Modifications to Enhance Outcomes of Family-Based Treatment for Anorexia Nervosa: A Scoping Review

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Abstract: Family-based treatment (FBT) is recommended for anorexia nervosa (AN) in young people (YP). However, a substantial proportion of YP undergoing FBT do not recover. Several modifications to standard FBT have been tested to improve recovery rates. This review provides an updated overview of empirically tested modifications to FBT for AN in YP and estimates whether such modifications increase the percentage recovering. Computerized searches performed in five databases resulted in the inclusion of 43 papers (representing 40 original studies), highlighting that a variety of modifications to standard FBT have been tested and appear promising. However, only 11 studies compared the results of a modification to standard FBT. In conclusion, some modifications, such as parent-focused treatment, the addition of home treatment, or interventions for families at risk of non-response, appear to have the potential to improve the recovery rate, either at the group or subgroup level. Other modifications, such as FBT-based guided self-help, virtually delivered FBT, or FBT delivered during in- or day-patient stays, enable the dissemination of FBT principles to other contexts and to patient groups with limited access. Small additions to FBT, such as a workshop or parent-to-parent consultation, do not seem to improve the recovery rate.

Keywords: anorexia nervosa; family-based treatment; treatment modification; treatment outcomes

1. Introduction

Anorexia nervosa (AN) is a serious psychiatric disorder that typically debuts in adolescence and has dire physiological, psychological, and social consequences for both the young person (YP) and his or her parents [1]. The treatment of AN is challenged by the physiological consequences of starvation of the brain, poor disease insight, and the inherent ambivalence associated with AN, among other factors.

In an attempt to bypass the self-perpetuating circle of AN, Dare and Eisler developed an outpatient therapy actively involving parents' resources [2]. This Maudsley family therapy (FT-AN) was later manualized as family-based treatment (FBT) by James Lock and Le Grange [3]. Today, FBT/FT-AN (termed FBT hereafter) is the recommended treatment for AN in young people and is offered in many countries [4–6]. It is rooted in systemic and behavioral therapeutic approaches and has parent empowerment as the main therapeutic focus. Sick leave from school and activities is recommended for YP in the acute phase, and parents are instructed to take responsibility for the young person's eating, prevent disturbed behaviors, and ensure stable weight gain. The YP is weighed once a week, followed by an hour of family therapy that is initially focused on symptom management and later focused on restoring the autonomy of the YP [3].

FBT has contributed significantly to the treatment of AN, resulting in more YP recovering. Moreover, FBT fosters faster recovery, which is important in order to minimize enduring physiological detriments to a developing young body. The recovery rate in FBT ranges between 50 and 70% when recovery is defined solely as the YP maintaining >85% of

their body weight [7,8]. However when recovery encompasses both weight restoration and reduction in eating disorder symptoms, the recovery rate falls between 28% and 50% at the end of treatment (EOT) [9].

Over the past 10–15 years, research has identified several predictors of a poorer outcome of FBT, such as cognitive inflexibility, familial criticism, and slow initial weight gain [10]. Efforts to increase recovery rates have inspired modifications, adaptations, and additions to FBT. Continued efforts to adapt and improve treatment methods seem crucial to meet various individual needs and enhance outcomes. However, in a review from 2018, Lock concluded that modifications had not resulted in higher remission rates [11]. Since then, new modifications to FBT have been developed and tested, but no recent reviews have focused on whether modifications to FBT increase the proportion of those who recover.

- The objective of this scoping review is to (a) provide an updated overview of empirically tested modifications to single-family FBT for AN in YP and (b) estimate whether the modifications to FBT increase the percentage of YP recovering.

2. Methods

This review is organized as a PICO study. **Population**: Children and adolescents in treatment for AN with their family. **Intervention**: Any form of modification (including but not limited to modifications in session content, session participants, intensity, dose, and combination with other treatment strategies) to manualized FBT or Maudsley FT-AN. **Comparison**: This review included both studies without a control group and studies comparing the modification with unmodified FBT. **Outcomes**: Weight change reported as either absolute weight or BMI adjusted for age and sex (for example, % median BMI (%mBMI) or BMI percentile). Changes in eating disorder symptoms were reported as global scores on semi-structured interviews or questionnaires.

Inclusion criteria:

- Longitudinal quantitative studies published in peer reviewed journals, written in English.
- Children and adolescents (YP) under the age of 20, living at home with their parents.
- Patients meeting the ICD-10 criteria for anorexia nervosa (AN) or atypical anorexia nervosa (AAN) or the DSM-V, DSM-IV or DSM-IIIR criteria for anorexia nervosa or OSFED with restrictive eating and fear of weight gain.
- YP and the family participate in a modification or addition to single-family FBT, with the study providing a clear description of how the modification differs from standard FBT.
- Studies report outcome status for weight and/or eating disorder symptoms at the end of modification and/or end of treatment (EOT) and/or follow-up (FU).

Exclusion criteria

- Single-case studies, reviews, books, book chapters, or dissertations.
- Studies with a population of mixed diagnoses where children and adolescents with AN, AAN, or subthreshold AN do not comprise the majority of patients.
- Studies of multifamily therapy.
- Studies where the only modification from standard FBT is treatment setting (i.e., FBT in private practice/in the primary sector, etc.).
- Studies where outcome data are reported in another included study.

The search string was discussed by SHP and LC. Searches were conducted in PubMed, Embase, PsycInfo, Web of Science, and Scopus in June 2023, and the data were imported into the webtool COVIDENCE [12], version 2. The reference lists of relevant papers and identified reviews were examined for additional relevant papers.

All papers were evaluated by SHP and LC based on title and abstract, and potentially relevant papers were subjected to full-text screening. Disagreements on study selection were resolved through discussion until consensus was reached. A data charting form was jointly developed by SHP and LC. All the authors plotted the data into a form and

discussed the results. The following data were extracted: author, year, number, age and sex of participants, illness duration, study design, type of FBT modification, instruments used for measuring outcomes, outcomes related to changes in weight and eating disorder symptoms, definition for remission, and percentage remitting (see Supplementary Material). Studies were not subjected to a critical appraisal of validity and risk of bias, as the review's objective was to provide an overview rather than a synthesized result. The protocol was drafted using the Preferred Reporting Items for Systematic Reviews and Meta-analysis Protocols—extensions for scoping reviews [13].

3. Results

The initial database search resulted in 1935 papers. Six additional papers were identified through other sources, resulting in 1941 papers being exported to Covidence. Initially, 1156 duplicates were removed. Subsequently, 679 papers were excluded based on title/abstract, leaving 106 papers for screening at the full-text level. The screening resulted in 43 papers (representing 40 original studies) being included in the review. The PRISMA flow diagram is shown in Figure 1.
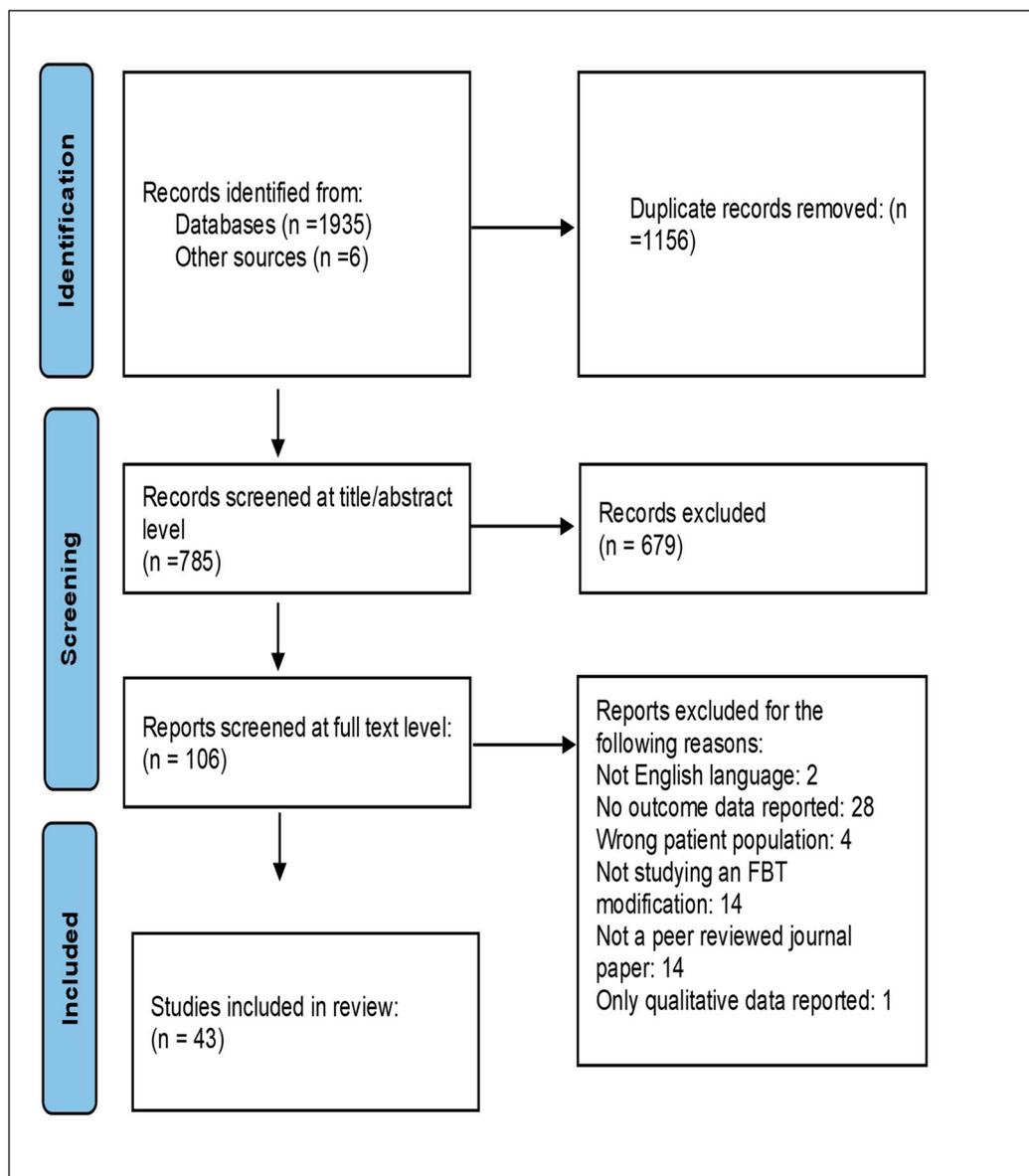
Figure 1. Prisma flow diagram.

Studies are presented here according to the type of modification in two subsections: (1) a descriptive overview of all included studies and (2) studies comparing the effects of modifications with standard FBT. Studies comparing two modifications, but not standard FBT, are described in part A. For an overview of the modifications, see Table 1.

Table 1. Overview of included studies (for details of studies, see Supplementary Table S1).

Type of Modification to FBT	Number of Modification Studies (Studies Comparing with Standard FBT)	Difference in Outcome of Studies Comparing with Standard FBT: Modification/Standard FBT
FBT by teleconferencing	5 (1)	Weight recovery by EOT: equal between groups (70% total) [14]
FBT informed higher levels of care	13 (0)	
Parent-to-parent consultation with previous FBT completers	1 (1)	MROAC good outcome by EOT: 40%/50%, significance not reported [15]
FBT dosage	1 (1)	Weight gain and EDE change by EOT and FU: nonsignificant, small effect size [16,17]
One-week intensive FBT	1 (0)	
Separated family therapy/parent-focused therapy	4 (3)	1. Weight gain, EDE change, and MROAS by EOT: nonsignificant, small effect size [18] 2. MROAC good or intermediate outcome by EOT: 76%/47%, nonsignificant [19]; MROAC good or intermediate outcome by FU: 90%/77.8%, nonsignificant [20] 3. Weight gain and EDE change by EOT: nonsignificant. Remission (weight and EDE) by EOT: 43.1%/21.8%, nonsignificant [21]
FBT-based parental guided self-help	4 (0)	
Skills training for parents as an add-on to FBT	2 (1)	Weight gain and EDE change by EOT: nonsignificant. Remission (weight and EDE) by EOT: 58%/39%, nonsignificant [22]
Adding modules from other therapeutic approaches to FBT	6 (0)	
Treatment for FBT non-responders or when FBT is not applicable	2 (0)	
Stepped care models	2 (1)	Weight gain by EOT: modification significantly higher, large effect size [23]
FBT-informed home treatment	1 (1)	Weight gain by 3 months: modification significantly higher, medium effect size. EDE change by 3 months: nonsignificant. Hospitalization by 3 months: 0%/13.6%, significance not reported [24]

Remission rates of studies comparing modifications with standard FBT reported as either weight recovery (WR), normalization of cognition/behavior (CB) scale scores, or both. Legend: MROAS = Morgan–Russell Outcome Assessment Schedule, MROAC = Morgan–Russell Outcome Classification, EOT = end of treatment, FU = follow-up, EDE = Eating Disorder Examination. Note: As some papers reported (a) FU data from other included papers and/or (b) examined more than one modification, the numbers of studies in the table do not match the number of included papers or studies.

For each study presented, if possible, we include the following: (i) difference from standard FBT, (ii) statistical significance of changes in weight and AN symptoms, and (iii)

remission rate. The most utilized definition of remission across studies is weight above 94% of either ideal body weight (IBW) or estimated body weight (EBW) and a global score on eating disorder cognition/behavior scales within one SD of community norms. When other definitions of remission are used, we report them.

3.1. Types of Modifications to FBT

3.1.1. FBT by Teleconferencing

A major challenge for the delivery of FBT has been the lack of access to treatment due to geographical and/or psychosocial factors, leading researchers to investigate the effect of virtual FBT (V-FBT). Four studies examined the feasibility and effectiveness of V-FBT. Anderson et al. found V-FBT to be feasible, with a medium effect size on weight and a large effect size on eating disorder cognition/behavior both at EOT and at FU [25]. Pereira and colleagues [14] compared the effect of V-FBT with that of a historical cohort of YP with AN in standard FBT (see Section 3.3. Lock et al. compared V-FBT with online guided self-help [26] and found both conditions to be feasible. Furthermore, both V-FBT and online guided self-help led to large effect sizes in changes in weight and medium-to-large effect sizes in changes in ED cognition/behavior at the EOT and also at FU. Full remission was reached by 30% in V-FBT and 11% in GSH by EOT. At the three-month FU, the percentages were 20% and 22.2%, respectively. Steinberg et al. [27] examined the effect of an expanded version of FBT delivered virtually (V-FBT+). V-FBT+ included regular access to a peer mentor and a family mentor with lived experience, skill groups, and individual therapy for comorbidity, all of which were delivered virtually. Eighty percent achieved weight remission by 16 weeks of V-FBT+ and significant changes in both weight and eating disorder cognition/behavior. Finally, Van Huysse compared an FBT-informed virtual intensive outpatient treatment (IOP-V-FBT) with a partial hospitalization program (PHP), and despite the large difference in the number of sessions, the study found no significant difference in weight change between the two treatments at either the EOT or at FU [28]. In summary, all four studies demonstrated that variations in FBT can be effectively delivered virtually.

3.1.2. FBT Informed Higher Levels of Care

Historically, families have rarely been involved when YP with AN need hospitalization; however, thirteen studies reported results from FBT informed higher levels of care. It is reasonable to assume that patients in these studies may have been more seriously ill than those receiving outpatient treatment, and outcomes cannot be compared to standard FBT. Despite describing a potentially sicker patient group, these studies represent ways to integrate the therapeutic strategy of parental involvement and responsibility for YP refeeding from FBT across the spectrum of AN patients.

Four studies reported findings from inpatient treatment. Wallin et al. [29] compared results from a family treatment apartment (FTA), where the whole family lived supported by staff, with parents in charge of all meals (mean duration 42 days) with standard inpatient treatment without parental participation (TAU) (mean duration 76 days). YP in the TAU group had a significantly larger weight gain at discharge, whereas YP in the FTA group were significantly less likely to be readmitted within the first 6 months after discharge. The remission rates at FU were similar, with 32% of the participants across the two groups still having an eating disorder. Halvorsen et al. [30] reported significant weight gain at the EOT and a 36% remission rate by long-term FU following family hospitalization with parents in charge of meals. Spettigue et al. [31] reported on FBT-informed inpatient treatment with parents supervising as many meals as possible at the hospital, and standard FBT initiated during hospitalization. They found significant weight gain and decreases in ED cognition/behavior for YP with AN-R but not for YP with AN-BP. Finally, Matthews et al. [32] reported on FBT initiated during hospitalization, with four FBT sessions within the first 10 days of admission. Compared with a historical TAU, the change in weight was similar between the groups at discharge but greater in the intervention group at FU, with a

smaller chance of readmittance by FU. In sum, hospitalization involving parents appears to be favorable in terms of FU weight and readmission rates.

The results from FBT-informed day hospital treatment (DHT)/partial hospitalization (PHP) were reported in nine studies. Programs differ somewhat in length, intensity, and content, but all involve a form of family participation and empowerment of parents. Ornstein et al. [33] reported a significant increase in both weight and eating disorder cognition/behavior. Girz et al. [34] reported significant changes in ED cognition/behavior, but as not all participants needed to gain weight, weight gain did not reach significance. Henderson et al. [35] reported a significant increase in BMI, with 60% and 64.8% of YP being remitted on weight at discharge and at FU, respectively. Simic and colleagues [36] reported significant changes in both weight and eating disorder cognition/behavior, with 52.3% of YP reaching the Morgan–Russell criteria for good outcomes at discharge [37]. Five studies with varied sample sizes by Rienecke, Van Huysse, and colleagues [28,38–41] reported findings from the same day hospital program where parents selected all meals and snacks for their child, even for meals where they were not present. Four of these studies reported significant changes in weight [38–41]. The fifth compared a historical control group in FBT-informed PHP with an FBT-informed virtual intensive outpatient treatment (IOP-V) (see Section 3.1.1) and found that both groups improved similarly [28]. Three of the studies measured changes in the EDE score, and two found a significant decrease [38,39]. Only one [38] of the five studies reported the remission rate, with 26% of YP in the day hospital program remitted at the EOT. The criteria for remission were less strict because outcomes were determined at discharge from PHP, before full remission could be expected. In summary, since none of the studies on FBT-informed day hospitals or PHP have compared their findings with findings from standard day hospital treatment or PHP, it is not possible to draw a conclusion regarding whether the involvement of parents in day hospital treatment or PHP enhances the rate of remission. Moreover, the effects of parental involvement may not be measurable by the end of the higher level of care but may enhance the transition to and effectiveness of subsequent outpatient treatment and thus should be evaluated by the end of the total cause of treatment in future studies.

3.1.3. Parent-to-Parent Consultation with Previous FBT Completers

An RCT by Rhodes et al. explored the effect of adding a meeting with a parent who had recently been through FBT with his/her own child [15] (see Section 3.3).

3.1.4. FBT Dosage

Lock et al. compared the effect of a shorter version of FBT (10 sessions) with that of the standard manualized FBT (20 sessions) [16,17] (see Section 3.3).

3.1.5. One-Week Intensive FBT

In an attempt to offer FBT-informed treatment to families living in remote regions, Rockwell et al. reported findings from a five-day intensive FBT-based treatment program with families living in a residential hotel near the clinic [42,43]. Weight changes were reported at mean follow-up times of 9 [42] and 53 months [43]. At the 53-month FU, 65% of the YP had fully remitted.

3.1.6. Separated Family Therapy/Parent-Focused Therapy

Four studies (five papers) [18–21,44] reported on treatments with either parents alone or with parents and YP separately. Four of these are controlled studies (see Section 3.3).

Timko et al. developed a separated family therapy with therapeutic components from both FBT and acceptance and commitment therapy (ACT) [44]. The study found a significant increase in weight and a significant decrease in eating disordered cognition/behavior. At the EOT, half of the YP (48.0%) met the criteria for full remission.

3.1.7. FBT-Based Parental-Guided Self-Help

Four studies examined the feasibility and effectiveness of FBT-based parental-guided self-help [26,45–47]. The self-help modules in all four studies consisted of expert videos and assigned readings, but the level of therapist involvement and length differed. Lock et al. [45] offered 12 short sessions on the phone or online and a parent discussion forum in addition to the self-help material. This was later repeated in an RCT comparing the guided self-help arm with virtually conducted FBT (see Section 3.1.1) [26]. A similar program, but utilizing trainee psychologists, was tested by Wade et al. [46]. Finally, Couturier et al. tested a two-week self-help intervention with no therapist involvement [47].

The four studies on parental-guided self-help all had low power, but three of the studies reported a large effect size for weight gain [26,45,46], two studies reported a large effect size for changes in eating disordered cognition/behavior [26,45], and one study reported a moderate effect size for changes in eating disordered cognition/behavior [46]. Finally, a 2-week intervention produced a significantly different weight gain slope post-treatment compared with the pre-treatment weight gain slope [47]. Full remission was reported in two of the studies (11% [26] and 45.5% [45]). Potential barriers to recruitment were also highlighted, as studies recruited 8.6–31% of eligible families [46,47].

3.1.8. Skills Training for Parents as an Add-On to FBT

Two studies added parent education and skills training to standard FBT [22,48]. Ganci et al. involved a historical control group (see Section 3.3) [22]. Eshkevari described the effect of two forms of group skills training (either 6 weekly sessions or a two-day intensive workshop) for parents of YP with AN either on a waitlist for FBT, currently in FBT, or having completed FBT [48]. As not all YP needed to gain weight, and YP with parents in intensive workshops had a significantly higher baseline BMI, the study did not find any main effect of time on BMI.

3.1.9. Adding Modules from Other Therapeutic Approaches to FBT

In six studies, FBT was complemented by modules from either dialectical behavior therapy (DBT), cognitive remediation therapy, art therapy, cognitive behavior therapy (CBT), or exposure therapy [49–54].

DBT was added in three studies in different settings and formats. Accurso et al. [49] described four skill-focused sessions in a course of 15 sessions of standard FBT. Due to the small sample size (n = 11), no power was calculated, but they found a large effect size for BMI change and a small effect size for change in eating disorder cognition/behavior. At the EOT, 18.2% were fully remitted. Peterson et al. [50] added 6 months of weekly DBT skills group concurrent with FBT and found small effect sizes for changes in weight and eating disorder cognition/behavior. Finally, Johnston et al. [51] offered group DBT skills training with peers and Maudsley FT and reported significant changes in weight and eating disorder cognition/behavior at the EOT. By the one-year FU, 42% of the YP were remitted on both weight and eating disorder cognition/behavior.

YP with obsessive–compulsive (OC) features and/or perfectionism are known to respond more poorly to FBT [16,55]. To improve recovery rates for YP with these features, two studies added modules from other therapeutic approaches targeting cognitive inflexibility [52] or perfectionism [53]. Lock et al. [52] explored the feasibility and effectiveness of adding modules of either art therapy or cognitive remediation therapy to standard FBT for YP with OC features. This study found a significant increase in weight and a significant decrease in eating disorder cognition/behavior in both groups. Hurst et al. [53] added nine modules of CBT aimed at reducing perfectionism to FBT and reported a significant increase in weight and a significant decrease in eating disorder cognition/behavior, with 57% of YP achieving full remission at the EOT. Finally, based on the high comorbidity between AN and anxiety disorders, Hildebrandt et al. explored the effect of exposure-based family therapy (FBT-E) [54]. FBT-E resembles FBT with approx. 20 sessions divided into three phases and with parents in charge of renourishment. However, FBT-E has a more explicit

focus on anxiety and exposure. The study included 10 YPs, 4 of whom were included in the study with a weight greater than 85% of IBW. At the EOT, 90% had reached at least 90% of IBW, and 60% had EDE-Q global scores within 1 SD of published norms. As this study used a less strict definition of weight remission, comparisons are difficult.

3.1.10. Treatment for FBT-Non-Responders or When FBT Is Not Applicable

Two studies examined the results of treatment added when YP have not remitted after the standard dose of FBT or when FBT was not applicable [23]. In a post hoc study by Wallis et al. [56], families of YP not remitted by session 20 chose either additional FBT (ADFBT) or alternative treatment (ALT, individual CBT or supportive psychotherapy). At the 12-month follow-up, there was a significant difference in the rates of remission between the ADFBT group and the ALT group (28.2% in the ADFBT group vs. 14.3% in the ALT group). However, the YP in the ALT group had a significantly lower weight at FBT session 20 than did the YP in the ADFBT group, making a comparison difficult. The study concluded that continuing FBT after session 20 if remission is not achieved can significantly improve remission rates.

A study by Craig et al. [57] considered the effectiveness of CBT for YP where FBT was not fully effective or applicable. The study compared changes in weight and eating disorder cognition/behavior in YP in CBT, who had either not reached full remission in FBT or had never been in FBT due to failure to accept or engage with FBT. At the EOT, there were moderate-to-large positive outcomes across the whole group in terms of weight gain and eating disorder cognition/behavior, and the outcomes were similar regardless of whether the patient had previously undergone FBT or not. The study points to considering CBT as a second-line approach when FBT has either not led to full remission or when FBT cannot be applied.

3.1.11. Stepped Care Models

Two studies explored the effect of a stepped care model. The first compared the findings with standard FBT (see Section 3.3) [23]. In the second, Le Grange et al. [58] reported the results of a stepped care model combining families' choice of preferred treatment and weight-dependent predefined treatment adaptations at week 5 and week 24. The results were compared to data from a former RCT (pooling data from both YP in FBT and in PFT) showing no significant difference in mBMI and global EDE after 24 and 48 weeks of treatment. However, remission rates at 48 weeks differed significantly, with 52.4% of YP in the stepped care model reaching full remission compared to 30.2% of YP in the control group.

3.1.12. FBT Informed Home Treatment

One controlled study [24] reported findings from home treatment as an add-on to standard FBT (see Section 3.3).

3.2. *Types of Modifications to FBT: Summing Up*

The descriptive overview reveals that a variety of very distinct modifications to FBT have been developed. The most extensively researched modification is FBT-informed higher level of care, with 13 studies, followed by, in descending order, studies adding modules from other therapeutic approaches to FBT, FBT by teleconferencing, separated family therapy/parent-focused therapy, FBT-based parental guided self-help, FBT dosage, one-week intensive FBT, treatment for FBT non-responders or when FBT is not applicable, parent-to-parent consultation with previous FBT completers, skills training for parents as an add-on to FBT, stepped care models, and FBT-informed home treatment. Of the 43 included papers, nearly half were published within the last five years, suggesting an increasing interest in modifications within the broad framework of FBT. All studies reported either a significant change in weight or, if the sample size was too small, medium-to-large effect sizes in weight change. Studies including results on changes in ED cognition/behavior

reported either a significant decrease or effect sizes mostly in the medium-to-large range. Finally, the rate of full remission was reported in twelve studies and ranged between 11 and 65%. In general, with the exception of a few small studies reporting either lower or higher rates, the findings fall within the overall expected rate for full remission of 28–50% in standard FBT treatment, according to reviews [9], but should be interpreted with caution due to the scarcity of direct comparisons.

3.3. Studies Comparing a Modified Form of FBT with Standard FBT

3.3.1. FBT by Teleconferencing

Pereira et al. compared families that received virtual treatment during the COVID epidemic to a historical control group of families treated in person [14]. The virtual treatment followed the content of the in-person FBT. However, YP was weighted at home or by the family physician prior to the session. Weight restoration did not differ between the groups after 6 months of treatment or at the 6-month FU. The study tentatively suggested that FBT can be delivered effectively via teleconference.

3.3.2. Parent-to-Parent Consultation with Previous FBT Completers

Rhodes et al. randomized families to either standard FBT or standard FBT with an additional parent-to-parent consultation between week 3 and 5 with a previous FBT-completer parent couple. They found no difference in weight restoration between groups by the end of treatment; however, the parent-to-parent consultation led to an immediate increase in the rate of weight gain [15].

3.3.3. FBT Dosage

Lock et al. randomized YP with AN to either 10 sessions of FBT for 6 months or 20 sessions of FBT for 12 months [16]. The study revealed no difference in mean weight gain or psychological symptoms (EDE-global) at 12 months at the group level. However, participants with a higher score on an obsessive–compulsive questionnaire and participants in nonintact families fared better in the 20-session format. At FU after a varied time (between 2.3 and 6 years), there continued to be no difference between the groups [17].

3.3.4. Parent-Focused Treatment

In 1992, Le Grange et al. randomized YP with AN to either family therapy or family counselling [18]. Both treatment modalities adhered to the principles of FBT, but in family counselling, the parents are seen together, and the YP is seen individually by the same therapist. The study found no difference between the modalities regarding either weight normalization, psychological symptoms, or general psychosocial adjustment of the YP. Following up on the 1992 study, Eisler et al. [19] randomized YPs with AN to either family therapy or family counselling. The study found no difference in overall outcomes. However, the family counselling was superior for families with a high level of critical comments from mothers. Moreover, the conjoint condition produced more psychological changes (e.g., eating disordered thoughts and feelings, mood, and obsessionality). In a five-year follow-up, 75% had no ED symptoms, and there were no significant group differences in outcomes [20]. Le Grange et al. randomized YPs with AN to either standard FBT or parent-focused treatment (PFT). As in the 1992 pilot study, the content of PFT closely followed the principles of FBT, with the notable difference that the therapist met with the parents only [21], and the patient met only for a brief weighing session with a nurse. This study found a significantly higher remission rate in patients who underwent PFT (43% and 22%, respectively). The difference became insignificant by 6- and 12-month FUs.

3.3.5. Stepped Care Model

Lock et al. compared a historical control group with a group where families were offered intensive parent coaching (IPC) if the YP had not gained 2.3 kg or more after 4 weeks of standard FBT [23]. The intervention builds on the finding that YP gaining less in the

first month have a 40–50% lower chance of recovery through EOT [38]. The IPC includes a parents-only session and a repeated meal session focusing on coaching parents. After these steps, standard FBT is continued. By EOT, compared with the historical controls, the IPC group had a significantly greater mean weight gain with a large effect size.

3.3.6. Skills Training for Parents as an Add-On to FBT

Ganci et al. offered a psychoeducation and skills workshop to parents within the first 4 weeks of FBT treatment, aiming to improve parental self-efficacy and early response [22]. The workshop was an interactive 3-h session with two therapists and 4–10 parents and input from a previous FBT completer. The data were matched with historical controls. The study found that weight gain by week 4 of FBT was significantly higher when parents attended the workshop. However, the difference was not significant at week 12 or at the EOT, and there was no difference in treatment length or dropout rate. More YP were recovered by EOT in the workshop condition.

3.3.7. Home Treatment

Pauli et al. offered home treatment (HT) as an add-on to standard FBT to YP with AN in a waitlist-control design [24]. HT was a 12-week intervention with 1–4 visits per week aimed at re-establishing meals and supporting communication. This intervention was compared with YP in standard FBT on a waitlist for HT. The HT group showed a significantly greater weight gain by 3 months. Moreover, none of the participants in the HT group needed hospitalization, while 13.6% of those in the waitlist-control group did.

3.4. Studies Comparing a Modified Form of FBT with Standard FBT: Summing Up

In conclusion, parent-focused treatment is the modification that is most frequently compared with standard FBT to date, and these studies demonstrate that parent-focused interventions are a valid alternative to FBT, as they produce the same or better outcomes, and the format may be more feasible for some families. FBT via teleconferencing tentatively seems to produce similar outcomes as standard FBT, thus making it a good alternative in areas with low access to treatment. Small additions to FBT, such as a parent-to-parent consultation or a workshop, did not improve outcomes, nor did different doses of FBT, but an addition targeting families at risk for non-response improved YP chance of remission, albeit only assessed in one small pilot study, and an addition of home treatment reduced the need for hospitalization. Notably, while different doses produced similar outcomes at the group level, subgroups of patients fared better in one than in the other. Along the same lines, all studies on parent-focused treatment demonstrate that different formats may be better suited for different subgroups, allowing the field to move towards a more personalized delivery of family-based treatments.

4. Discussion

The aim of this scoping review was to provide an updated overview of empirically tested modifications to FBT and to estimate whether these modifications increase the percentage of YP recovering from AN.

The descriptive overview reveals the development and testing of numerous and diverse modifications to FBT, all of which seem to be feasible and efficacious. However, in addressing the review question of whether the tested modifications improve the percentage recovering, only the 11 studies comparing the effects of a modification with those of standard FBT are pertinent. Among the controlled studies, parent-focused treatment is the most extensively researched modification, with findings indicating that seeing the parent alone is as effective as or even more effective than seeing the entire family. Moreover, this format may be more feasible, particularly for younger patients or in families characterized by high levels of conflict or expressed emotion. Similarly, an addition targeting families at risk for non-response improved the chances of YP remitting. Lastly, the addition of home treatment to standard FBT reduced the need for hospitalization.

All of these modifications, both with and without comparison with standard FBT, add to the knowledge base of AN treatment in ways other than remission rates, as they often target features that were previously identified as challenging to the effectiveness of FBT. For instance, access to FBT is often mentioned as the primary challenge, thus underscoring the significance of studies demonstrating that FBT can be successfully conducted via video conferencing. Similarly, FBT principles may be learned and applied by parents within the span of a one-week intensive treatment, and FBT-based guided self-help has the potential to enhance the accessibility of FBT-informed treatment and reduce costs.

The most extensively studied modification type is FBT-informed higher levels of care, and, not surprisingly, these forms are not directly compared with standard FBT, as they address the subgroup of patients not benefiting from an outpatient format. The intention of FBT-informed higher levels of care is to support parental involvement and parent empowerment even in cases requiring more intensive treatment, hopefully making the subsequent transition to outpatient FBT less abrupt.

Another example of targeting features identified as challenging the effectiveness of FBT is the integration of DBT elements. This addition equips families with tools that some find FBT to be lacking, helping parents and YP regulate the intense emotions associated with refeeding.

It is also noteworthy that previous failure to benefit from FBT does not appear to negatively impact the outcome of subsequent CBT, suggesting that CBT is a feasible second-line treatment when FBT cannot be implemented or is ineffective.

The findings from this review indicate that minor augmentations to FBT, such as a parent-to-parent consultation or a workshop, do not lead to increased remission rates at the EOT. However, these parent-support interventions did contribute to a faster rate of weight gain. This finding aligns with existing research on parental self-efficacy, which indicates that an early increase in self-efficacy serves as a moderator for early treatment response [59]. Although not a focus of the present scoping review, these interventions may be beneficial for parents' mental health.

Interestingly, although comorbidity, perfectionism, and cognitive rigidity are demonstrated to be predictors of poor outcomes in the treatment of eating disorders, this review identified no FBT modifications specifically aimed at YP with comorbidity and only two modifications targeting perfectionism and cognitive rigidity, respectively. This highlights the need to integrate the treatment of these conditions into the framework of FBT in the future.

In summary, our primary focus was on estimating whether modifications to FBT lead to improved outcomes at the group level. With the scarcity of studies involving direct comparisons, only parent-focused treatment has been shown to produce the same outcomes as or better outcomes than standard FBT. However, several studies indicate a differentiated response to FBT modifications among different subgroups of patients: parent-focused treatment appears more beneficial for families with critical comments, and a higher dose of FBT appears more beneficial in nonintact families and for YP with obsessive–compulsive features. These results may contribute to the development of a more personalized delivery of family-based treatments.

In future research, the effectiveness of modifications needs to be addressed individually for each modification type to assess whether it (a) enhances the percentage of YP recovering at the group level in direct comparison with standard FBT and/or (b) facilitates the dissemination of FBT principles to other contexts or with other patient groups (e.g., patients living in regions without access to FBT or inpatients) and/or (c) addresses the specific needs of subgroups at risk of less optimal outcomes, e.g., YP comorbidity.

5. Strengths and Limitations

The design of the review as a scoping review encompassing all modifications to single-family FBT represents both a strength and a limitation. The comprehensive nature of the review offers a broad overview of the advancements in the field of FBT modifications.

Simultaneously, the inclusion of diverse modification types, such as FBT-informed higher levels of care or FBT delivered by teleconferencing, complicates the comparison of results across modifications.

6. Conclusions

Previous reviews indicated that modifications to FBT did not increase the proportion of YP recovering. Drawing on the latest research, with this review, we can conclude that certain patient groups *do* achieve a higher remission rate in some FBT modifications. Additionally, the modifications enable the implementation of FBT in alternative contexts and with more severely ill or complex patients.

Supplementary Materials: The following supporting information can be downloaded at https://www.mdpi.com/article/10.3390/psychiatryint5020015/s1, Table S1.

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