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Group skills training for parents of adolescents with anorexia nervosa: A pilot evaluation

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Abstract

Objective: This pilot study evaluated group skills training for parents of adolescents with anorexia nervosa, an adjunct to Family Based Treatment (FBT).

Method: Training was provided in two formats (six weekly sessions or a two-day intensive) to 22 parents who were in any way engaged with FBT with their child and had been referred from public and private services providing eating disorder treatment to young people. Program feedback, perceived outcomes of the group, and parental wellbeing were assessed using self-report. Child height and weight were also collected. Data were collected at pre- and post-intervention and 3-month follow-up.

Results: The training was rated as being very helpful and relevant. It resulted in significant perceived improvements in understanding, knowledge, skills, and confidence in managing eating/the eating disorder. No changes in parent wellbeing or child body mass index were found.

Conclusion: Parent group skills training improves understanding, knowledge, skills, and confidence in managing eating/the eating disorder. An intensive format of delivery seems as feasible as the per protocol weekly sessions.

Keywords: anorexia nervosa, family-based therapy, adolescent, group skills training, parents

Key points: what is already known about this topic

1. Current treatments for child and adolescent anorexia nervosa require parents to take a central role in refeeding their child e.g., Family Based Therapy and Parent Focused Therapy.
2. Research in the UK (Nicholls & Yi, 2012) has demonstrated that parent group skills training provided as an early intervention adjunct to treatment improves early weight gain in children and better treatment outcomes.
3. To date, the impact of the group on carer wellbeing has not been evaluated.

Key points: what this topic adds

4. This Australian study was the first pilot study outside of the UK to evaluate this group skills training for parents of children with anorexia nervosa, demonstrating that parents find it very helpful and relevant, and increased perceived improvements in understanding, knowledge, skills, and confidence in managing their child's eating/eating disorder.
5. An intensive format for group skills training seemed as acceptable to parents as weekly meetings.
6. There was no impact on carer wellbeing and future groups should seek to include content on self-care.

Parental involvement is recommended for adolescents with eating disorders, especially for anorexia nervosa (Hilbert et al., 2017). While older models of treatment viewed the family as part of the problem, contemporary, evidence-based treatment models view the family as partners in treatment provision, where skills training is required to correct any responses of the family to the eating disorder that may unintentionally contribute to perpetuating the illness (Herpertz-Dahlmann et al., 2021). It is postulated that families become reorganised around anorexia nervosa (Eisler, Lock, & Le Grange, 2010), where families typically describe trying numerous strategies to help their child eat, with an increasing experience of ineffectiveness, and a diminishing sense of being able to meet the life-cycle needs of the whole family. This loss of agency and sense of helplessness is palpable in families presenting for treatment. Therefore, an important aspect of treatment is upskilling families to tackle the anorexia nervosa in a united, consistent, supportive and effective fashion.

Two frontline treatments for child and adolescent anorexia nervosa exist. The first is Family Based Therapy (FBT; Lock, 2019), along with equally effective variants: Parent Focused Therapy (Le Grange et al., 2016) and Multi-family Group Therapy (Eisler et al., 2016). These treatments emphasise helping the parents to take a lead in managing their child's eating in the early stages of treatment and making clear that this is an expression of care and not control (Eisler et al., 2016). The second is enhanced cognitive behaviour therapy adapted for adolescents (Dalle Grave & Calugi, 2020), which has been found in a non-randomised trial to be equivalent to FBT (Le Grange et al., 2020). The main goal of the adapted CBT-E is to actively involve patients to achieve a healthy weight and make lasting improvements in the psychopathology underlying their eating disorder, with involvement of the parents focused on providing support to the child to implement the treatment (Dalle Grave et al., 2019).

Given that FBT relies substantially on parental skills to manage a child's eating, but the wait for FBT is often lengthy, some services have evaluated alternative approaches. To this end, a group parenting protocol (Nicholls, 2012) has been developed and evaluated as an adjunct to treatment. An

evaluation of thirty-six parents completing the group in the United Kingdom found significant improvements in knowledge, skills, confidence, understanding, child's adherence to meal plans, and improving support (Nicholls & Yi, 2012). A second evaluation (Rosello et al., 2020), with 143 new referrals of children with anorexia nervosa or atypical anorexia nervosa to the Surrey Child and Adolescent Eating Disorder Service, offered the group program as an adjunct to weekly meetings with a mental health nurse where children were weighed, changes to meal plans were agreed, and the child psychiatrist facilitated thirty minutes of 'troubleshooting' issues that had arisen in the previous week. Sixty-four young people who elected to take part (45%) showed significant improvements in body mass index (BMI) and global eating disorder psychopathology over a 6-month follow-up period.

The current pilot study adds to this literature, investigating outcomes related to the skills group for parents intending to do, or had commenced/completed, FBT with their child with anorexia nervosa (including atypical anorexia nervosa). In addition to the same 6-item qualitative feedback questionnaire used in the Nicholls and Yi (2012) study, we included the child's BMI and a variety of measures of the parents' wellbeing. Two groups were run, which differed in format but not content. The first group was run as per protocol with six weekly sessions and the second group was run as a two-day intensive. This latter format was requested by some parents as being more convenient, particularly those in rural and remote areas as weekly attendance was not feasible due to distance and commute times and was also more likely to meet urgent need in the family. We seek to replicate and expand on Nicholls & Yi (2012) in the following ways. First, we examined self-reported improvements in self-reported knowledge, skills, confidence, understanding, child's adherence to meal plans, and improving support (Nicholls & Yi, 2012), as well as the child's BMI (Rosello et al., 2020). Second, we additionally assessed parent wellbeing.

MATERIALS AND METHODS

Setting

Parents of adolescents with anorexia nervosa

This pilot study is an uncontrolled case series design where parents with an adolescent with anorexia nervosa registered to take part in a closed group skills training program delivered by the Statewide Eating Disorder Service in collaboration with the Child and Adolescent Mental Health Service. Participants were recruited from the Statewide Eating Disorder service, Child and Adolescent Mental Health Service, as well as other local private services providing eating disorder treatment and care to young people. In line with the National Health and Medical Research Council “Ethical Considerations in Quality Assurance and Evaluation Activities” policy (March 2014), ethics approval was not necessary for routine data collection to evaluate programs offered in these services.

Participants

Eligibility criteria was for families in any way engaged with FBT, including currently engaged, on the waitlist, actively seeking, or having completed/ceased FBT. Child and adolescent healthcare providers were emailed a flyer advertising the skills group and could then complete an attached referral form for any interested families that were eligible. There was no limit to maximum group size and workshops were offered sequentially to parents on the waitlist. The first two workshops followed the protocol format of six weekly sessions that ran for 1½-hours each (N=11 parents from 9 families), as outlined in Nicholls and Yi (2012). The third and final workshop was a two-day intensive that ran for 7-hours each day, with the inclusion of breaks (N=11 parents from 7 families). Between the two group formats, there were parents of three male and thirteen female children. Total attendance included six couples, and ten families where only one parent was represented (N=16 families, 15 mothers, 6 fathers, and 1 stepmother). All children lived with their parents. The mean age of children was 14.8 years (SD=1.3), ranging from 12.6-16.8. The mean age of parents was 45.5 years (SD=3.4). Children had a diagnosis of anorexia nervosa (N=14) or atypical anorexia nervosa (N=2) and were required to have completed a comprehensive assessment and be in the care of an appropriate medical practitioner (GP and/or paediatrician) for medical monitoring

throughout parent participation. The duration of the eating disorder ranged from 4 to 42 months, with a mean of 11.53 months (SD=9.3). The mean BMI centile was 36.2 (SD=36.4) ranging from 0.54 to 96.5. The mean BMI was 19.0, ranging from 14.3 to 25.1. Comorbidities for N=12 children included OCD (N=7), anxiety (N=4), and ASD (N=1). A risk assessment for suicide, self-harm, and harm to others was completed at the point of referral and categorised children into “nil” (N=5), “low” (N=9), or “moderate” (N=1) risk, with an assessment missing/unspecified for N=1 child. Additionally, six children had one or more previous inpatient hospital admissions. Fifty percent of the parents had a university degree (N=7) or postgraduate qualification (N=4). The mean 2016 Socioeconomic Indexes for Australia (SEIFA) value, which is standardised to a distribution with a mean of 1000 and SD of 100, was 1009.2 (SD=70.05). Ten families (62.5%) reported receiving or being about to receive FBT, three reported receiving outpatient therapy with a psychiatrist, and one family reported no current therapy.

Intervention

The intervention followed the content of the Nicholls and Yi (2012) protocol. The content is summarized in **Table 1**. It was delivered by two skilled practitioners (AL and EE) and the specified themes were supported by use of handouts and other visual material, as well as a presentation from a parent who had completed FBT. Parents were also provided with a copy of *Help Your Teenager Beat an Eating Disorder* (Lock & Le Grange, 2015). Topics were introduced by the therapists, followed by guided discussion about the relevance of the topic to those present, where all parents were invited to contribute.

Assessment

All assessments occurred at the start of group, at completion of the group, and at 3-month follow-up, except for program feedback which was collected at completion of the group only. The program feedback questions as well as the perceived outcome of the group adopted questions used by

Nicholls and Yi (2012), and the parental wellbeing measures had been used previously in an evaluation of an online intervention for families where a member had an eating disorder (Hoyle et al., 2013).

Program feedback

Three questions were rated on an 8-point scale, namely “Overall, I would rate this group as (0=unhelpful, 7=very helpful)”; “The amount of information in the group was (0=too little, 7=too much)”; “The relevance of this group to my child's eating difficulties was (0=irrelevant, 7=very relevant)”. There were 8-items with a dichotomous choice (helpful, not helpful) including: opportunity to express personal experience, distinct weekly topic, formal teaching, information about eating disorders, information on how to manage eating disorders, group participation and discussion, meeting other parents, and flexible format. There was a chance for comments for each of these questions, as well as for a question that asked: “Was there anything about the group that was particularly useful to you?”

Perceived outcomes of the group

Answered on 7-point Likert scales, the following 6 questions were used: (1) Overall, my understanding of eating disorders is (limited to thorough), (2) My knowledge about what to do to manage my child's eating disorder is (limited to very good), (3) My skills/abilities to manage my child's eating/eating disorder is (limited to very good), (4) My confidence in managing my child's eating/eating disorder is (low to high), (5) My child eats what is expected of them according to their meal plan (never to all of the time), (6) The level of support I have in managing my child's eating disorder is (low to high).

Parental wellbeing

Level of Expressed Emotion scale (LEE). The 38-item LEE (Gerlsma & Hale, 1997; Gerlsma et al., 1992; Hale et al., 2011; Startup, 1999) was developed to provide an index of the perceived emotional climate in a person's influential relationships (Cole & Kazarian, 1988). Four dimensions are assessed: perceived lack of emotional support, perceived intrusiveness, perceived irritation and perceived criticism. The LEE was completed by carers to rate their own perceived levels of EE. A 4-point Likert response scale was used, including "true", "more or less true" more or less false", and "false", with high total scores indicating higher levels of expressed emotion. Thorough evaluation of the LEE scale is complicated by the fact that not all investigators use the LEE in its standard form, either reducing the items or replacing the true–false format with Likert scale responses, but LEE scores from siblings and parents has not been shown to predict change in body weight in adult women with anorexia nervosa (Moulds et al., 2000). The correlation between the total score on the LEE completed by family members of a person with schizophrenia and the number of critical comments relatives made during the gold-standard measure of EE, the Camberwell Family Interview, was .38 (Kazarian et al., 1990). Cronbach's alpha in the current study was .90.

Depression Anxiety Stress Scales-21 (DASS-21). The DASS-21 (Lovibond & Lovibond, 1995) measures the principal symptoms of depression, anxiety and stress, each assessed by 7 items, where respondents are asked to rate how much a statement has applied to them over the past week on a 4-point Likert-type scale: "Did not apply to me at all" (0), "Applied to me to some degree, or some of the time" (1), "Applied to me a considerable degree, or a good part of the time" (3) and "Applied to me very much, or most of the time" (4). The psychometric properties of the DASS have been supported by research in adult samples with anxiety and depression (Antony et al., 1998; Clara et al., 2001). Use of the three subscales (depression, anxiety, and stress) have been validated (Henry & Crawford, 2005) and Cronbach's alphas in the present study were .82 (depression), .78 (anxiety), and .86 (stress).

Eating Disorder Symptom Impact Scale (EDSIS). The EDSIS (Sepulveda et al., 2008) is a

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24-item questionnaire that assesses the impact of specific eating disorder behaviours and is divided into four subscales: impact of starvation, guilt, social isolation and dysregulated behaviours.

Cronbach's alphas for these subscales range from .84 to .90 (Sepulveda et al., 2008), and it correlates moderately with psychological distress ($r=.33$) and the Experience of Care Giving Inventory (Szmukler et al., 1996), $r_s = .42$ to $.60$. The total score, used in the current study, falls between 0 and 96 with higher scores indicating more negative appraisals on specific aspects of care giving.

Cronbach's alpha in the current study was .91.

Experience of Care Giving Inventory (ECGI). The 52-item ECGI (Szmukler et al., 1996) is a 66-item self-report questionnaire, designed to assess both the positive and negative experiences of the respondents' care giving. Respondents rate the perceived frequency of specific care-giving experiences on a scale of 0, meaning 'never', and 4, meaning 'nearly always'. The negative experiences subscale asks respondents to rate experiences in relation to difficult behaviours, negative symptoms, stigma, problems with services, effects on the family, the need to provide back-up, the level of dependency of the person being cared for, and the sense of loss. The total score for the negative subscale falls between 0 and 208, with higher scores demonstrating an appraisal of more negative experiences. The positive subscale contains 14 items designed to measure positive personal experiences in the caring role and a good relationship with the person being cared for. The total score for the positive subscale falls between 0 and 56, with higher scores indicating more positive experiences. A brief version of the ECGI has shown a four-factor inventory with a good model fit, displaying good reliability and validity (O'Driscoll et al., 2018). Cronbach's alphas in the current study were .94 (negative subscale) and .78 (positive subscale).

Weight and height of the child

We report initial BMI percentiles for height and weight, calculated for each child, but BMI was used in the repeated measures analyses. This variable was viewed as indicating successful outcome if it had increased over time in underweight children.

Data analyses

Linear Mixed Model (LMM) analyses were performed to evaluate changes over time. LMM are robust in handling missing data and unbalanced designs in repeated-measures research (Nich & Carroll, 1997), using expectation maximization (EM), which provides joint linear modelling for each individual for observed *and* missing data based on maximizing likelihood for population parameters as a function of observed data (Norusis, 2007). It also does not assume observations are independent, as is the case with traditional ANOVA techniques (Gueorguieva & Krystal, 2004). An assumption is that data are missing at random. Time was entered as a fixed effect. We report within-group effect sizes (Cohen's *d*) and 95% confidence intervals (CI) calculated using means and standard deviations and adjusting for correlations between baseline and end of treatment observations (Lenhard & Lenhard, 2016).

Results

Program feedback

The group was rated as being very helpful ($M=6.84$, $SD=0.38$), with just about the right amount of information ($M=4.58$, $SD=1.12$), and being very relevant ($M=6.50$, $SD=0.89$). Everyone (100% of respondents) found it helpful to have the opportunity to express personal experience, receive information on how to manage eating disorders, have group participation and discussion, and to meet other parents. In response to the question, "Was there anything about the group that was particularly useful to you?", verbatim responses from parents included: "Don't feel alone, gives me the strength to keep going", "how to communicate, realising anorexia nervosa is a different state of being", "being able to ask questions of qualified and knowledgeable people", "tips and anecdotes from other families", "2-day sessions worked far better for me than a program that went over weeks would have been", "learning how to speak to our daughter", "very supportive environment", "safe and caring environment".

Perceived outcomes

The observations over the three time points are summarised in **Table 2**. Only four main effects of time were observed for outcome variables related to understanding ($d=0.22$, 95% CI: -0.37, 0.82), knowledge ($d=1.19$, 95% CI: 0.55, 1.83), skills ($d=0.48$, 95% CI: -0.12, 1.08), and confidence ($d=0.86$, 95% CI: 0.25, 1.48). It can be observed that the intensive group showed better outcomes on five of the six outcomes at 3-month follow-up.

Parental wellbeing

There were no main effects of time for any parent wellbeing measures, as shown in **Table 2**. It can be observed that the intensive group showed better outcomes on five of the seven variables at 3-month follow-up.

Child's body mass centile

While there was no main effect of time for BMI (**Table 2**), it can be seen that the weekly group showed improvement to a healthier range over the 3-month period, while the intensive group showed BMI maintenance in the healthy range over this time period.

Discussion

This pilot study was the first to evaluate this group skills training in Australia for parents whose children had anorexia nervosa – both low weight and atypical. The qualitative commentary suggested that the content of the group was very acceptable and helpful to parents. Regardless of the format (weekly or a two-day intensive), parents reported significant improvements in their understanding of eating disorders, knowledge about managing their child's eating disorder, as well as skills/abilities and confidence in managing the eating/eating disorder, replicating the first evaluation (Nicholls & Yi, 2012). We found no change to parental wellbeing or the child's body mass centile over time.

Given a lack of impact on parental wellbeing, it may be desirable to include additional content on personal care and coping in skills groups. An eating disorder has a profound effect on the family, affecting daily life (Whitney et al., 2005) and producing high levels of psychological distress (Kyriacou et al., 2008; Whitney et al., 2007) and feelings of inadequacy (Sepulveda et al., 2008). Carers of a person with anorexia nervosa have been shown to experience higher levels of psychological distress in comparison to the carers of people with other types of severe mental illness (Haigh & Treasure, 2003; Treasure et al, 2001). A variety of interventions have been developed for families of adults with anorexia nervosa, including intensive workshops incorporating the narratives of the carers' experiences (Whitney et al., 2005), helping carers and families to improve motivation and facilitate change (Sepulveda et al., 2010), and using web-based programs to increase skills and coping (Grover, Naumann, et al., 2011; Grover, Williams, et al., 2011; Hoyle et al., 2013). A meta-analysis of such interventions showed that they produced a moderate reduction in carer distress and a small/moderate reduction in carer burden and expressed emotion at post-treatment and follow-up (Hibbs et al., 2015). Integration of some content from these interventions into a skills group for parents of adolescents may increase benefit for parents.

Qualitative feedback suggested that the intensive group was as acceptable as the weekly group, and indeed was preferred by some parents. There were a number of indications that the intensive format of delivery may be as good if not more effective than the weekly delivery, given systematically better scores at follow-up. It is of interest to note that, for parental wellbeing measures, the intensive group showed change in the right direction on all measures with the exception of the positive and negative experiences of caregiving, while the weekly group experienced deterioration on all but three of the seven measures. An adequately powered study would be required to test if there are any significant differences in benefit of the two formats.

The findings should be interpreted in the context of a major limitation, relevant to all the evaluations conducted to date, namely the inability to disentangle results from co-occurring treatment.

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These findings do suggest, however, that parents find skills groups to help them refeed their child with anorexia nervosa to be beneficial. These groups may be efficient to utilise while families are on waitlists for treatment, given these have increased substantially as a result of COVID. Future research should use a randomised controlled trial design to examine the use of a skills group with appropriate medical support (e.g., Rosello et al., 2020) compared to FBT with appropriate medical support, in order to more accurately gauge the resources required for effective recovery, along with an examination of moderators that can inform who needs more intensive support. Additionally, future research should compare various forms of content of such skills groups that can increase parental and carer wellbeing.

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Table 1: *Content of the family group intervention*

Session #	Content
1	Psychoeducation about EDs including medical complications and myths
2	The impact of the ED on the family and recognition of parents' own responses, using your strengths
3	Understanding change and motivational principles
4	Communication skills
5	Effective meal planning and re-feeding
6	Exploring maintaining behaviours

Table 2: Repeated measures with within-group effect sizes corrected for correlated observations

Variable	Intensive group (n=11)			Weekly group (n=11)			Collapsed groups baseline to follow-up	
	Baseline	End of group	3-month FU	Baseline	End of group	3-month FU	Main effect	Within-group ES
	M (SE)	M (SE)	M (SE)	M (SE)	M (SE)	M (SE)	time, F (df)	Hedge's g (95% CI)
Understanding	4.27 (0.77)	6.09 (0.77)	5.56 (0.78)	5.10 (0.77)	5.30 (0.77)	5.00 (0.81)	4.09 (2,52) ^a	-0.42 (-0.86: 0.01)
Knowledge	4.46 (0.43)	6.00 (0.43)	6.00 (0.48)	4.00 (0.45)	4.90 (0.45)	4.57 (0.54)	4.35 (2,52) ^a	-0.43 (-0.79: -0.07)
Skills	3.73 (0.80)	5.91 (0.80)	5.44 (0.81)	3.90 (0.80)	4.70 (0.80)	4.57 (0.84)	10.08 (2,52) ^b	-0.77 (-1.31: -0.23)
Confidence	3.56 (0.34)	6.00 (0.34)	5.11 (0.38)	4.10 (0.36)	4.60 (0.36)	4.57 (0.43)	9.27 (2,52) ^b	-0.66 (-1.25: -0.07)
Eats expected	4.09 (0.65)	5.09 (0.65)	4.67 (0.72)	4.40 (0.68)	5.20 (0.68)	4.71 (0.81)	0.92 (2,52)	-0.11 (-0.32: 0.10)
Support	4.46 (0.41)	5.73 (0.41)	5.11 (0.45)	4.80 (0.43)	5.20 (0.43)	4.86 (0.51)	2.04 (2,52)	-0.21 (-0.71: 0.28)
Expressed emotion	2.11 (0.11)	2.02 (0.11)	1.99 (0.11)	2.00 (0.11)	1.92 (0.11)	1.96 (0.13)	0.36 (2,48)	0.18 (-0.11: 0.47)
Depression	0.91 (0.15)	0.99 (0.16)	0.84 (0.17)	0.98 (0.17)	0.82 (0.16)	1.03 (0.19)	0.03 (2,50)	0.22 (-0.19: 0.62)
Anxiety	0.79 (0.14)	0.79 (0.15)	0.60 (0.16)	0.64 (0.16)	0.57 (0.15)	0.74 (0.18)	0.04 (2,50)	0.37 (-0.12: 0.86)
Stress	0.96 (0.20)	0.88 (0.21)	0.75 (0.22)	1.05 (0.22)	0.87 (0.21)	1.20 (0.25)	0.20 (2,50)	0.27 (-0.16: 0.71)
Symptom impact	1.64 (0.19)	1.60 (0.20)	1.46 (0.21)	1.59 (0.21)	1.43 (0.20)	1.61 (0.24)	0.14 (2,50)	0.27 (-0.14: 0.67)
-ve experiences	1.98 (0.19)	2.04 (0.20)	1.91 (0.21)	1.78 (0.21)	1.57 (0.20)	1.72 (0.24)	0.10 (2,50)	0.23 (-0.25: 0.71)
+ve experiences	2.27 (0.17)	2.59 (0.18)	2.31 (0.19)	2.43 (0.19)	2.40 (0.18)	2.51 (0.21)	0.33 (1,50)	0.05 (-0.36: 0.45)
Child's BMI	21.14 (1.64)	-	21.09 (1.67)	17.19 (1.67)	19.20 (1.85)	19.69 (2.63)	1.22 (2,29)	

Note: Within group effect size (ES) and 95% confidence intervals (CI) not calculated for BMI given the different starting values for each group which meant children in the intensive group did not necessarily need to gain weight; ^a = p<.05; ^b = p<.01