Received: 17 January 2023 | Revised: 14 March 2023 | Accepted: 26 March 2023

DOI: 10.1002/pcn5.89

CASE REPORT

PCN Reports
Psychiatry and Clinical Neurosciences
Open Access

Adoption of inpatient family-based treatment for anorexia nervosa: A case report

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Funding information
None

Abstract

Background: Family-based treatment (FBT) is effective for the treatment of anorexia nervosa (AN) in children and adolescents. However, its availability in Japan is limited because it requires adherence to specific guidelines, commitment of sufficient time for frequent outpatient treatment, as well as the entire family's participation. We present a case of a patient with AN who was treated with modified FBT during hospitalization.

Case Presentation: Our patient was a 14-year-old girl with AN. She was hospitalized for malnutrition and dehydration, and was introduced to FBT during this period. After discharge, she continued FBT on an outpatient basis and was in remission 1 year later.

Conclusion: This case shows that initiation of FBT during hospitalization may be useful in patients with physically severe AN. Flexible adaptation to each of the diverse healthcare systems and cultural differences may be necessary for the widespread use of FBT.

KEYWORDS
anorexia nervosa, eating disorder, family-based treatment, inpatient treatment, psychotherapy

BACKGROUND

Family-based treatment (FBT) is a psychotherapy shown to be effective in a number of randomized controlled trials in physically stable patients with anorexia nervosa (AN), under the age of 19, and within 3 years of illness.[1,2] Its principles regard the family as the best treatment resource for recovery, hospitalization as a temporary solution, and outpatient care as the basis for treatment.[3] It is the first choice for child and adolescent patients with AN in the UK NICE guidelines among others[4] and has also been used effectively not only in Europe but also in East Asia.[5] However, in Japan FBT is not yet widely available because the restrictive nature of Japanese social and medical systems makes it challenging to perform the procedures in accordance with the guidelines in an outpatient setting.[6,7] In Japan, patients with AN are often hospitalized for an extended period since many of them are underweight at the time of initial consultation and require inpatient care due to their severe physical condition.[8] Therefore, in Japan, it may be helpful to introduce FBT during hospitalization for physical therapy. Below, we present a case of a patient with AN who was treated with modified FBT during hospitalization.

CASE PRESENTATION

The patient was a 14-year-old girl with no remarkable medical history. She worked hard on her studies and club activities, but when the school was closed due to the COVID-19 outbreak, she turned her

efforts to dieting instead. She was pleased to lose weight and gradually began to impose strict rules on herself. For example, she had to eat less than she had the previous day and would only eat low-calorie foods that she had prepared herself. Consequently, her weight decreased by 18 kg in 8 months. She was extremely underweight at 39 kg (167 cm height, BMI 14.0), but she was afraid of eating and showed a fear of obesity. Hence, her doctor diagnosed her with AN. After ineffective outpatient behavioral therapy, she was admitted to our pediatric hospital with low body weight, dehydration, pericardial effusion, and bradycardia.

After admission, her dehydration improved with intravenous therapy, but during the interview, there was ambivalence between the desire for treatment for abnormal feeding behavior and the fear of obesity. We obtained consent from the parents and the patient to participate in treatment and conducted psychoeducation on AN using the FBT model. The "Survive FBT: Skills Manual for Parents Undertaking Family Based Treatment (FBT) for Child and Adolescent Anorexia Nervosa" (Japanese version) was used.[7] The patient remained admitted to the pediatric ward, where her parents were permitted to accompany her at all times. In cooperation with the pediatrician, we proceeded with re-nutrition while monitoring for refeeding syndrome and other complications. The patient was required to eat a 2500-kcal/day meal. Parents accompanied the patient and supported her while she consumed the hospital meal. She and her parents practiced externalizing the disease and responding firmly. By using the skills in the manual to externalize the responsibility for her abnormal eating behaviors without attributing it to the patient, the parents were able to avoid an adversarial relationship with the patient. The medical staff provided positive feedback and reinforcement for the parents' behavior that was successful in improving the patient's eating behavior. Both she and her parents were eager to continue treatment at home, thus, after 3 weeks, she was discharged from the hospital, at 41.7 kg (BMI 15.0) body weight, and switched to outpatient treatment.

Phase 1 consisted of 11 sessions. The patient was seen once a week for 30 min. Her parents managed her diet, aiming for a BMI of 19. Although she expressed fear of obesity, she ate approximately 2500 kcal/day with the encouragement of her parents. In the second phase, the patient was examined once a month over 5 months. She gradually regained control of her diet and returned to school. In the third stage, the patient was examined four times, once every 2 months. On completion of FBT, the patient weighed 53.3 kg (BMI 19.1), which was within the normal range, and her Eating Disorder Inventory-2(EDI-2) scores had improved (Figure 1).[9]

DISCUSSION

This case shows the usefulness of introducing FBT during hospitalization for AN in children and adolescents who require physical treatment and demonstrates the possibility that FBT may be widely implemented by adapting it to existing medical care.

In Japan, FBT is not yet widely available.[6,7] A few factors hinder its widespread use: First, it is difficult to schedule sufficient time for frequent visits to outpatient clinics owing to the Japanese medical insurance system. Second, culturally, mothers tend to play the domestic role, making it challenging to involve the father and the entire family in the treatment.[10] In addition, many cases in Japan are physically severe and require inpatient treatment. In a study of 996 adolescent patients with AN in Japan, Harada et al.[8] showed that the mean BMI at initial diagnosis was 13.6 kg/m^2, which is lower than that in other countries. The advantages of introducing FBT during hospitalization for physical treatment are, therefore, significant. The modified element of treatment for this case is that FBT was initiated during hospitalization, and the patient was given hospital food instead of the diet determined by the parents. However, her parents influenced her diet by supporting her for every meal she ate. Two main benefits of inpatient treatment were observed. First, sufficient

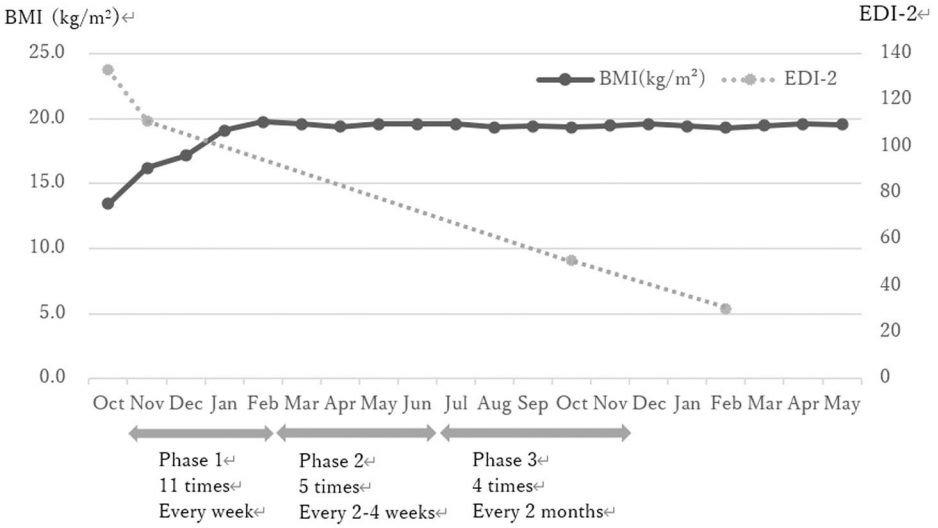

FIGURE 1 The patient's weight and Eating Disorder Inventory-2 (EDI-2) scores.

time was available for the induction of treatment. Second, it encouraged the father and other family members to participate in the medical care setting. In this case, the father visited the patient after work and ate meals with her to ease her and her mother's distress, allowing for more flexible participation in the treatment. In the outpatient setting, the parents had to take time off from work to coincide with consultation hours, which is often difficult in the Japanese culture. During hospitalization, it was helpful that the parents could flexibly and easily participate in treatment, regardless of the time of day. These advantages will encourage the widespread use of FBT in Japan.

The usefulness of modified FBT based on its principles in the context of various cultural and social limitations has also been studied. For example, FBT in primary care (PC-FBT) has been modified to omit sibling participation and meal sessions in areas where access to treatment is limited, and its usefulness has been demonstrated.[11,12] There are also reports that guided self-help FBT (GSH-FBT) and videoconference FBT (FBT-V) are helpful in improving symptoms.[13] As mentioned above, FBT methodology may be effective in the treatment of AN even if it is not always applied according to the manual, and it may be helpful to modify FBT in a manner consistent with the medical situation and culture of each country, allowing its widespread use.

One limitation is that FBT is essentially an outpatient treatment that is effective for medically stable patients with a BMI of approximately 15 or higher. Despite being severely underweight, with a BMI of 13 on admission, this patient was successfully treated. As this is a case report, the efficacy of modified FBT in patients with severely low body weight remains unknown, and further evidence should be accumulated in the future. Additionally, when initiating FBT for severely underweight patients, evaluation and monitoring by a pediatrician are necessary, including monitoring for the risks associated with refeeding syndrome and other nutritional risks.

We have shown that FBT can be introduced during hospitalization for physical treatment and that it can be adapted to the current medical system and culture in Japan. FBT may be widely implemented if it is tailored to each patient. Future accumulation of cases and research should allow appropriate AN treatment to be made more widely available and ensure the verification of its efficacy.

CONCLUSION

In this case study, we showed the usefulness of the implementation of FBT during hospitalization in patients with AN who require inpatient treatment and demonstrated the need for flexible application of the manual to provide optimal treatment in various healthcare systems and cultures. Further research and accumulation of cases are desirable to disseminate this treatment further.

AUTHOR CONTRIBUTIONS

Sayaka Nishiura and Dai Miyawaki treated the patient and drafted the manuscript. Ayako Goto, Kaoru Hirai, Shoko Sakamoto, Shin Kadono, Hiroki Hama, and Koki Inoue critically reviewed the draft and revised it. All authors approved the final version of the manuscript.

ACKNOWLEDGMENTS

We sincerely appreciate the cooperation of the patient and her family. This case report has not been funded in any way.

CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

ETHICS APPROVAL STATEMENT

Written informed consent was obtained from patient and parents for publication of this case report.

PATIENT CONSENT STATEMENT

Written informed consent for presentation of the clinical course was given by the patient.

CLINICAL TRIAL REGISTRATION

N/A.

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How to cite this article: Nishiura S, Miyawaki D, Goto A, Kaoru H, Sakamoto S, Hama H, et al. Adoption of inpatient family-based treatment for anorexia nervosa: a case report. Psychiatry Clin Neurosci Rep. 2023;2:e89.
https://doi.org/10.1002/pcn5.89