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BRIEF REPORT

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Examining the feasibility of a parental self-help intervention for families awaiting pediatric eating disorder services

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Abstract

Objective: Waitlists for eating disorder (ED) services grew immensely during the COVID-19 pandemic. To address this, we studied the feasibility of a novel parental self-help waitlist intervention.

Method: Parents of a child/adolescent (7–17 years) awaiting pediatric ED services were provided with our intervention, adapted from the family-based treatment model, and consisting of videos and reading material with no therapist involvement. Parent-reported child/adolescent weight was collected weekly 6 weeks pre-intervention, 2 weeks during the intervention, and 6-week post-intervention. Recruitment and retention rates were calculated. Regression-based interrupted time series analyses were completed to measure changes in the rate of weight gain.

Results: Ninety-seven parents were approached, and 30 agreed to participate (31% recruitment rate). All but one completed end-of-study measures (97% retention rate). The average rate of weight gain was 0.24 lbs/week pre-intervention, which increased significantly to 0.78 lbs/week post-intervention ($p < .034$).

Discussion: Our findings provide preliminary evidence that this intervention is feasible. Future research is needed to confirm the efficacy of this intervention on a larger scale.

Public Significance: The COVID-19 pandemic has resulted in several challenges in providing care for children and adolescents with eating disorders, including long waiting lists and delays in treatment. This study suggests that providing parents on a waitlist with educational videos and reading material is acceptable to parents, and may even help in improving the child's symptoms of an eating disorder.

KEYWORDS
adolescents, children, COVID-19, eating disorder, families, implementation research, interrupted time series, parental self-help, waitlist intervention

1 | INTRODUCTION

The COVID-19 pandemic has contributed to a worldwide surge in eating disorder (ED) cases (Agostino et al., 2021; Haripersad et al., 2021; Rodgers et al., 2020; Toulany et al., 2022). Loss of social supports, increased drive to exercise, low mood, increased anxiety, lack of structure, and social media messaging about weight gain are postulated as fueling an increase in the incidence of EDs, particularly among youth (Fernandez-Aranda et al., 2020; Rodgers et al., 2020). Admissions to pediatric medical units have increased, with greater severity of cases

(Agostino et al., 2021; Haripersad et al., 2021; Toulany et al., 2022). Several studies have reported that long waiting lists prior to the pandemic have been made worse by interruptions in service (Khot & Monge, 2022). Unprecedented demand for treatment and increased acuity at time of presentation for service have outpaced available resources (Lin et al., 2021).

Family-based treatment (FBT) is the most widely studied and recommended treatment for children and adolescents diagnosed with an ED (Couturier et al., 2013; Couturier et al., 2020). Traditionally, FBT is delivered in-person by a therapist to outpatients; however, emerging research indicates that FBT is effective when delivered virtually (Anderson et al., 2017), and when delivered in a parental-guided self-help format (GSH-FBT) with minimal therapist support (Jones et al., 2012; Lock et al., 2017; Lock et al., 2021). A recent study used GSH-FBT for young people on a waitlist and found increases in weight and decreases in ED symptoms after 12 weeks (Wade et al., 2022).

In this feasibility study, we examined an adapted GSH-FBT model with no therapist involvement, offered to families on a waiting list for pediatric ED treatment.

2 | METHODS

This study was approved by the Hamilton Integrated Research Ethics Board and was pre-registered at ClinicalTrials.gov NCT04812899 (registered March 18, 2021).

2.1 | Design

Our main objective was to examine the feasibility of our intervention, measured by participant recruitment, retention, and engagement, along with two preliminary clinical outcomes of weight gain and parental self-efficacy. This study employed an interrupted time series (ITS) design, which is a valuable quasi-experimental approach used for evaluating the longitudinal impacts of interventions when randomization is not possible (Kontopantelis et al., 2015). We applied this design by examining trends in weight 6 weeks before and 6 weeks after the parental self-help intervention period (2 weeks) among children and adolescents on the waitlist for services from a pediatric ED program (see online supplement for a description of assessment procedures).

2.2 | Parental self-help intervention

Our study examined the feasibility of an adapted GSH-FBT model in which there is no therapist involvement. The intervention was delivered to families on our waitlist (i.e., pre-assessment). The focus of this intervention was to empower parents to renourish their child and interrupt ED behaviors. Guided by the content and principles of FBT (Lock & Le Grange, 2013), this intervention consisted of a series of pre-recorded online videos and reading material. This curriculum has been outlined in a recent publication (Couturier et al., 2022). Five additional videos were created for this study, to foster a transdiagnostic curriculum covering different types of EDs (introducing the video series/types of EDs, binge/purge behaviors, and three videos on avoidant/restrictive food intake disorder [ARFID]). Parents were encouraged to watch all videos within the 2-week intervention period, but also had access to them within the 6-week post-intervention period.

2.3 | Outcomes

Our primary study outcome was feasibility, measured by enrollment, retention, and engagement. Secondary outcomes included weight gain and parental self-efficacy. Enrollment was measured by examining the proportion of those who agreed to participate in the study divided by the number invited to participate from our waitlist. Retention was defined as those who completed our final study measures divided by those who enrolled in the study. Parental engagement was measured by examining the proportion of participants who viewed each lecture within the video platform. Parental self-efficacy was compared from baseline to final timepoints on the Parent versus Eating Disorder (PvED) scale, and weight gain was measured in lbs per week over the 14-week study period.

2.4 | Statistical analysis

Baseline demographics of the study sample, as well as feasibility markers were reported using descriptive statistics. A paired *t*-test was used to compare baseline and end-of-study total score on the PvED scale. ITS analysis using the auto-regressive integrated moving-average (ARIMA) model was used to estimate the pre- and post-intervention slopes and their associated *p*-value and confidence intervals (CI), where significance was set at 0.05, for rate of weight gain per week using the weekly-reported weights. All analyses were completed in IBM-SPSS Version 28.0.

2.4.1 | Missing data

Seventeen (59%) participants reported weights for all 14 weeks with no missing data. Four participants missed one weekly weight, one missed two weekly weights, two missed three weekly weights, one missed five weekly weights and four missed more than five weekly weights. On the PvED scale at the end-of-study timepoint, two participants missed one item on the scale, and one participant missed two items.

3 | RESULTS

3.1 | Participants

Ninety-seven English-speaking parents of a child/adolescent (7–17 years of age) awaiting services from a tertiary level ED program and

with computer/internet access and a weight scale at home were invited to participate. Informed consent was obtained from 30 parents and their children, although one participant did not complete end-of-study measures. Thus, the study included 29 children (90% female; average age: 14.8 ± 1.7 years) along with their 29 parents (93% female; average age: 46.7 ± 5 years). According to the symptoms identified by the Eating Disorder Examination-Parent Version (EDE-Q-PV) and the Nine Item ARFID Screen-Parent Version (NIAS-PV), participants met criteria for: other specified feeding and eating disorder ($n = 16$, 55%), anorexia nervosa-restricting type ($n = 6$, 21%), anorexia nervosa binge-purge type ($n = 2$, 7%), bulimia nervosa ($n = 1$, 3%), binge eating disorder ($n = 1$, 3%), and ARFID ($n = 3$, 10%). It is important to note that our waitlist is triaged and urgent patients are seen and taken off of the waitlist, which might be why a large proportion with other specified feeding and eating disorder were involved in this study.

3.2 | Enrollment

Of the 97 families contacted on the waitlist, 32 parents expressed interest in participating in the study, 33 did not respond, and 32 declined. We successfully recruited 30 participants over a 4-month period for an overall enrollment rate of 31% (30/97).

3.3 | Attrition and retention

One participant withdrew from the study as the child refused to be weighed and the parent did not complete the end-of-study measures. Thus, 29 completed the end-of-study measures, resulting in a 97% retention rate. Only one participant was hospitalized during the study. The admission was 1 week in duration and occurred in week 8 of the study. This participant did not contribute weekly weights thereafter.

3.4 | Engagement

Regarding parental engagement with the intervention, all 29 parents signed up and received access to the online videos. On average, the vast majority of participants (93.3%) completed the online course material and watched all videos. The following statistics represent the percentage of participants who viewed each lecture video: Introduction to eating disorders = 83.3%, lecture one = 89%, lecture two = 95.1%, lecture three = 100%, lecture four = 84%, lecture five = 75%, lecture six = 100%, lecture seven = 100%, lecture eight = 100%, lecture nine = 100%, lecture ten = 100%.

3.5 | Parental self-efficacy

Parental self-efficacy increased significantly over the study period (17.6 to 20.7 on the PvED scale, $t = 4.35$, $p < .001$, $df = 28$) with a large effect size (Cohen's $d = 0.81$, 95% CI 0.38–1.22). The paired samples correlation for the PvED baseline and end-of-study total score was positive ($r = .39$, $p = .035$).

3.6 | Weight change over time

For the total sample ($n = 29$), the pre-intervention weight gain slope was significantly different from the post-intervention weight gain slope (0.24 lbs/week pre-intervention; 0.78 lbs/week post-intervention; $p < .034$). A similar significant difference between pre- and post-intervention slopes was seen for the subgroup of participants who started the intervention with an expected body weight percentage (%EBW) of less than 100% ($n = 20$; pre-slope = 0.56 lbs/week; post-slope = 0.85 lbs/week; $p < .041$) and in the subgroup of those with an %EBW of less than 88% ($n = 9$; pre-slope = 0.18 lbs/week; post-slope = 0.92 lbs/week; $p < .001$) (Table 1 and Figure 1).

4 | DISCUSSION

During the COVID-19 pandemic, it became necessary to implement virtual self-help due to increasing demand and limited availability of therapists. A recent study (Galffy et al., 2022) and systematic review (Fischer et al., 2020) for virtual self-help found it to be effective for anxiety, depression and stress-related conditions, but perhaps not as effective as face-to-face interventions. To our knowledge, this is the first study to examine the feasibility of a parental self-help intervention, based on an adapted FBT model with no therapist involvement and provided to families on a waitlist for pediatric ED services during the COVID-19 pandemic. Our findings suggest that our intervention is feasible. Our recruitment rate was 31%, and retention rate was 97%. Compared to other areas of pediatric ED research, our recruitment rate is somewhat similar. For example, a recruitment rate of 37% was demonstrated in past adolescent anorexia nervosa treatment research (Brownstone et al., 2012), while a recent waitlist study using GSH-FBT had a recruitment rate of 13% (Wade et al., 2022). Understanding difficulties in recruitment for studies on youth with eating disorders is needed. In addition, future studies should examine and collect data on nonparticipation by asking those who did not wish to participate to specify their reasons.

Regarding weight changes over time, our results demonstrated a significant increase in the rate of weight gain after the delivery of a parental self-help intervention, which was even more pronounced in the subgroups with lower weight at baseline. Our findings align with recent research, where a comparable GSH-FBT intervention, comprised of 12 online sessions (with weekly therapist support) provided to families on a waitlist, led to an average weight gain of 6 kg among children and adolescents with anorexia nervosa and decreased their ED behaviors (Wade et al., 2022).

Our study strengths include a high level of retention, high level of participant engagement, and the use of an ITS design (one of the strongest quasi-experimental designs) (Kontopantelis et al., 2015). In addition, since the intervention was delivered online, it provided a greater degree of flexibility and convenience.

TABLE 1 Interrupted time series (ITS) analysis examining three subgroups

Interrupted time series analysis				
(1) Weight (all participants, $n = 29$)				
Model description	ARIMA (1,0,0)			
Fit test	Stationary $R^2 = 0.879$			
Slopes	Co-efficient (95% CI)	*SE*	*t*-Statistic	*p*-Value
Pre-slope (β_1) (weeks 1–6)	0.24 (−0.49, 0.97)	0.297	0.805	.447
Interact (β_2)	0.54 (−0.42, 1.51)	0.395	1.376	.211
Post-slope ($\beta_1 + \beta_2$) (weeks 9–14)	0.78 (0.06, 1.51)	0.297	2.636	.034
(2) Weight (participants with %EBW < 100% at baseline, $n = 20$)				
Model description	ARIMA (1,0,0)			
Fit test	Stationary $R^2 = .921$			
Slopes	Co-efficient (95% CI)	*SE*	*t*-Statistic	*p*-Value
Pre-slope (β_1) (weeks 1–6)	0.56 (−0.21, 1.33)	0.316	1.778	.119
Interact (β_2)	0.29 (−0.76, 1.34)	0.430	0.671	.523
Post-slope ($\beta_1 + \beta_2$) (weeks 9–14)	0.85 (0.02, 1.68)	0.341	2.493	.041
(3) Weight (participants with %EBW < 88% at baseline, $n = 9$)				
Model description	ARIMA (1,0,0)			
Fit test	Stationary $R^2 = 0.984$			
Slopes	Co-efficient (95% CI)	*SE*	*t*-Statistic	*p*-Value
Pre-slope (β_1) (weeks 1–6)	0.18 (−0.13, 0.49)	0.127	1.405	.203
Interact (β_2)	0.74 (0.26, 1.23)	0.200	3.718	.007
Post-slope ($\beta_1 + \beta_2$) (weeks 9–14)	0.92 (0.54, 1.30)	0.154	5.984	<.001

Abbreviations: *SE*, standard error; ARIMA, auto-regressive integrated moving average; CI, confidence interval; %EBW, % expected body weight; stationary R^2, estimates how much of the variation in the time series for this set can be explained by the ARIMA model that was used.

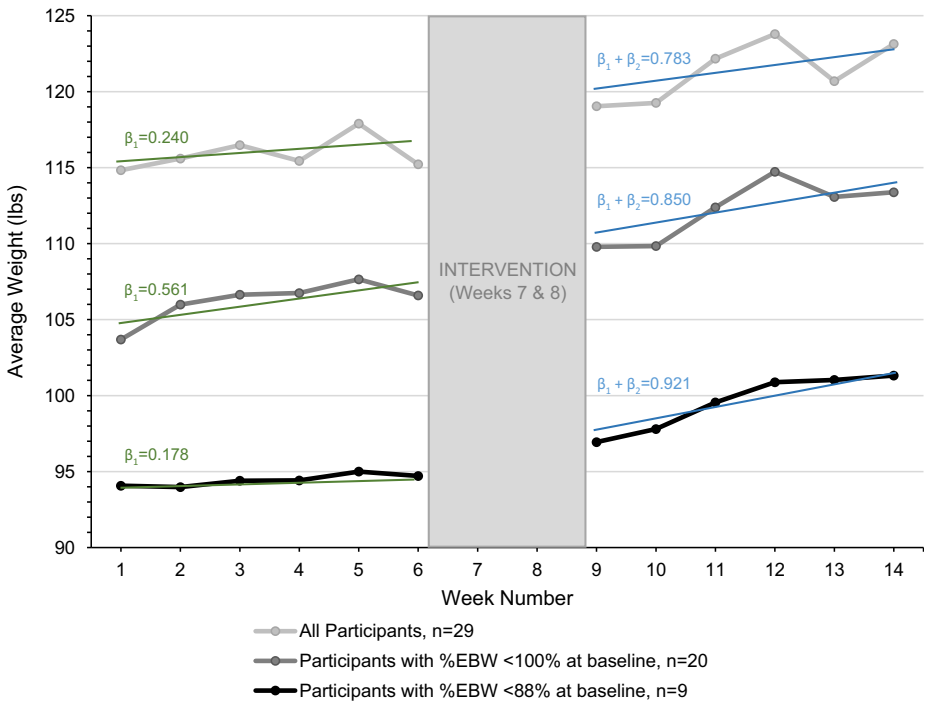

FIGURE 1 Average weight across the study period, organized into subgroups based on %expected body weight (%EBW)

Despite these strengths, limitations were present. First, parents were required to collect the weekly weights for their child at home, which raises a question of accuracy. Similarly, all measures of psychological symptoms for the children and adolescents were collected by parental report. Participants were also not restricted from obtaining other treatment while in the study (80% were not receiving

any treatment at the time of enrollment). Although we did not examine additional treatment systematically throughout the 14 weeks of the study, it would be unlikely that participants would receive eating disorder treatment elsewhere, as we are a regional program and catchment limitations exist on treatment in our province. As participants were awaiting assessment and treatment, the diagnosis was not made by a clinician, but rather was based on symptoms reported by parents on the EDE-Q-PV and NIAS-PV using a diagnostic algorithm. Selection bias might have also been present, as a large number of parents either did not respond or declined the study invitation. Perhaps those parents who believed in the efficacy of a self-help intervention were then more likely to participate, and thus, more likely to experience benefits. In addition, participants were only eligible if they spoke English. Future studies should examine parental views and satisfaction with respect to this intervention with a view to co-design future iterations of this intervention, with an additional goal of increasing recruitment rates.

5 | CONCLUSION

Our results suggest that an FBT-based parental self-help intervention (without therapist involvement) provided to families on a waitlist for pediatric ED services is feasible and acceptable. Larger scale research is required, to understand the potential efficacy of this intervention in reducing the need and duration for tertiary-level treatment, which could be useful for managing waitlists, developing stepped care models, and reducing the burden of EDs.

AUTHOR CONTRIBUTIONS

Jennifer Couturier: Conceptualization; funding acquisition; investigation; methodology; project administration; resources; supervision; validation; visualization; writing – original draft; writing – review and editing. **Sadaf Sami:** Data curation; formal analysis; investigation; methodology; project administration; writing – original draft; writing – review and editing. **Maria Nicula:** Formal analysis; writing – original draft; writing – review and editing. **Danielle Pellegrini:** Writing – original draft; writing – review and editing. **Cheryl Webb:** Investigation; methodology; writing – original draft; writing – review and editing. **Natasha Johnson:** Writing – review and editing. **James Lock:** Conceptualization; methodology; resources; supervision; writing – review and editing.

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CONFLICT OF INTEREST

James Lock receives royalties from Guilford Press and Routledge for books related to Family-Based Treatment and is co-owner of the Training Institute for Child and Adolescent Eating Disorders that trains professionals in family-based treatment.

DATA AVAILABILITY STATEMENT

De-identified data from this study are not available in a public archive. There is no analytic code associated with this study. Materials used to conduct the study are not publicly available.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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