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The Participation of Mothers, Fathers, and Siblings in Family-Based Treatment for Adolescent Anorexia Nervosa

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In family-based treatment (FBT) for adolescent anorexia nervosa, all family members are encouraged to attend sessions with the understanding that absences negatively impact treatment. There are, however, many obstacles to family members’ attendance, and there is no research to indicate whether family member attendance improves treatment outcomes. We examined attendance patterns of 198 families who participated in FBT at a specialist pediatric eating disorders program and assessed the extent to which participation by mothers (n = 194), fathers (n = 175), and siblings (n = 165; 50% female) predicted outcome. All mothers attended at least one session, and 74% attended all sessions. By comparison, 95% of fathers and 73% of siblings attended at least one session, and 33% of fathers and 1% of siblings attended all sessions. The mean proportion of sessions attended was 94% for mothers, 72% for fathers, and 20% for siblings. Over 6 months of treatment, the proportion of mothers who attended each session was largely stable; fathers’ attendance declined slowly, and siblings’ attendance declined more rapidly. Greater attendance by fathers predicted higher weight and lower eating disorder symptoms in adolescents at end of treatment. Remission at end of treatment was associated with higher attendance by fathers (M = 81% vs. M = 69%). Achieving sustained engagement of the whole family system in FBT is a considerable challenge. However, this study demonstrates that implementing processes that encourage and enable family members to attend treatment sessions could have significant benefits for patient outcomes.

Although early models of family therapy for anorexia nervosa (AN) focused on addressing problematic aspects of the family that were believed to contribute to the development and maintenance of AN (Minuchin, Rosman, & Baker, 1978; Palazzoli, 1974), more recent models have focused on reducing blame and utilizing the family as a resource for recovery (Eisler, Dodge, & Wallis, 2015). One such model is family-based treatment (FBT) for AN (Lock & Le Grange, 2013). This model currently has the strongest evidence based for effective treatment of medically stable adolescents (Lock, 2015). In FBT, parents play a central role in restoring their child’s health, and siblings are...
encouraged to provide emotional support to their ill sibling. The FBT manual places a strong emphasis on having all family members attend every treatment session due to the putative impact of absences on treatment process and outcome (Lock & Le Grange, 2013). Indeed, the manual states that having every member attend sessions is “the therapist’s first goal” (p. 44). Despite the perceived value of having every family member involved in treatment, there are no published data on family member participation in FBT to gauge how well this goal is achieved in clinical practice. Most surprisingly, there is also no evidence about the effect of family participation on patient outcomes.

**IN INVOLVEMENT OF FAMILIES IN CHILD & ADOLESCENT TREATMENTS**

**Parent Involvement in Treatment**

In contrast to eating disorders, which have received virtually no attention, a modest body of research has examined the involvement of mothers and fathers in psychotherapy for other childhood emotional and behavioral disorders. This research shows that mothers are more involved in their child’s treatment than fathers. For example, one study reported that although mothers participated in treatment sessions for their child 59% of the time, fathers participated 30% of the time (Duhig, Phares, & Birkeland, 2002). Although mothers have carried the primary responsibility for their child’s health care, over time fathers’ involvement has increased as women’s participation in the workforce has grown (Bailey, 1991; Moore & Kotelchuck, 2004). Several benefits of paternal involvement in treatment have been suggested, including improved child outcomes and greater maintenance and generalization of treatment effects (Bagner, 2013; Bagner & Eyberg, 2003; Heubeck, Watson, & Russell, 1986). Factors influencing fathers’ involvement are thought to include his personality, family and work roles, perception of the therapist’s competence and the need for therapy, the ethos of the clinic, and his and the therapist’s family of origin experiences (Heubeck et al., 1986; Phares, Fields, & Binitie, 2006; Walters, Tasker, & Bichard, 2001).

**Sibling Involvement in Treatment**

Research on the involvement of siblings in family therapy for child and adolescent mental health difficulties is even sparser. Just one study has reported on the attendance rates of siblings during family therapy at a child and adolescent psychiatric clinic, finding that 62% of siblings attended at least one session, whereas just 14% attended three or more sessions (Gustafsson, Engquist, & Karlsson, 1995). Although there are no published data on sibling attendance at FBT sessions for AN, one study reported that clinician’s ratings of sibling support during FBT did not predict patient weight gain (Ellison et al., 2012). This same study found that clinician-rated parental unity (i.e., the degree to which parents are in agreement and working together) predicted greater patient weight gain, suggesting that parental involvement may be more important to child outcomes than the support of siblings. However, the specific ways in which siblings were deemed to provide support (e.g., by attending treatment with their family) were not described.

**Involvement of the Whole Family in FBT**

Despite the sparseness of research, the involvement of the whole family continues to be framed as an important feature of FBT. The perceived need for attendance of both parents may be attributable to the fact that much of the active processes of FBT happen in the home during parental meal support and around the prevention of compensatory behaviors. If parents do not have a shared understanding of how to undertake these tasks, they may unintentionally undermine each other. It is part of the therapist’s role to assist parent to achieve this shared understanding. Indeed, research has found that clinicians view irregular attendance as an important factor that can undermine parents’ ability to effectively take control of their child’s eating during FBT (Dimitropoulos, Freeman, Lock, & Le Grange, 2017). However, the involvement of the whole family, especially siblings, has been identified as a barrier to implementing FBT in practice (Couturier et al., 2012) and may be considered something that can be achieved consistently only in closely monitored clinical trial settings.

The way in which FBT is delivered may impact on family member participation. At the time of the study presented here, our service was conducting a randomized clinical trial (RCT) comparing standard conjoint FBT, in which the whole family is seen together, to a separated form of FBT called parent-focused treatment (PFT; Hughes, Le Grange, Court, Yeo, Campbell, Allan, et al., 2014; Le Grange et al., 2016). In PFT, the treatment goals and processes are the same as in conjoint FBT; however, the therapist sees only the parents while the adolescent has brief medical monitoring and supportive counseling with a nurse. Siblings do not attend PFT sessions. The absence of children from PFT sessions may emphasize and, in turn, discourage parental absences, leading to greater attendance by parents undertaking this form of FBT. In addition, there is some evidence that treatments are implemented with greater fidelity within clinical trials (Miller & Rollnick, 2014). Therefore, it might be expected that families participating in a clinical trial will have greater attendance than those receiving care outside a trial. This may be due to several factors such as higher levels of monitoring and greater compliance in clinical trials.
THE CURRENT STUDY

The aim of the current study was, first, to describe the participation rates of mothers, fathers, and siblings in FBT at a specialist eating disorder service. Second, the study aimed to examine differences in attendance related to family characteristics (i.e., intact vs. non-intact, same-sex siblings vs. opposite-sex siblings, sibling age difference) and treatment structure (i.e., conjoint FBT vs. PFT; RCT participation vs non-participation). In non-intact families, one might expect that there would be a more uneven division of caregiving responsibilities than in intact families and that this might lead to lower attendance, particularly by fathers. In addition, in FBT, siblings are expected to provide emotional support to their sibling and to take on the role of a friend. Research suggests that same-sex siblings tend to have greater levels of closeness during adolescence, whereas opposite-sex siblings show a decline in closeness during this time (Kim, McHale, Wayne Osgood, & Crouter, 2006). It would therefore be expected that families might rely more on same-sex siblings to take on a supportive role during FBT and have them attend treatment session more regularly than they would opposite-sex siblings.

Finally, given that family member involvement is seen as integral to the effectiveness of FBT, the study aimed to investigate whether greater family member attendance predicted better patient outcomes with respect to weight and eating disorder cognitions at end of treatment. It was expected that fathers’ attendance would be lower than mothers’ attendance and that siblings’ attendance would be lower than that of parents. Greater attendance was expected for intact families, same-sex siblings, parents in PFT, and those enrolled in the RCT. Finally, it was expected that greater attendance by family members would be related to better patient outcomes as indicated by higher weight, lower eating disorder symptoms, and greater likelihood of remission at end of treatment.

METHOD

Setting

The study took place at a multidisciplinary specialist program that provides inpatient and outpatient treatment to children and adolescents with restrictive eating disorders. Clinical services are provided to families free of charge through the Australian public health care system. The service is located within a large metropolitan city but provides care to both urban and rural regions. FBT is delivered by mental health clinicians who have been trained in this treatment and receive weekly supervision. A standard course of FBT during the study period comprised 18 sessions over 6 months. Sessions were typically biweekly for the first 2 weeks, weekly for 10 weeks, and every 2 to 3 weeks thereafter.

Most families undertook FBT in a conjoint format whereby one clinician saw the whole family together for 50 min. Some families undertook FBT in a separated format called PFT (Hughes, Sawyer, Loeb, & Le Grange, 2015). In brief, PFT is a modified form of FBT in which the adolescent is seen alone by a nurse for 10–15 min to be weighed and receive brief supportive counseling. This is followed by the therapist seeing only the parents for 50 min. In both conjoint FBT and PFT, both parents were expected to attend from the outset. In conjoint FBT, sibling attendance was strongly encouraged, whereas in PFT siblings were not included in treatment sessions. The goals, process, and duration of PFT were otherwise the same as for conjoint FBT.

Between July 2010 and July 2014, the service conducted an RCT comparing conjoint FBT and PFT. The trial protocol, including inclusion and exclusion criteria and the main outcomes, has been published in detail elsewhere (Hughes, Le Grange, Court, Yeo, Campbell, Allan, et al., 2014; Le Grange et al., 2016). Families who were not eligible or declined to participate in the RCT still received treatment at the service and were given the choice between conjoint FBT and PFT. All families were administered baseline and outcome measures regardless of their participation in the RCT. The institutional human research ethics committee approved the research. When families gave written consent for their participation in the RCT, they also consented to the use of data in future research. Written consent was able to be waived for the remainder of participants, as the data were obtained from an audit of existing clinical records.

Participants

The sample was drawn from all families who were assessed and commenced FBT for Diagnostic and Statistical Manual of Mental Disorders (4th ed.; American Psychiatric Association, 1994) AN or Eating Disorder Not Otherwise Specified–AN type between July 2010 and July 2014 (N = 223). See Figure 1. For separated families, only parents with at least partial custody of the child were included in the current study. For blended families, the two parents with the greatest involvement in caregiving were included. Only siblings living with the patient were included. Siblings were excluded if their families received PFT. A family member’s data were included only when their attendance/nonattendance was recorded for 70% or more of the sessions. This resulted in analysis of data for 194 of 219 mothers (89%), 175 of 200 fathers (88%), and 165 of 197 siblings (84%). This spanned 198 families, of which 124 (63%) were intact two-parent families. Nonintact families comprised single-parent (14%), separated (13%), and blended (11%)
None of the families had same-sex parents. The mean number of children was 2.2 (SD = 1.0, range = 1–7), with 47 (24%) families having only one child. For the child with an eating disorder, mean weight at presentation was 88.3% of median BMI (%mBMI; SD = 12.7, range = 64.9–136.5) and mean Eating Disorder Examination Global Score was 2.27 (SD = 1.74, range = 0–5.39). Of the included families, 134 (68%) received conjoint FBT and 64 (32%) received PFT. Within the sample, 98 (50%) families participated in the RCT, with 52 (53%) randomized to conjoint FBT and 46 (47%) randomized to PFT. Of families not participating in the RCT, 82 (82%) opted to receive conjoint FBT and 18 (18%) selected PFT.

The mean age of mothers was 46.0 years (SD = 5.7); 77% were born in Australia. The mean age of fathers was 48.5 years (SD = 5.9); 69% were born in Australia. The mean age of siblings was 14.1 years (SD = 5.1), and 82 (50%) were female. Sibling country of birth was unknown. There were no differences in age, country of birth, or sibling sex between treatment types or clinical trial status (all ps > .05).

Measures

Eating disorder symptoms

Eating disorder symptoms were measured at the start of FBT and end of treatment using the Eating Disorder Examination (EDE; Fairburn & Cooper, 1993). The EDE is a semistructured interview designed to assess the severity of eating disorder symptoms over the previous 4 weeks. The EDE includes 23 items used to calculate four subscales: Dietary Restraint, Eating Concerns, Shape Concerns, and Weight Concerns. The items are rated on a 7-point scale from 0 (low severity/frequency) to 6 (high severity/frequency). The four subscales are combined into a single Global Score of symptom severity ranging from 0 to 6, with higher scores indicating greater severity. The EDE Global Score has high internal consistency (Cronbach α = .86–.90) and is recommended for assessing symptom severity in clinical samples (Byrne, Allen, Lampard, Dove, & Fursland, 2010). The EDE has been shown to converge with other measures of eating disorder symptoms (e.g., Jordan et al., 2009).

Statistical Analysis

The percentage of mothers, fathers, and siblings who attended at least one session and the percentage who attended all sessions was calculated. The overall percentage of sessions attended by each family member was calculated as [number of sessions attended by the family member] / [family’s total number of sessions] × 100. Changes in attendance rates over the course of treatment were examined by calculating the percentage of mothers, fathers, and siblings at each session up to Session 18.

Differences in attendance related to family and treatment characteristics were examined using t tests comparing intact to nonintact families, same-sex siblings to opposite-sex

FIGURE 1  Selection of sample for the study. Note. Asterisk indicates that family member was excluded if missing more than 30% of data. FBT = family-based treatment.
siblings, conjoint FBT to PFT, and RCT participation to nonparticipation.

To examine the relationships between attendance and patient outcomes, hierarchical linear regression analyses were conducted predicting end-of-treatment outcomes (% mBMI and EDE Global Score) from the percentage of sessions attended by mothers, fathers, and siblings. In each analysis, baseline %mBMI or EDE Global Score, family structure (intact/nonintact), clinical trial status, and FBT format (parents only) were controlled for in the first step. Percentage of sessions attended was entered in the second step, and (for parents only) the interaction between treatment type and percent attendance was entered in the third step. Interactions were analyzed following procedures by Aiken and West (1991), with interaction terms calculated with treatment type coded as 0 (FBT) and 1 (PFT) and percent attendance mean centered. To ensure independence of data, in multisibling families only the sibling closest in age was included in the patient outcome analyses. Although there is little research to suggest that siblings close in age are closer emotionally, they are likely to be more similar in development stage and therefore may be more suitable to fulfill the friend role expected within FBT.

The relationship between attendance and patient outcomes was also examined by dividing patients into two groups: remitted and not remitted. To define remission at end of treatment, cutoffs used in previous RCTs of FBT for AN were applied; that is, patients needed to be 95% mBMI or higher and have an EDE Global Score within 1 SD of community norms (Le Grange et al., 2016; Lock et al., 2010; Madden et al., 2014). The attendance rates of mothers, fathers, and siblings were compared between outcome groups using analysis of variance.

Due to the proportional nature of the data, analyses were repeated after arcsine transformation of family member attendance rates. The findings were unchanged; therefore, to aid interpretation, results of untransformed data are reported.

RESULTS

Family Member Attendance

Attendance rates are shown in Figure 2. All mothers attended at least one session, and nearly three quarters attended every session (74%). Most fathers attended at least one session (95%), but only one third attended every session (33%). Close to three quarters of siblings attended at least one session (73%); just one of the 165 siblings included in the analysis attended every session (0.6%). Mothers, fathers and siblings attended a mean of 94.2% (SD = 14.7, range = 6.7–100), 72.5% (SD = 33.1, range = 0–100), and 20.2% (SD = 21.8, range = 0–100) of their family’s sessions, respectively.

Change in attendance rates for each family member over the course of treatment are shown in Figure 3. Mothers’ attendance remained high across the 18 sessions, ranging from a peak of 99% (Session 3) to a low of 91% (Session 14). Around 80% of fathers attended the first six sessions, with a peak of 83% (Session 4). Fathers’ attendance then gradually declined, reaching a low of 61% (Session 11). Sibling attendance peaked at 44% (Session 2) and declined rapidly thereafter to reach a low of 8% (Session 17).
Family Structure and Treatment Factors

Differences in attendance related to family and treatment characteristics are shown in Table 1. For mothers, there were no significant differences in the proportion of sessions attended by any of the factors. In contrast, fathers from non-intact families attended significantly fewer sessions than fathers from intact families (56% vs. 78%, \( p = .001 \), Cohen’s \( d = 0.63 \)), and fathers from families who were participating in the RCT attended significantly more sessions than fathers from families who were not participating in the RCT (77% vs. 67%, \( p = .040 \), Cohen’s \( d = 0.32 \)). There was no difference in fathers’ attendance between those in conjoint FBT and those in PFT (69% vs. 76%, \( p = .221 \)). For siblings, there was no difference in attendance by family structure, by RCT participation, or by whether the siblings were of the same or opposite sex to the patient.

<table>
<thead>
<tr>
<th>Family Structure</th>
<th>Mothers (%)</th>
<th>Fathers (%)</th>
<th>Siblings (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intact</td>
<td>93.6 (15.4)</td>
<td>77.7 (29.2)</td>
<td>19.4 (20.0)</td>
</tr>
<tr>
<td>Non-intact</td>
<td>95.3 (13.2)</td>
<td>56.4 (37.4)**</td>
<td>22.0 (25.8)</td>
</tr>
<tr>
<td>Clinical Trial Status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Participant</td>
<td>94.2 (15.5)</td>
<td>77.3 (31.2)</td>
<td>22.6 (24.7)</td>
</tr>
<tr>
<td>Non-participant</td>
<td>93.7 (14.6)</td>
<td>66.8 (33.8)*</td>
<td>18.1 (18.7)</td>
</tr>
<tr>
<td>FBT Format</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conjoint FBT</td>
<td>94.2 (15.0)</td>
<td>69.4 (33.7)</td>
<td></td>
</tr>
<tr>
<td>PFT</td>
<td>94.1 (14.0)</td>
<td>76.0 (31.7)</td>
<td></td>
</tr>
<tr>
<td>Sibling Sex</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female sibling</td>
<td>—</td>
<td>21.1 (22.7)</td>
<td></td>
</tr>
<tr>
<td>Male sibling</td>
<td>—</td>
<td>—</td>
<td>19.3 (21.1)</td>
</tr>
<tr>
<td>Same-sex pair</td>
<td>—</td>
<td>22.6 (24.7)</td>
<td></td>
</tr>
<tr>
<td>Opposite sex</td>
<td>—</td>
<td>17.8 (18.4)</td>
<td></td>
</tr>
</tbody>
</table>

Note. FBT = family-based treatment; PFT = parent-focused treatment.

*\( n = 194 \).

**\( n = 175 \).

*\( n = 165 \).

**\( p < .05 \). **\( p < .01 \). ***\( p < .001 \).

Attendance and Patient Outcomes

The results of hierarchical linear regression analyses predicting end-of-treatment outcomes (%mBMI and EDE Global Score) from percentage of sessions attended by mothers, fathers, and siblings are shown in Table 2. Mothers’ attendance did not significantly predict post-treatment %mBMI (\( p = .888 \)) or EDE Global Score (\( p = .064 \)). However, greater attendance by fathers predicted higher post-treatment %mBMI (\( p = .039 \)) and lower EDE Global Score (\( p = .011 \)). There were no significant interaction effects between parent attendance and treatment type (\( p > .05 \)). Sibling attendance did not significantly predict post-treatment %mBMI (\( p = .943 \)) or EDE Global Score (\( p = .075 \)).

When mothers and fathers were entered in the same model, mothers’ attendance was not significantly related to %mBMI (\( p = .743 \)) or EDE Global Score (\( p = .067 \)), but greater fathers’ attendance was significantly related to higher %mBMI (\( p = .033 \)) and lower EDE Global Score (\( p = .014 \)). When mothers, fathers, and siblings were entered into the same model, there were no significant relationships with outcome for any family member (\( p > .05 \)). Differences in family members’ attendance by remission status at end of treatment are shown in Table 3. An analysis
of covariance was used to control for family structure; clinical trial status; and, for parents, FBT format. Remission was associated with significantly greater paternal attendance ($p = .014$, partial $\eta^2 = .045$). There was no significant difference in maternal or sibling attendance by remission status ($p = .054$ and .078).

**DISCUSSION**

To our knowledge, this is the first study to report on the participation of family members in FBT for adolescent AN and its association with improved treatment outcomes. Although the study supports the importance of engaging family members’ in treatment, it also reveals how difficult this can be to achieve in practice. Although mothers consistently attended treatment sessions, fathers’ attendance was lower and waned over time, and sibling attendance dropped early and remained low. Greater paternal attendance was found to be associated with better patient outcomes.

While we cannot say through what mechanisms paternal attendance may lead to better outcomes in FBT, we can speculate on several factors worthy of further exploration. First, it is possible that paternal involvement is reflective of broader family functioning. For example, notwithstanding FBT clinicians’ efforts to encourage both parents to attend, it may be that fathers from more disconnected or chaotic families or who have poor parent–child relationships or poor marital relationships are less likely to attend treatment. These problematic family dynamics may, in turn, disrupt treatment progress. Although not examined in the current study, fathers’ involvement in treatment may help shift family dynamics so that families are able to function in ways that are more supportive of the adolescent’s recovery. Indeed, research has shown that improvement in family functioning during FBT is associated with better outcome (Ciao, Accurso, Fitzsimmons-Craft, Lock, & Le Grange, 2014). Although one might expect that any effect of poorer family functioning would also be reflected in association between family structure and treatment outcome, it may be that family structure is a less direct indicator of family functioning.

A second explanation for the findings is that paternal attendance may communicate to the adolescent the extent that their father cares about them and is committed to their recovery, whereas their absence may be interpreted as lack of care. This could alternately bolster, or weaken, the adolescent’s ability to recover from the illness. Third, the joint attendance of fathers and mothers may foster greater parental unity regarding treatment, which previous research

**TABLE 2**

Hierarchical Multiple Regressions Predicting Patient Outcomes Post-Treatment from Family Member Attendance

| Outcome | Predictor | Mothers$^a$ | | Fathers$^b$ | | Siblings$^c$ |
|---------|-----------|-------------|-----------------|-----------------|-----------------|
|         | $\Delta R^2$ | $\beta$ | $\Delta R^2$ | $\beta$ | $\Delta R^2$ | $\beta$ |
| %mBMI   | Step 1     | .46*** | .43*** | .49*** | | |
|         | %mBMI at baseline | .71*** | | | |
|         | Family structure | −.03 | −.03 | −.06 | |
|         | Clinical trial status | .03 | .02 | .01 | |
|         | FBT format | .08 | .09 | NA | |
|         | Step 2 | .00 | .02* | .00 | |
|         | % attendance | −.01 | .13* | .01 | |
|         | Step 3 | .01 | .01 | NA | |
|         | FBT Format × % Attendance | .11 | .09 | | |
|         | Total $R^2$ | .48*** | .45*** | .49*** | | |
| EDE Global | Step 1 | .29*** | .27*** | .28*** | | |
|         | EDE at baseline | .54*** | .52*** | .50*** | |
|         | Family structure | .06 | .07 | −.06 | |
|         | Clinical trial status | −.02 | .00 | .14 | |
|         | FBT format | −.03 | −.01 | (NA) | |
|         | Step 2 | .02 | −.14 | .04* | .04 |
|         | % attendance | −.14 | −.22* | −.19 | |
|         | Step 3 | .00 | .02 | (NA) | |
|         | FBT Format × % Attendance | .02 | −.14 | | |
|         | Total $R^2$ | .31*** | .33*** | .31*** | | |

*Note. mBMI = median body mass index; EDE = Eating Disorders Examination.

$^a$n = 194.

$^b$n = 175.

$^c$n = 165.

*p < .05. ***p < .001
TABLE 3
Comparison of Percentage Attendance by Adolescent Remission Status at End of Treatment Controlling for Family Structure and Family-Based Treatment Format

<table>
<thead>
<tr>
<th></th>
<th>Mothers* M (SD)</th>
<th>Fathersb M (SD)</th>
<th>Siblingsc M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remitted</td>
<td>98.2 (4.0)</td>
<td>80.6 (27.8)</td>
<td>30.3 (27.7)</td>
</tr>
<tr>
<td>Not remitted</td>
<td>93.9 (15.3)</td>
<td>68.5 (34.9)</td>
<td>19.9 (21.9)</td>
</tr>
<tr>
<td>p</td>
<td>.054</td>
<td>.014</td>
<td>.078</td>
</tr>
</tbody>
</table>

*a n = 153.
b n = 139.
c n = 126.

has shown predicts adolescent weight gain in FBT (Ellison et al., 2012). It is thought that parents who have a shared understanding of the illness and are in agreement about how best to support their child are more successful in bringing about recovery (Lock & Le Grange, 2013). For example, parents who agree on how much food their child needs to eat, and can support each other’s decisions and actions, are likely to be more able to counter the challenges of a child who is struggling to eat. Although some families are united from the outset and remain so throughout treatment, for others this needs work. When both parents attend treatment, the degree of parental unity is more readily observed by the therapist who can then address any issues and assist the parents to work together.

It is important to note that these same interpretations may apply to maternal involvement. Although the results did not show a direct link between maternal involvement and patient outcomes, this is likely due to the persistently high rates of maternal attendance creating a ceiling effect that masked the influence of maternal attendance. Rather than attendance by fathers being more important than that of mothers, it seems likely that it is the presence of fathers in addition to mothers that is important to patient outcomes.

Not surprisingly, siblings demonstrated the lowest and most sporadic involvement. Although three quarters attended at least one conjoint FBT session, the greatest involvement was during the first two sessions and declined quickly thereafter. Even these early sessions were attended by less than half of the siblings. The slight increase observed in sibling attendance at the second session may be a response to therapists encouraging all family members to attend this session, which involves an in vivo family meal. However, a commensurate increase was not seen for fathers. Although this is the first study to report on rates of sibling attendance, the findings align with previous research documenting the challenges around involving siblings in FBT. For example, in a qualitative study of therapists who treat children and adolescents with AN, the involvement of siblings was considered a barrier to implementing FBT (Couturier et al., 2012). In keeping with this, a study of therapist fidelity to FBT found that, in comparison to other features of FBT, fidelity around engaging siblings and assisting them to support their ill sibling was low (Couturier, Isserlin, & Lock, 2010). Given these apparent difficulties, it is important to consider what gains might be made from increasing sibling involvement in treatment. Consistent with previous research showing that sibling support does not predict patient weight gain (Ellison et al., 2012), the current study found that sibling involvement was not associated with clinical outcomes. This finding is also consistent with studies of separated forms of FBT that do not involve siblings and have been found to be just as, if not more, effective in achieving patient remission than the standard model in which all family members attend (Eisler et al., 2000; Le Grange, Eisler, Dare, & Russell, 1992; Le Grange et al., 2016). Nonetheless, sibling involvement in FBT may have other benefits for the sibling and their family. For example, in a qualitative study of siblings of adolescents with AN, involvement in FBT was reported to enhance the siblings’ understanding of eating disorders and to improve family communication (Withers et al., 2014). The sibling’s role in FBT is intended to be one of emotional support for their ill brother or sister, for example, providing distraction, comfort, and a safe place to vent. This role could have positive effects on other aspects of the patients’ psychological functioning, such as depression and anxiety, a role that may be more readily nurtured when the sibling attends sessions. Examination of the benefits of sibling involvement beyond patient eating disorder symptoms will be important for contextualizing and potentially refining the role of siblings in FBT.

Among the factors examined for differences in family member attendance, only family structure and RCT participation were significant. That fathers were more engaged when the family was intact might be expected. However, fathers were included in the study only if they were involved in caregiving (i.e., estranged fathers were excluded), and fathers’ attendance was related to patient outcomes even after controlling for family structure. This suggests that regardless of family structure, it remains important for fathers who are involved in caregiving to attend their child’s treatment sessions. In regard to RCT participation, it is unclear whether this reflects being part of a closely monitored research study or a difference in the types of families that were eligible for, or consented to, participate in the trial. Previous research has shown that adolescents with AN who present at a very low weight (≤ 81% mBMI) achieve weight restoration more rapidly when they received FBT within an RCT compared to those who receive treatment outside of an RCT (Accurso, Fitzsimmons-Craft, Ciao, & Le Grange, 2015). In addition, lack of treatment fidelity is considered a key factor in reducing the effectiveness of treatments disseminated outside research settings (Miller & Rollnick, 2014).

The extent that FBT is disseminated as first-line treatment for adolescent AN (Couturier & Kimber, 2015; Hughes, Le Grange, Court, Yeo, Campbell, Whitelaw, et al., 2014; Wallis, Rhodes, Kohn, & Madden, 2007) underscores the need to assess the fidelity with which it is implemented and to understand the importance of fidelity...
for treatment effectiveness. This study is the first to closely examine family member attendance as one aspect of fidelity. As such, it provides the first data against which clinicians can benchmark their practice to gauge whether they are attaining levels of family engagement comparable to a well-established specialist service within a public health care system. Although other service settings (e.g., private practitioners) may struggle to achieve comparable attendance rates, the study findings encourage all clinicians to monitor family member attendance and strive for greater involvement. The results themselves can also be utilized by clinicians to demonstrate to families the potential benefits of their involvement. Although the importance of sibling involvement and its relevance to treatment fidelity and outcomes is less clear at this point, this study provides a strong basis for future investigations. Further strengths of this study were the examination of how attendance related to patient outcomes and the assessment of outcomes using the same rigorous standardized measures, regardless of clinical trial participation.

The study was limited by several factors that could benefit from being addressed in future research. First, a finer analysis of family structure and roles within the family (e.g., stepparent, biological parent with shared custody, degree of caregiving responsibility) could not be undertaken with the data available. It is also not clear how specific the findings are to mothers and fathers, or whether it is multigeneraw caregiver involvement that is key. Studies looking at the participation of same-sex parents or other caregivers such as grandparents may shed light on this. Similarly, further examination of sibling relationships including selection of siblings for analysis (e.g., by age, gender, premorbid quality of relationship) may reveal greater insights into the potential benefits of siblings in treatment. Indeed, it would be helpful to more fully explore a broad range of factors that might affect treatment attendance (e.g., employment, parenting roles), as well as mechanisms by which attendance impacts on treatment outcome (e.g., parental unity). It would also be of interest to examine individual differences in trajectories of attendance and identify factors related to, for example, sustained versus declining attendance.

This study has important implications for clinicians treating adolescents with AN, primarily around the value of supporting both parents in FBT. Ensuring that parents and siblings are aware of the expectations for their attendance is important at the outset. At our service, both parents in two-parent families must attend the intake assessment, and treatment will rarely commence until both parents have participated in this assessment. Although delaying treatment until all family members, or at a minimum both parents, agree to attend is another possibility, this raises ethical issues given the life-threatening nature of AN and the therapeutic impact of swift action by the treating team. There are many barriers to parents attending treatment, including work commitments and financial pressures. Separated and blended families may be difficult to bring together when there are conflictual relationships, or simply due to the number of parents involved (e.g., two biological parents and two stepparents). There may be fixed parental roles that are imbedded within cultural norms (e.g., mother as the caregiver), or enmeshed parent–child relationships that exclude one parent. In regard to siblings, education and employment commitments, sibling conflict, and the sibling’s own mental or physical health issues may hinder their involvement.

Regardless of the cause, the absence of family members, especially fathers, should be treated as a warning sign, and the therapist should consider how this could be addressed. Overcoming barriers to attendance may mean restructuring the family system and addressing ingrained beliefs about family member roles and ways of relating to each other. Alternatively, it may simply require practical approaches, such as providing letters for workplaces and schools, offering flexible office hours, and having parents join by telephone when they cannot be there in person. To maintain engagement throughout treatment, it may be helpful to reinforce the individual and combined roles of each family member by giving each the opportunity to contribute their unique perspectives and ideas while encouraging the family to use their strengths to work together to help the ill child. It will be important for future research to confirm and extend the current study findings; however, perhaps the most pressing areas for research are to investigate barriers to family participation in treatment and the development of effective strategies for optimizing participation.

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CONFLICT OF INTEREST

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