reduction in anorexia symptoms, and an improvement in patients' quality of life. Importantly, outpatient treatment was more cost-effective than hospitalization [44]. Similar results are presented in a number of other studies [45, 46, 47].

Datta et al.[45] showed that the role of hospitalization in weight gain may depend on the type of therapy used. Family-based therapy combined with hospitalization may be an effective strategy in treating anorexia in adolescents, while individual therapy may require different forms of support outside of hospitalization.

## CONCLUSION

Eating disorders, including anorexia nervosa, present a significant therapeutic challenge in today's times. In available literature reviews and treatment guidelines, authors unequivocally recommend the use of family therapy as the method of choice. Alternatively, individual therapy - CBT or AFT - can be employed. Due to insufficient research to draw definitive conclusions and recommendations, there is a tremendous need for further exploration of the topic and conducting additional studies to assess the effectiveness of various therapeutic approaches in children and adolescents with eating disorders. The multitude of available treatment methods requires a more comprehensive approach to evaluating their effectiveness and clinical recommendations. There are different therapeutic approaches, but their effectiveness may vary depending on the patient and context [46].

*Table. Summary Table of Therapeutic Approaches*

<b>Therapy Approach</b>	<b>Description</b>	<b>Key Features</b>	<b>Effectiveness</b>
Family-Based Therapy (FBT)	Involves the entire family in treatment	Communication, conflict resolution, supporting the patient	Effective in early intervention, weight improvement, reducing symptoms
Cognitive-Behavioral Therapy (CBT)	Focuses on changing thoughts and behaviors	Cognitive restructuring, exposure to stressors, healthy eating habits	Effective, especially in outpatient settings
Enhanced Cognitive Behavioral Therapy (CBT-E)	Tailored to individual needs, addresses eating disorder psychopathology	Individualized therapy, coping strategies	Effective in both adolescents and adults
Adolescent-Focused Therapy (AFT)	Strengthens self-worth to cope with adolescence challenges	Focuses on self-esteem, developmental challenges	Effective, but less so than FBT
Pharmacotherapy	Use of medications as a supplement	Antidepressants, antipsychotics, dietary supplements	Limited effectiveness, not primary treatment
Hospitalization	Inpatient care for severe cases	Medical/psychological stabilization, supervised nutrition	Effective for severe cases, cost-effective with outpatient follow-up

Source: Based on own analysis.

## AUTHORS CONTRIBUTION

Conceptualization, Alicja Kosel, Maciej Rumian and Maria Antos; methodology, Alicja Kosel; software, Adrian Bobrzyk; check, Angelika Wawryszuk, Grzegorz Łyko; formal analysis, Maciej Rumian and Alicja Kosel; investigation, Maria Antos and Weronika Kamińska; resources, Adrian Bobrzyk; data curation, Grzegorz Łyko; writing-rough preparation, Weronika Kamińska; writing-review and editing, Maria Antos and Maciej Rumian; visualization, Adrian Bobrzyk; supervision, Alicja Kosel; project administration, Weronika Kamińska

All authors have read and agreed with the published version of the manuscript.

## FUNDING

The Study Did Not Receive Special Funding.

## CONFLICT OF INTEREST

The authors declare no conflict of interest.

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