Clinical Child Psychology and Psychiatry
2023, Vol. 28(2) 831–849

DOI: 10.1177/13591045221125005
journals.sagepub.com/home/ccp

Family therapy for adolescents with depression and suicidal ideation: A systematic review and meta–analysis

Luxsiya Waraan[1,2], Johan Siqveland[1,3], Ketil Hanssen-Bauer[1,4], Nikolai O Czjakowski[5,6], Brynhildur Axelsdóttir[7], Lars Mehlum[3] and Marianne Aalberg[1]

[1]Division of Mental Health Services, Akershus University Hospital, Lørenskog, Norway

[2]Department of Psychology, University of Oslo, Oslo, Norway

[3]National Centre for Suicide Research and Prevention, Institute of Clinical Medicine, University of Oslo, Oslo, Norway

[4]Institute of Clinical Medicine, University of Oslo, Oslo, Norway

[5]Department of Mental Disorders, Norwegian Institute of Public Health, Oslo, Norway

[6]PROMENTA Research Center, Department of Psychology, University of Oslo, Oslo, Norway

[7]Regional Centre for Child and Adolescent Mental Health, Eastern and Southern Norway, Oslo, Norway

Abstract

Objective: To systematically review and meta-analyze the effectiveness of family therapy compared to other active treatments for adolescents with depressive disorders or suicidal ideation.
Method: We conducted a systematic search of The Cochrane Central Register of Controlled Trials, Medline, Embase, PsycINFO, AMED, CINAHL and Web of Science and performed two meta-analyses of outcomes for depressive symptoms and suicidal ideation.
Results: We screened 5,940 records and identified 10 randomized controlled studies of family therapy for depressive disorder or suicidal ideation in adolescents with an active treatment comparison group. Nine studies reported outcome measures of depressive symptoms and four reported outcome measures of suicidal ideation. The meta-analysis showed no significant difference between family therapy and active comparison treatments for end-of-treatment levels of depression. For suicidal ideation our meta-analysis showed a significant effect in favour of family therapy over comparison treatments for suicidal ideation.
Conclusions: Based on the current body of research, we found that family therapy is not superior to other psychotherapies in the treatment of depressive disorder. However, family therapy leads to significantly improved outcomes for suicidal ideation, compared to other psychotherapies. The evidence for the treatment of depression is of low quality needs more research.

Corresponding author:
Luxsiya Waraan, PhD, Division of Mental Health Services, Akershus University Hospital, P.O. 1000, Lørenskog 1478, Norway.
Email: luxsiya.waraan@ahus.no

Keywords
family therapy, depression, suicidal ideation, systematic review

Depression is one of the most common mental disorders in children and adolescents, with an estimated 1 year prevalence of 2–8% in mid-to late adolescence and almost 20% report having a depressive episode before turning 18 years of age (Hankin et al., 2015; Jane Costello et al., 2006; World Health Organization, 2017). These rates show that depression is a public health issue of considerable magnitude. Suicidal ideation is one symptom of depression, and often recurrent over depressive episodes. Adolescents with depression and suicidal ideation have increased risks for recurrent depressive episodes and suicidal ideation extending into adulthood (Birmaher et al., 2002; Nock et al., 2013). Both depression and suicidal ideation is associated with impaired quality of life and completed suicide.

Adolescents with depression are currently treated with either antidepressants, some form of psychotherapy, or a combination of both. Most treatment guidelines for the treatment of adolescent depression recommend cognitive-behavioral therapy (CBT) as a first line evidence based intervention (National Collaborating Centre for Mental Health, 2019). Although CBT has a strong evidence base for being effective, several meta-analyses have shown that effect sizes are small to moderate (Weisz et al., 2013; Zhou et al., 2015). Interpersonal psychotherapy (IPT) has in later years been shown to be equally effective as CBT or even more effective in some studies (Eckshtain et al., 2020). Even with the best evidence-based treatments for depression, 30–40% of adolescents do not recover and some even get worse (Brent et al., 1997, 2008; Kennard et al., 2009). Treatment of suicidal ideation in depression is rarely specified or directly targeted (Schneider et al., 2020).

Interventions specifically designed to reduce suicidal behavior in adolescents have increased significantly over the past 15 years. There are effective treatment options for adolescents with suicidal behavior and suicidal ideation (Glenn et al., 2019). For instance, dialectical behavior therapy (DBT) adapted for adolescents (this adaptation includes several family focused elements) has been established as effective for reducing suicidal ideation, self-harm and depressive symptoms in adolescents with borderline personality disorder features (Mehlum et al., 2014, 2016). In a recent study by Miklowitz et al. (2020), adolescents at high-risk for developing bipolar disorder, with high baseline suicidal ideation, showed greater reductions in suicidal ideation over 1–4 years when receiving Family Focused Treatment compared to enhanced usual care. In this study, the effects of psychosocial treatment on suicidal ideation were mediated by favorable changes in the adolescents' perceptions of family conflict (Miklowitz et al., 2020). These treatment approaches, that seem to be effective in reducing suicidal ideation, are rarely used when adolescents present with unipolar depression as the primary diagnosis, and severe co-morbid suicidal ideation is present. It is important to determine whether treatment provided for depression also effectively reduces suicidal ideation.

Adolescents suffering from depression often report significant problems in multiple areas of their family functioning. An extensive body of evidence supports the role of family problems in the development, clinical course and maintenance of depression and suicidal ideation in children and adolescents (Brent & Melhem, 2008; King & Merchant, 2008; Restifo & Bögels, 2009; Sheeber et al., 1997). Depressive disorders may be transferred by both genetic and environmental factors (Dunn et al., 2011; Rice et al., 2002). Family therapy, therefore, seems like a logical approach to treat depression in adolescents. A common definition of family therapy is: "… any psychotherapeutic approach that explicitly focuses on altering interactions between or among family members

and seeks to improve the functioning of the family as a unit, and/or the functioning of the individual members of the family" (Cottrell & Boston, 2002). A comprehensive Cochrane review from over a decade ago on family therapy for depression concluded that family therapy is superior to waiting list condition or no treatment (Henken et al., 2007). However, that Cochrane review could not conduct a meta-analysis due to lack of high-quality studies, small sample sizes, and large heterogeneity of interventions and outcomes.

We have not been able to identify any more recent systematic reviews or meta-analysis focusing on family therapy, nor any review of family therapy versus active control treatments for depressed adolescents. Given the important role of families in the development of depression in adolescents, family therapy is frequently offered in treatment of depression. Decisions about the utility of an intervention or the validity of a hypothesis should not be based on the results of a single study. Thus it is important to systematically review the evidence base. Meta-analyses provide a particularly important method to assess the evidence of the effectiveness of family therapy, as all available data are statistically synthesized.

Review aims

In this context, we sought to fill the gap of missing systematic reviews and meta-analysis of family therapy for adolescents with depression and suicidal ideation. Our specific aims were to (i) review clinical trials with family therapy for depression and/or suicidal ideation in adolescents, (ii) examine the effectiveness of family therapy in reducing depressive symptoms/suicidal ideation compared to other active treatment, and (iii) evaluate their methodological quality.

Method

We have registered this study with PROSPERO, number CRD42020207292 and followed the PRISMA guidelines (Page et al., 2021) in all phases of this review process. The PRISMA flow chart is available as Figure 1.

Selection criteria

The inclusion criteria for this review were based on the PICOS (P - Population, I - Intervention, C - Comparison, O - Outcome(s), S - Study Design) framework (Liberati et al., 2009). As for population, we included randomized controlled trials (RCT) that directly compared the effect of a family therapy with the effect of another class of psychotherapy for the treatment of depression or suicidal ideation in adolescents, 9–18 years. Randomized controlled studies where participants (1) met the diagnostic criteria for a depressive disorder, according to a structured diagnostic interview or (2) exceeded a predefined threshold for depressive symptoms in a standardized assessment or (3) reported suicidal ideation, using a validated symptom measure were included. Comorbid mental or somatic disorders were not an exclusion criterion.

Interventions included any family psychotherapy method, regardless of duration and number of treatment sessions. Comparison groups were studies with 'no treatment' comparison groups, e.g., waiting list, placebo, non-intervention group, programs targeting adolescents with depressed parents (where the adolescent was not identified as depressed), maintenance studies, and studies of other types of psychotherapy, were excluded. Detailed inclusion and exclusion criteria are presented in Table 1.

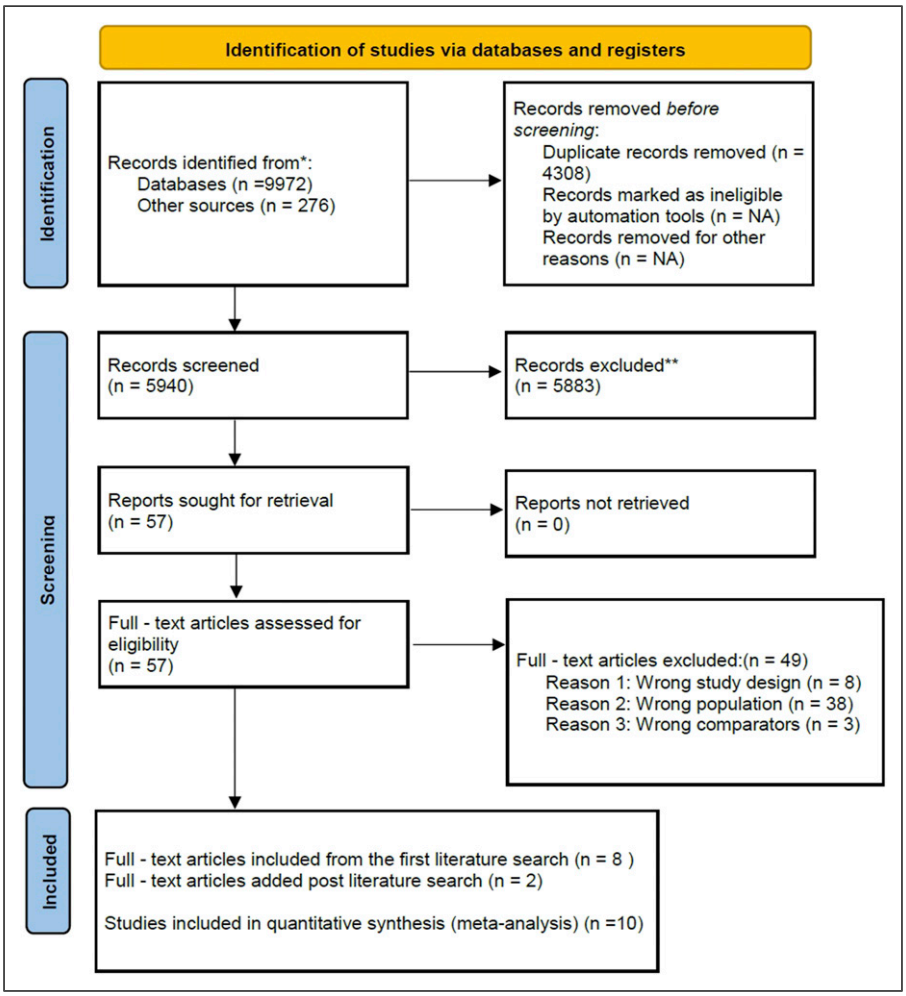

Figure 1. Prisma flow diagram.

Outcomes

The primary outcome was differential change in level of depressive symptoms or suicidal ideation (self- or clinician rated) post-treatment between family therapy and comparison groups. Long-term follow-up measurements of depressive symptoms and suicidal ideation, social functioning, interpersonal relationships, quality of life, adverse events, dropout from treatment, and family conflict were predefined as secondary outcomes.

Search methods for identification of studies

We searched The Cochrane Central Register of Controlled Trials (CENTRAL), Medline (Ovid), Embase (Ovid), PsycINFO (Ovid), AMED (Ovid), CINAHL (EBSCO) and Web of Science from their inception through April 14th, 2020. For grey literature, we searched Open Grey. The trial

Table 1. Selection criteria for including and excluding studies.

Inclusion criteria	
Participants	Adolescents between 9 and 18
Study design	Randomized controlled trials (RCTs)
Setting	All (multi-center and single-center)
Language	English or any Scandinavian languages
Intervention	Any form of family therapy
Comparison	Any active treatment
Diagnosis	Depression disorder diagnoses must be based on a structured assessment according to the criteria of DSM-IV or ICD-10 Or suicidal ideation
Primary outcome	Significant reduction of symptoms of depressive disorder and reduction in suicidal ideation, according to recognized outcome measure instruments
Exclusion criteria	Adults Children (<9) Other mental disorders as the primary diagnoses Studies with no treatment comparison groups e.g. waiting list, placebo or a non-intervention group No family intervention group

registers ClinicalTrials.gov and WHO International Clinical Trials Registry Platform (ICTRP) were also searched for ongoing and unpublished trials.

The search strategy was adapted to each database, using a wide range of search terms, including both index terms and text words for depression, suicidal ideation, adolescents, family therapy and study design. We applied no limits to publication year, language, or publication type. Complete search strategies are available in Appendix I. The bibliographies of all included studies and previous systematic reviews were searched for relevant studies. To reduce publication bias, we included unpublished studies of acceptable methodological quality, by including dissertations.

Data extraction and risk of bias assessment

We extracted information about the publication type, study design, participant characteristics, intervention, control group, and outcome at immediate post-treatment and follow-up to 1 year. If post-treatment mean levels of suicidal ideation and/or depression were presented only in a figure, we contacted the corresponding author and requested the means levels in numbers. In the one instance where our request was not met, the figure was used to derive an estimate of the post-treatment means.

Two independent researchers (LW and KHB) classified the psychotherapy interventions and extracted the key study data using a standardized data extraction form. Version 2 of the Cochrane risk-of-bias tool for randomized trials (RoB 2) is the recommended tool to assess the risk of bias in included randomized trials. Two independent researchers (LW and BA) assessed the risk of bias using RoB 2 from the Cochrane Handbook (Higgins et al., 2019). The risk of bias tool assesses possible sources of bias in randomized trials on five domains; (1) bias arising from the randomization process; (2) bias due to deviations from intended interventions; (3) bias due to missing outcome data; (4) bias in measurement of the outcome; and (5) bias in selection of the reported result. Judgements from all the domains are summarized in an overall judgement on one of three

levels, low risk of bias, some concerns or high risk of bias. Any disagreement on judgement were discussed until consensus was reached.

The quality of the evidence in this systematic review was then graded by two independent researchers, according the Grading of Recommendations, Assessment, Development and Evaluation (GRADE) handbook and we created a 'Summary of findings' (SoF) table (Table 3). In the GRADE system, the following features are assessed; Study limitations (risk of bias): assessing the 'internal validity' of the evidence. Inconsistency: assessing heterogeneity or variability in the estimates of treatment effect across studies;

Indirectness: assessing the degree of differences between the population, intervention, comparator for the intervention and outcome of interest; Imprecision (random error): assessing the extent to which confidence in the effect estimate is adequate to support a particular decision; Publication bias: assessing the degree of selective publication of studies. The quality of evidence is classified as high, moderate, low or very low.

Data synthesis and analysis

We calculated the post intervention bias corrected Hedges' g standardized mean difference (SMD) between control group and intervention group for each study. SMD for each study was calculated and random effects models were fitted using the "metaphor" package (Viechtbauer, 2010) in the "R" statistical computing platform version 4.0.2 (R Core Team, 2020). This pooled SMD was interpreted following Cohen's classification. SMD values of 0.2, 0.5, and 0.8 were interpreted as small, moderate, and large effect sizes, respectively (Cohen, 2013). We calculated separate effect sizes for depression and suicidal ideation. If the trial paper did not report means and standard deviations, we used other statistics to calculate the effect sizes according to recommendations in the Cochrane handbook. As a test of effect sizes heterogeneity, we calculated the I^2—statistic, which is an indicator of heterogeneity, expressed as a percentage. A value of 0% indicates no observed heterogeneity, and larger values show increasing heterogeneity, with 25% deemed as low, 50% as moderate, and 75% as high heterogeneity (Higgins et al., 2003). Q statistics were also used to measure study heterogeneity. We planned to perform subgroup analyses on gender and comorbidity, if the relevant information was provided in a sufficient number of studies. At least 10 studies should be available for each characteristic modelled (Higgins et al., 2019). This is also true for assessing publication bias through funnel plots. Funnel plots are scatter plots of the intervention effect estimates from individual studies on the horizontal axis plotted against a measure of study precision on the vertical axis. Publication bias was assessed by visual inspection of the funnel plots. Higher levels of asymmetry in the funnel plots were interpreted as signs of publication bias. However, we conducted no subgroup analyses, because the groups were too small. We could not analyze any of the secondary outcomes.

Results

We retrieved 10,248 records in the literature search. After removal of 4,308 duplicates, we screened 5,940 records at title and abstract level and excluded 5,883 of these. The first author screened all identified records in addition to two independent researchers (BA and JS), with divergences resolved by consensus. Of the 57 articles assessed in full text, 49 were excluded. In addition, we included two studies that were conducted by four of the authors of this paper, after we had conducted the literature search. Details of the study selection process and reasons for exclusion are provided in the PRISMA flow diagram, Figure 1.

A total of 10 articles were included for full review; two of them reported from the same study, one on depressive symptoms and one on suicidal ideation. The total number of included respondents in the nine studies was 788 (377 in the treatment conditions and 411 in the control conditions). The mean age was 14.73, 65.3 % were female.

Short summary of the family therapy methods in the included studies

Out of the 10 studies meeting our inclusion criteria (Bernal et al., 2019; Brent et al., 1997; Diamond et al., 2010, 2019; Esposito-Smythers et al., 2019; Israel & Diamond, 2013; Poole et al., 2018; Trowell et al., 2007; Waraan et al., 2021; Waraan et al., 2020), three studies reported outcomes on both depressive symptoms and suicidal ideation (Diamond et al., 2010, 2019; Esposito-Smythers et al., 2019), six reported only outcomes on depressive symptoms (Bernal et al., 2019; Brent et al., 1997; Israel & Diamond, 2013; Poole et al., 2018; Trowell et al., 2007; Waraan et al., 2021), and one reported only on suicidal ideation (Waraan et al., 2020). Selected characteristics of the included studies are presented in Table 2.

Treatment duration varied, mostly between 8 and 16 weeks. Two studies investigated longer treatment duration; 12 months, with frequency of sessions decreasing over time (Esposito-Smythers et al., 2019) and 9 months (Trowell et al., 2007).

Five different family therapy models were examined. Bernal et al. (2019) and Esposito-Smythers et al. (2019) used a modified CBT-based family therapy (F-CBT). Poole et al. (2018) used a family systems approach (BESTMOOD) incorporating elements of attachment theory. Trowell et al. (2007) approach, the Systems Integrative Family Therapy, focused on family dysfunction. The most frequently applied therapy method was Attachment Based Family Therapy (ABFT), a family systems approach that also incorporates elements of attachment theory (Diamond et al., 2010, 2019; Israel & Diamond, 2013; Waraan et al., 2020, 2021). Brent et al. (1997) study was the only to have three treatment arms; Systemic behavior family therapy, CBT, and Nondirective supportive treatment. Six studies compared family therapy to treatment as usual or enhanced usual care (Diamond et al., 2010; Esposito-Smythers et al., 2019; Israel & Diamond, 2013; Poole et al., 2018; Waraan et al., 2020, 2021). Two studies compared family therapy to CBT (Bernal et al., 2019; Brent et al., 1997), one study to Family Enhanced Non Directive Therapy (FE-NST) (Diamond et al., 2019)), and one study to individual psychodynamic therapy (Trowell et al., 2007). Of the four studies that reported suicidal ideation as outcome, three examined ABFT (Diamond et al., 2010, 2019; Waraan et al., 2020) and one examined F-CBT (Esposito-Smythers et al., 2019).

Risk of bias

As seen in Figure 2A and B, no study had low risk of bias on all five quality domains. Eight studies had overall "some risk of bias," and only two of the studies had overall "low risk of bias". Bias was related to all five of the domains, especially high bias was detected in measurement of outcome and selection of the reported results.

Outcome assessment

Four studies assessed self-reported depressive symptoms using the Beck Depression Inventory - II (BDI-II, Beck et al., 1996), three studies used the Children's Depression Inventory (CDI, Poznanski & Mokros, 1996), one study used the Grid Hamilton Depression Rating scale (GRID-HAMD, Williams et al. (2008)) and one study used the Short Mood and Feelings Questionnaire

Table 2. Selected basic characteristics of all included studies in the systematic review.

Study	Year	Country	*N*	% Female	Age (M)	Age range	Treatment weeks	Follow up (weeks)	Treatment	Comparison group	Outcome		Results
Bernal et al.	2019	Puerto Rico	121	53.4		[13, 17.5]	12	24, 36, 52, 72	CBT + TEPSI	CBT	CDI	Depression	No difference*
Brent et al.	1997	USA	107	75.7	15.6	[13, 18]	16	No	SBFT	CBT, NST	BDI, MDD	Depression	CBT better then SBFT and NST
Diamond et al.	2010	USA	66	83	15.1	[12, 17]	12	24	ABFT	TAU	SIQ-JR, BDI-II	Depression/ suicidal ideation	ABFT better than TAU
Diamond et al.	2018	USA	129	81.9	14.87	[12, 18]	16	24, 32, 40, 52	ABFT	FE-NST	SIQ-JR, BDI-II	Depression/ suicidal ideation	No difference*
Esposito-Smythers et al.	2019	USA	147	76.19	14.90	[12,18]	24–52	52, 72	F-CBT	E-TAU	SIQ Jr, CDI-2	Depression/ suicidal ideation	No difference*
Israel and Diamond	2012	Norway	20	55	15.60	[13, 17]	12	No	ABFT	TAU	BDI, HAM-D	Depression	ABFT better than TAU
Poole et al	2018	Australia	64	73.4	15.20	[12, 18]	8	12	BEST MOOD program	PAST	SMFQ	Depression	No difference*
Trowell et al	2007	UK	72	38	11.71	[9, 15]	36	24	SIFT	F-IPP	CDI	Depression	No difference*
Waraan et al	2020	Norway	60	86.7	14.90	[13, 18]	16	No	ABFT	TAU	GRID-HAMD	Depression	No difference*
Waraan et al	2021	Norway	60	86.7	14.90	[13, 18]	16	No	ABFT	TAU	SIQ-JR	Suicidal ideation	No difference*

Note: No significant difference between the treatment groups. ABFT: Attachment Based Family Therapy, BDI-II: Beck Depression Inventory – II, CBT: Cognitive Behavioural Therapy, F-CBT: Family-Focused CBT, FE- NST: Family-Enhanced Nondirective Supportive Therapy, NST: Nondirective Supportive Therapy, SIFT: Systems Integrative Family Therapy,F-IPP Focused Individual Psychodynamic Psychotherapy, PAST: TAU -supportive parenting program. GRID-HAMD: GRID – Hamilton Depression Rating Scale, HAMD: Hamilton Depression Rating ScaleSIQ-JR: Suicidal Ideation Questionnaire-Junior, CDI: Children Depression Inventory: SMFQ: The Short Moods and Feelings Questionnaire. TAU: Treatment as Usual.

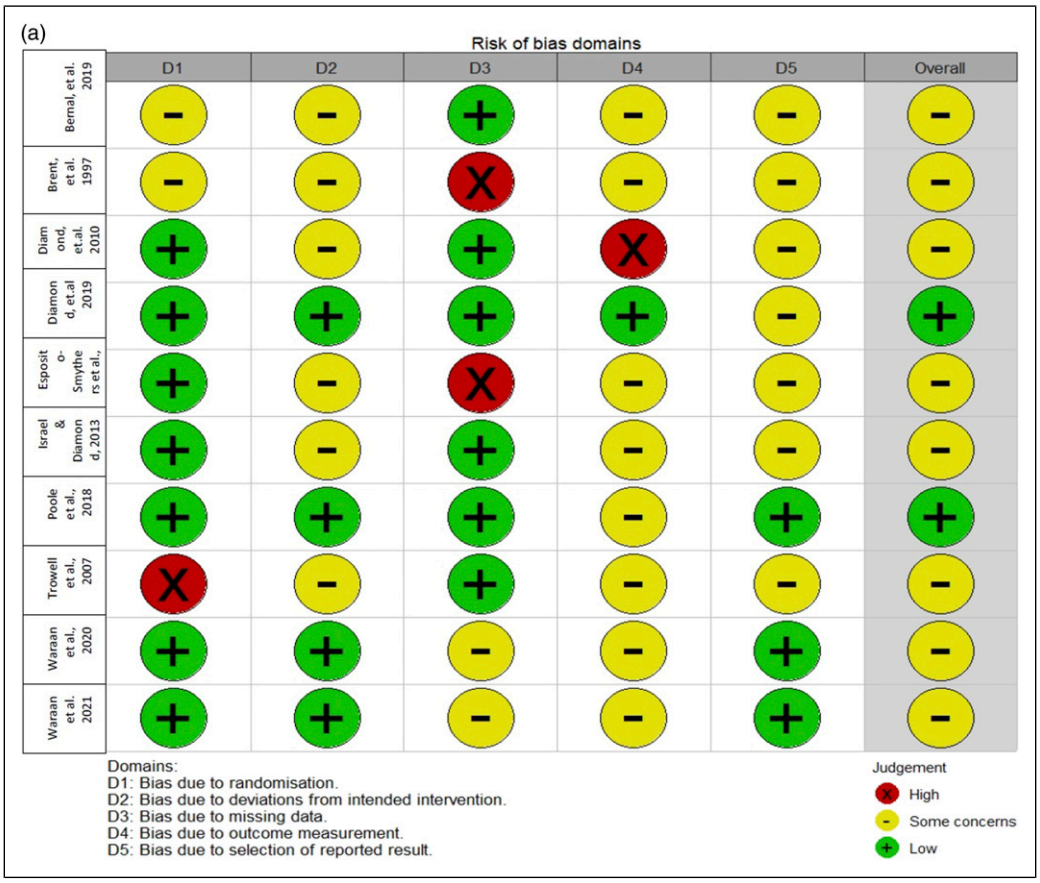

Figure 2. A Risk of bias. B Risk of bias.

(SMFQ; Angold et al., 1995) (See Table 2). All four studies of suicidal ideation used the 15-item SIQ-Jr (SIQ-JR; Reynolds, 1987) for outcome assessment.

As shown in Figures 3 and 4, in comparison to the control treatment, two studies reported superior effects of family treatment (Diamond et al., 2010; Israel & Diamond, 2013), seven studies reported no significant difference in effect (Bernal et al., 2019; Diamond et al., 2019; Esposito-Smythers et al., 2019; Poole et al., 2018; Trowell et al., 2007; Waraan et al., 2020, 2021), and one found family therapy inferior (Brent et al., 1997).

Meta-analysis depression

Family therapy was not superior to the psychotherapy offered in the control conditions in reducing depressive symptoms in adolescents. The nine studies resulted in a mean effect size of g = 0.08 (95% CI: −.10, .27), which was not significant (Figure 3). Heterogeneity was low (I^2 = 36.5) and Q test was not significant.

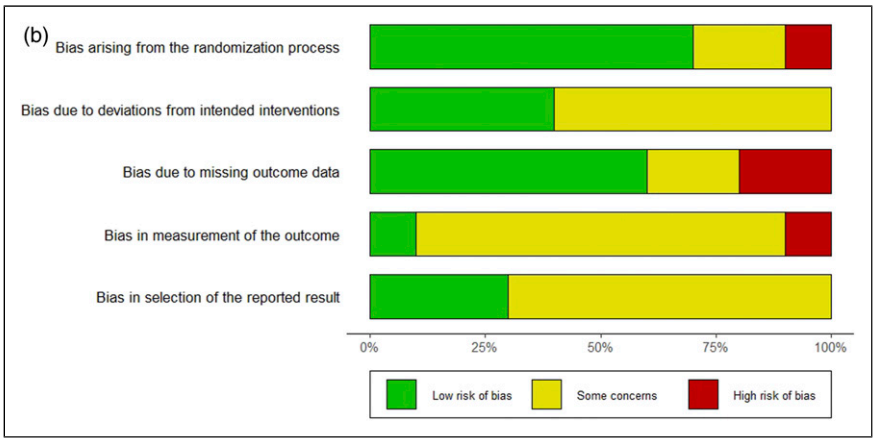

Figure 2. Continued.

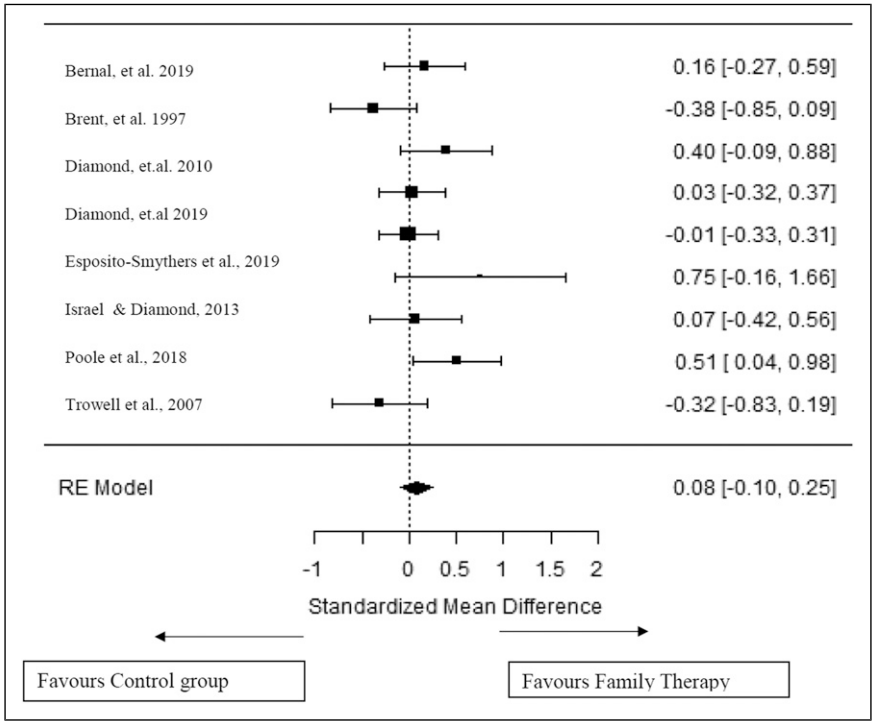

Figure 3. Forest plot of comparing family therapy versus control group outcome change in depression symptoms post-intervention.

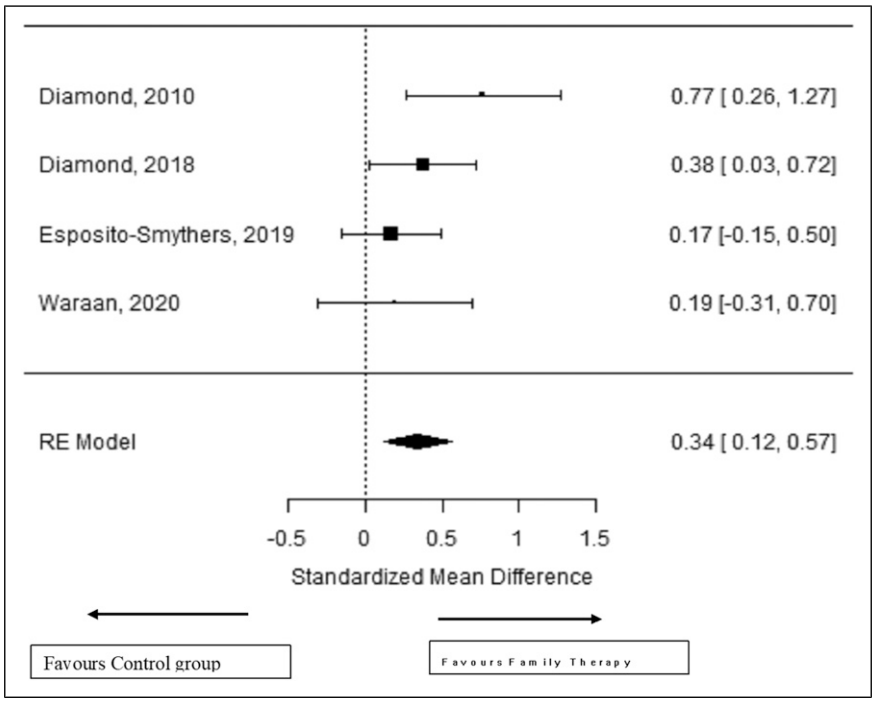

Figure 4. Forest plot of comparison: family therapy versus control group, outcome: change in suicidal ideation post-intervention.

Meta-analysis suicidal ideation

Family therapy was significantly more effective compared to the psychotherapy offered in the control conditions in reducing suicidal ideation (Figure 4). The four studies resulted in a mean effect size of g = .34 (95% CI: .12, .57) with low heterogeneity (I^2 = 19.85) and Q was not significant.

Funnel plots

The funnel plots are shown in Figures 5 and 6. Overall, we found little evidence of funnel plot asymmetry, suggesting a low risk of publication bias. However, these plots must be interpreted with caution, given the low number of studies.

GRADE

The assessment of the evidence is presented in Summary of Findings (Table 3). The evidence of the meta-analysis of the depressive symptoms was downgraded two levels to low because the confidence interval crossed the line of null effect, and there was some concern about risk of bias, as indicated in Rob2. The evidence from the meta-analysis of the suicidal ideation was graded as being of moderate quality, and was downgraded one level to moderate. The quality of evidence was downgraded due to some concerns about risk of bias.

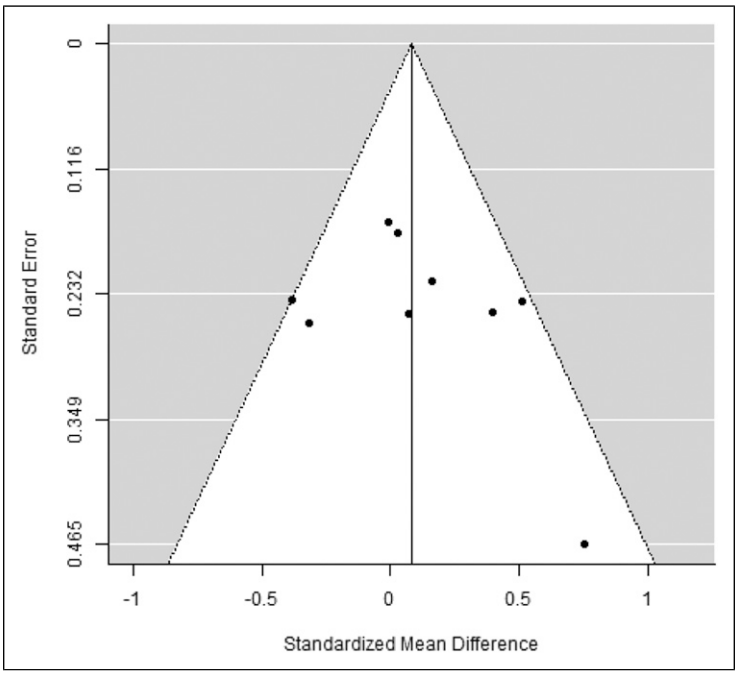

Figure 5. Funnel Plot of the included studies on depression.

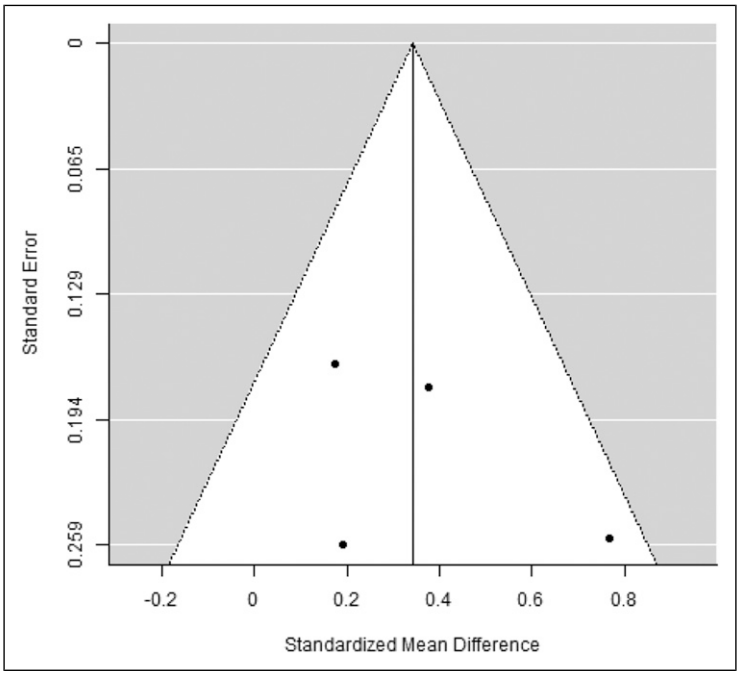

Figure 6. Funnel Plot of the included studies on suicidal ideation.

Table 3. Summary of findings.

Family therapy compared to active treatment or treatment as usual (TAU)					
Participant: Adolescents diagnosed with depression					
Interventions: Family therapy					
Comparison: Another active treatment or treatment as usual (TAU)					
Utfall	Studies (number of participants)	Assumed effect in comparison group	Effect estimates	Certainty of the evidence (GRADE)	Beskrivelse
Symptoms of depression End of treatment	9 studies (786)	—	Hedge`s g= 0.08 (KI 95% −0.10 to 0.25)	⊕⊕⊖⊖[a,c] Low	I^2 = 36.5
Suicidal ideation End of treatment	4 studies (402)	—	Hedge`s g = 0.34 (KI 95% 0.12–0.57)	⊕⊕⊕⊖[a] Moderate	I^2 = 19.8

[a]Downgraded by −1 due to risk of systematic bias.
[b]Downgraded by −1 due to small sample size.
[c]Downgraded by −1 due to due to wide confidence interval effect (95% CI crosses the line of no effect).
[d]Downgraded by −1 due to imprecision and heterogeneity.
[e]Downgraded by −1 due to risk of bias (suspicion of selective reporting bias).

Discussion

Our meta-analysis showed no significant difference in outcomes between family therapy and active control treatments for depressive symptoms in adolescents with depressive disorder. However, we did find a modest and significant effect in favor of family therapy for suicidal ideation compared to other active treatments.

Most studies reported significant reduction of depression over time, but the pooled analysis showed no difference in depression between family therapy and the comparison treatments. Our review excluded studies with waitlist control groups, as waitlist comparison may inflate effect sizes in psychotherapy studies (Furukawa et al., 2014). TAU or other specific therapies are generally regarded as preferable as a comparison condition in psychotherapy trials (Weisz et al., 2013; Zhou et al., 2015). However, studies with TAU control groups may also lead to difficulties, mainly because TAU might differ considerably between studies, which may introduce more heterogeneity in the effect estimates. Several of the included trials did not describe TAU. Two studies reported that TAU in essence worked as a wait-list comparison, as the treatment never really started for many of the patients while they were included in the trial (Diamond et al., 2010; Israel & Diamond, 2013). These two studies reported family therapy to be an efficient psychotherapy method.

There was no indication that treatment effect estimates in the trials of depression included in this meta-analysis were strongly biased, as evidenced by the risk of bias analyses and plots. However, we did note a tendency for trials with a low risk of bias to report a smaller effect size on suicidal ideation. In our risk of bias assessment, only two studies had low risk. Both studies were well conducted RCTs and found no difference between the two treatment groups regarding reduction in adolescents' depressive symptoms. This may point to a more important and commonly occurring problem, that the

content of TAU becomes too similar to the case family-based treatment. Incorporating family sessions in TAU has become the norm for treatment of depression in adolescents. This makes it even harder to establish any superiority of family therapy since the comparison group may receive highly similar treatment. Authors of some of the studies included in this review stated that this could be a limitation in their study (Esposito-Smythers et al., 2019; Israel & Diamond, 2013; Poole et al., 2018).

Another major challenge in interpreting our findings is the diversity of treatment within family-based interventions. Family therapy is not a single treatment method but a generic group of therapies. While they all are based on broad systemic principles, they still probably have important differences, making generalization of the findings across different family-based treatments difficult. Some family therapy approaches are based on a psychoeducational model, which focuses on altering negative attributions about the patient's illness, teaching coping skills, and providing support to patient and family (Bernal et al., 2019). Systemic models view dysfunctional family relationships as causing or reinforcing the depressive symptoms. Consequently, they attempt to restructure dysfunctional patterns of family interaction through various approaches (Brent et al., 1997; Trowell et al., 2007). Attachment based family therapy focuses on ruptures in the relationship between parent and child, and aim to rebuild an emotionally protective, secure-based, parent–child relationship (Diamond et al., 2010). Family-focused CBT does not address developmental needs, rather its emphasis is on psycho-education, problem-solving, cognitive restructuring, behavioral activation, and affect regulation (Esposito-Smythers et al., 2019). However, all included interventions were based on family process models of symptom change, supporting the decision to evaluate the evidence for these approaches together as a broader family modality. There was no significant statistical heterogeneity, suggesting good interpretability of the results. This supports our choice to include different family therapy approaches in one family therapy modality and different comparisons groups as one control.

Only one study found family therapy to be significantly inferior to the control treatment, which was CBT. In Brent et al. (1997) study, where family therapy was a control arm and not the primary focus of the study, CBT was found to be significantly more effective than systemic behavior family therapy and nondirective supportive treatment. CBT is the current treatment of choice for adolescents with depression, and has consistently showed significant but modest treatment effects, hence the results may not be surprising (Weersing et al., 2017; Weisz et al., 2013). Systemic behavior family therapy requires parents and adolescents to identify and express family conflicts resulting in recurrence of some symptoms at mid-treatment. This could be a concern in several of the treatment methods included. From a developmental perspective, one would assume that parental involvement in treatment is important. Yet, it may be that for adolescents who are at a developmental stage of establishing their autonomy and challenging parents, the involvement of parents may not be helpful.

Identifying adolescents who would benefit from a family therapy is important for future research. To conclude that family therapy is more effective than TAU for adolescents with suicidal ideation is premature. Larger studies with better quality, focusing on both suicidal ideation and depression as outcomes are warranted for this conclusion. Most studies do not specifically target adolescents with both depression and suicidal ideation or behavior. Clinical trials for adolescent suicidal behavior are limited in general. Only one of the included studies had MDD as inclusion criterion and assessed suicidal ideation (Waraan et al., 2020). The three other studies included in the meta-analysis of suicidal ideation had suicidal ideation as the primary inclusion criterion, and did not primarily target depressive symptoms. This resulted in insufficient data to conclude whether psychological treatment of depression has an effect on suicidality or not. Given that the rates of psychiatric hospitalizations for adolescent suicidal behavior have increased over the past decade (Plemmons et al., 2018) and a proportion of adolescents who die by suicide do so in the midst of a depressive episode, we need more studies on this population (Ougrin et al., 2015; Restifo & Bögels, 2009). In

this circumstance, providing evidence-based therapy that reduces the symptoms effectively is essential. There are other therapy methods with more solid evidence available for adolescent depressive disorders or suicidal ideation. CBT has emerged as a well-established treatment approach for adolescent. However, this is seldom provided as treatment as usual in CAMHS. Health policymakers might encourage or support health providers, school nurses, and community stakeholders to implement evidence-based treatment approaches as TAU, to decrease the severity of depressive symptoms in adolescents. The next step in psychological intervention research may be to identify mechanisms of these existing psychological interventions in order to enhance their effectiveness.

Strengths and limitations

Among the strengths of this review is that it was protocol driven, based on a comprehensive literature search, and subject to careful risk of bias assessment and rigorous quantitative synthesis. All of the studies included in this review had some methodological limitations. More carefully designed and meticulously conducted studies are necessary to establish the evidence base of a given psychotherapy.

We found insufficient evidence to study the various family therapy approaches. The number and quality of the included studies limit our ability to draw firm conclusions. The wide variety of family therapy approaches included in the review makes the clinical interpretation of the findings difficult. Various methods were used as controls and the comparison group was not clearly defined in all trials. Consequently, some of the studies may have more rigorous control than others which could be a source of heterogeneity.

Conclusion

While the number of studies evaluating the effectiveness of treatments for depression and suicidal ideation has increased, and considerable progress has been made over the past years, the definitive treatment is yet to be established. Family therapy is one widely used approach in the treatment of adolescent depression, but the evidence base is weak.

The current empirical literature supports an integrative approach to therapy with depressed adolescents. This combines an individual psychological treatment such as cognitive therapy or behavioral therapy with pharmacotherapy where required. A family therapy approach that addresses psychoeducation, parent–adolescent relational conflict and attachment issues may also be important in this treatment package. We lack evidence to conclude that family therapy is better than other treatment options for adolescents with depression. Family therapy may be more effective for adolescents with suicidal ideation, but more research is necessary before any firm conclusions can be made. Future trials examining mechanisms of change in psychological treatments may provide essential information to further develop psychological treatments for this population. Future directions include efforts to develop and assess the efficacy of brief and flexible interventions, with focus on precise mechanisms of action, that can be adapted to meet the needs of individuals in different contexts.

Acknowledgements

We are extremely grateful to the assistance of Åse Marit Hammersbøen, librarian at Akershus University Hospital for helping us with the initial literature searches.

Author contributions

LW, BA, JS, and KH-B collected and prepared the data for analysis, planned and conducted the analysis with co-authors. LW, MA, and LM planned the manuscript. LW wrote the manuscript with repeated revisions from

all the authors. NC planned and conducted the analysis. Interpreted the results and critically reviewed the manuscript. All authors have approved the version to be published.

Data availability statement

The data that support the findings of this study are available from Akershus University Hospital. Data are available from the authors upon reasonable request and with permission of Akershus University Hospital.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

ORCID iDs

Luxsiya Waraan https://orcid.org/0000-0003-1019-434X
Johan Siqveland https://orcid.org/0000-0002-0124-8484
Marianne Aalberg https://orcid.org/0000-0003-2719-9411

Supplemental Material

Supplemental material for this article is available online.

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