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COACHING FAMILY-BASED OUTPATIENT TREATMENT METHOD FOR ADOLESCENT ANOREXIA NERVOSA. A CASE REPORT.

ABSTRACT

Family-based treatment (FBT) has been shown to be an effective treatment for adolescent anorexia nervosa and the method is nowadays generally recommended, but probably not widely enough in practice in Finland. Around a decade ago, one severe anorexia patient was successfully treated by a paediatrician (JR), in an initially unplanned treatment, at a healthcare centre as an outpatient, by coaching the family to return the patient to their previous normal eating habits. The severe malnutrition (weight loss of 20 kgs and body mass index 14.3 kg/m2) and the eating disorder symptoms alleviated in approximately six months by actively supporting and coaching the parents, in weekly appointments, to take whole responsibility for the meals. During the last ten years, the paediatrician (JR) has applied the coaching family-based method (c-FBM) to all adolescent patients with a restrictive eating disorder seeking help, first at the Primary Healthcare Centre of Oulu, and lately at Primary Healthcare Centres of Länsi-Pohja District and at a private clinic in Oulu. The c-FBM is otherwise quite similar to the generally used FBT method, with the most significant difference being the primary care paediatrician taking the main responsibility for the treatment. In this article we introduce the c-FBM through four lately treated patient cases who have all benefited from the treatment within one year.

KEYWORDS: EATING DISORDER, ANOREXIA NERVOSA, PRIMARY CARE, FAMILY-BASED TREATMENT, ADOLESCENT

INTRODUCTION

Family-based treatment (FBT) has been shown to be effective in a randomized controlled trial in patients with adolescent anorexia nervosa (1). The FBT is an outpatient treatment where the parents are encouraged to take care of their child's nutrition until the malnourishment has been alleviated. Outpatient treatment with early identification, and an active and confidential treatment regimen have also been recommended in the Finnish current care guidelines (2).

During the last ten years, we have treated adolescent patients with a restrictive eating disorder in primary care with the coaching family-based treatment method (c-FBM) (3), with promising results and very reasonable costs (4). The c-FBM treatment is somatic-oriented and is focused on restoration of nutritional status and normalizing eating habits at the start of the treatment, following the Finnish current care guidelines (2). The principles of encouraging parents to take responsibility for their child's nutrition, by simple advice and active support in weekly appointments in the c-FBM, are very similar to the manualized FBT (5). The differences are that the main responsibility for the outpatient treatment is taken by a single primary care provider, and the additional treatment is customized according to the needs of the patient and the family.

In this article we describe how four severe anorexia nervosa patient cases were treated as outpatients by c-FBM. Three of the cases represent a typical situation, where parents sought help from a school nurse due to weight loss and difficulties in eating, and one case represents a situation where the eating disorder developed causing somatic symptoms.

Written and oral information were provided, and a written informed consent was obtained from the patients

and their parents. Some changes to details have been made to maintain patient anonymity.

CASE 1

The patient was a 14-year-old girl with no remarkable medical history. She did well at school. The parents had noticed that her social contacts with peers and returning to usual hobbies had not recovered after the COVID lockdown.

In May, her body mass index (BMI) had been 18.1 kg/ m2 and ISO-BMI 19.7 kg/m2. During the summer she had started to control her eating habits gradually, by eating "healthy food" and avoiding sweets. During the autumn her parents noticed that she was losing weight and starting to be anxious about her eating. In January the mother contacted the school nurse, who urgently arranged an appointment with a healthcare centre paediatrician.

The patient's weight loss was 13.3 kgs. At the first appointment her BMI was 12.8 kg/m2 and ISO-BMI 13.4 kg/m2. Her menstruation had not started. She was pale, apathetic and spoke with an almost inaudible voice. She nodded when asked about a possible eating disorder and whether she was worried about herself. Her blood pressure at the first visit was 94/60 mmHg and heart rate 42 beats per minute (BPM), her hands and feet were cold, colouring blueish, and lanugo hair was present. Her blood tests were within normal limits except for alanine transaminase (ALT), being raised (140 U/l at the beginning but normalized in four months). ECG showed critical bradycardia 39 BPM.

At the first appointment her parents were advised to take responsibility for her meals at home, and weekly visits to the school nurse and fortnightly visits to the paediatrician's outpatient clinic were arranged. The youth psychiatric unit was contacted and regular meetings with a psychologist were introduced. A supplemental nutrition drink was added. Physical exercise in her free time and physical education (PE) classes at school were prohibited and transportation to school was arranged.

The patient was allowed to take care of school lunch by herself at the beginning of the treatment, but a few weeks later, when some cheating to avoid food during lunch was noticed, an additional supplemental nutrition drink was added, and she visited the school nurse to drink it under surveillance. The patient's weight started to rise after the parents took full responsibility for her meals. The detailed weight restoration is seen in *Picture 1*.

There was no evident opposition against meals, but visible anxiety during the meals was seen and fear of being fat was often discussed. Some cheating with skipping or hiding food was noticed. During the summer holidays her mindset seemed to relax steadily.

After the summer holiday, 8 months after the treatment start, school transportation and restrictions for PE classes were no longer needed, and later there was no need to prohibit free-time hobbies or physical exercise.

When she reached her former normal weight, supplemental nutrition was discontinued. After that, some signs of difficulty in eating sufficiently were noticed by the parents and the patient herself. She accepted her parents' help and support in these situations and could discuss about her fear of being fat during the appointments. She also expressed interest in a peer group chat.

During the first year of c-FBM, she had 18 control visits at the paediatric outpatient clinic. Both parents were present at the appointments, every time. She also met a school nurse 19 times. Additionally, the family met a nutritionist once and they had contact with a psychiatric nurse and psychologist 9 times.

A year after the initial diagnosis, monthly control visits are still continuing and although her parents are still involved, the target of the treatment has moved on to more to coaching the patient herself about her relationship with food and maintaining good health by eating enough. She seems healthy, is receptive to help and seems to have a positive insight towards her future.

Picture 1. The body mass index (kg/m2) before and during the treatment months. Case 1



Body mass index (kg/m²)

CASE 2

The patient was 12-year-old girl with no remarkable medical history. In the sixth grade she did well at school and was active with a musical hobby and the scouts. The patient's menstruation had started during the fifth grade.

The parents recalled that everything was normal during the spring holiday in March. After that, she started to control her eating gradually and began exercising and taking outside walks. Her menstruation had ceased during the summer months. By the start of the school year in the autumn, she had lost over 10 kgs of weight. Her parents contacted the school nurse, who advised them to seek help from a paediatrician's private clinic, based on their insurance and the quick availability of the appointment.

At the first meeting in September the parents stated that the patient did three hours of walking outside every day, was very anxious about eating and that she had stopped meeting her friends. The school nurse reported that between school lessons she sat alone and looked very apathetic. Her BMI was 14.4 kg/m2 and ISO-BMI 16.2 kg/m2. Laboratory tests were within normal limits and in ECG bradycardia (50 BPM) was observed. The parents were advised to take responsibility for her meals, to eat together with her, and prohibit the outside walking and exercise. A supplemental nutrition drink was added twice a day in October. The only meal she was responsible for eating by herself was her school lunch. She could manage that by herself but also sent anxious messages to her mother after eating. The mother patiently supported her to stay calm. Despite of her anxiousness the patient could join her lessons.

A multiprofessional meeting between the private paediatrician, the school psychiatric nurse and the family was arranged. The work was divided as follows: the paediatrician took care of the nutrition and the treatment of the eating disorder, and the psychiatric nurse concentrated on individual discussions with the patient.

During the first six months there was a lot of anxiety and quarrels during meals. The patient verbalized that she understood that she needed help to get enough food, but she was very afraid of getting fat. She also told that the "quarrelling" helped her to get over the anxious feelings.

The weight restoration was somewhat slow in the first 3 months, as seen in *Picture 2*. However, there was no remarkable weight loss and the parents could patiently handle

the stress that was always present during mealtimes. The parents also gathered advice on how to converse and behave during the challenging situations, from the information website of the principles of family-based treatment for parents (6).

In November, three months after the initial diagnosis, there were indications of compulsive behaviour. The patient seemed to be hungry and wanted to eat, but she repeatedly asked for "permission" from her parents. Moreover, the meals became very time consuming - she worried about eating too early or too late.

During her control visits, she was prepared to gradually take steps forward and, for example, joined her family at a restaurant.

When the patient started to eat more, and probably noticed her weight gain, she started to pinch her cheeks to help her anxiousness after meals. To support her selfimage and acceptance of bodily changes, psychophysical physiotherapy was arranged. In February, the patient could take care of her meals by herself. The supplementary nutrition drinks could be discontinued. During the summer holidays no pinching of the cheeks was seen and the parents reported her being more and more relaxed.

During the 14 months of c-FBM, the patient had 30 control visits to the paediatric private outpatient clinic. Both parents were present at the appointments almost every time. She also had discussions with the school psychiatric nurse, weekly from October to May, and about 10 appointments with a psychophysical physiotherapist and an osteopath, which her parents arranged for her privately.

One year after the start of the treatment, the patient could join her peers at a scout camp for a week during her autumn holiday.

Picture 2. The body mass index (kg/m2) before and during the treatment months. Case 2



Body mass index (kg/m²)

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CASE 3

The patient was a 13-year-old girl with no remarkable medical history. She did well at school. Her menstruation had started a year before. She arrived at the paediatrician's private clinic in March with her mother because she had started to often feel cold and had blueish hands. The patient was asked about possible eating disorder symptoms, but did not acknowledge the subject and nor did the parent. However, the patient had stopped eating meat for climaterelated ethical reasons one year before and later declined to eat any sweets.

The blood tests were normal, but her ECG showed bradycardia (53 BPM). Her BMI was 16.3 kg/m2 and ISO-BMI 17.5 kg/m2. The patient was advised to eat more and return to a normal diet as much as possible. The next control appointment with both parents was made for two weeks later.

At the control visit, it was noticed that the patient was standing in the waiting room while the others were sitting. The weight curve showed that she had lost 6 kgs of weight and her earlier normal BMI had been 19.1 kg/m2. Both parents reported that her food portions seemed diminished and that her menstruation had been scarce. The patient was advised to reduce physical activity until her weight had reached the earlier normal level, and the parents were advised to take more responsibility for her meals.

Two weeks later she had gained weight, but the parents reported that the patient still refused to eat sweets and, for example, did not want to use butter. The patient was convinced that she could follow the given advice and avoid certain food items. The control interval was prolonged to one month.

In June, two months after the first visit, the parents reported that the patient seemed to count calories and performed, a bit compulsively, extra exercise. The patient had lost weight and started to show more signs of an eating disorder by quarrelling about the meal portions. She still denied the fear of gaining weight, but had started speaking anxiously about eating too much. The parents were advised to take full responsibility for her meals. Her sports hobby and free-time exercises were prohibited. One supplemental nutrition drink was added alongside her meals. The public youth psychiatric unit was contacted.

During the summer holidays, the restrictive eating behaviour became strongly evident. The patient refused to eat sufficiently, was anxious when she was prohibited from exercise after her meals and many quarrels were present daily. Her weight dropped 3.2 kgs and an additional supplemental nutrition drink was added. In a discussion with the family, they were told that if eating was too difficult at home, there would be no choice but to send the patient to a hospital to avoid more severe malnutrition. In addition to weekly visits to the clinic, a phone contact was arranged between the control visits.

The parents managed to handle the stressful situations during the meals and the patient started to gain weight again (*Picture 3*).

At the start of the school year in autumn, the PE classes and free-time exercises were prohibited, but the patient was allowed to take responsibility for eating school lunch by herself. She sent a picture daily of her lunch portion to her mother. Her weight normalized in six months after the treatment start and there were signs of menstruation. The patient was allowed to join PE classes, and she was gradually allowed to start to take her own portions at meals. Even when not required, the patient wanted to show the portions to her parents to be sure it was enough and maybe "not too much". The concerns about the sweets were still present.

Nine months after the first visit, the patient reported tasting sweets without anxiousness. She seemed to join the control appointments with pleasure, reporting her everyday activities.

One year after the first visit, the patient's eating habits were normalized and she was back to her normal sports activities. One more control appointment was planned for after 6 months, in which she seemed healthy and relaxed.

During the 14 months of c-FBM, the patient had altogether 29 control visits at the paediatric private outpatient clinic and regular meetings with a psychiatric nurse. Three multiprofessional meetings with the public youth psychiatric unit were held.

Four years later, the parents have reported that the patient is healthy, studying at secondary high school and there are no concerns about her prior eating disorder.

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Picture 3. The body mass index (kg/m2) before and during the treatment months. Case 3

CASE 4

The patient was a 13-year-old girl with no remarkable medical history. She did well at school and was active in competitive figure skating. Her menstruation had not started. During the autumn her brother reported to the parents that the patient did not eat. The weight loss was remarked and the parents started to support her to eat more.

In January, before the routine health check at school, the patient's mother contacted the school nurse and reported her concerns about the patient's eating. The patient had changed her eating habits and had lost 10 kgs of weight.

The first visit to the healthcare centre paediatrician was organized within 2 weeks of the first contact with the school nurse.

At the first visit the patient denied eating disorder symptoms, but had noticed feeling cold often. Her BMI was 13.4 kg/m2 and ISO-BMI 14.3 kg/m2. Bradycardia (47 BPM) was observed in the ECG and the laboratory tests were within normal limits. The figure skating training and PE classes at school were prohibited. The diagnosis of anorexia nervosa and its risks to her health and sports career were discussed in detail, and the severity of the malnutrition and the urgency to stabilize energy intake and consumption were explained to her and the parents.

Weekly meetings with the school nurse, who had prior experience with c-FBM, were organized, and every second week meetings with the paediatrician.

During the first four months of the treatment, no clear weight gain nor weight loss was seen. The patient had joined the skating training by sitting on the sidelines and observing the training. Breakfast and the snacks between lunch and dinner were difficult for the parents to monitor, due to work duties. An additional supplemental nutrition drink was added. The family was also advised that the patient could take a video of when she ate her meals alone, and send it to a parent as proof of her eating enough. Photos of the meal portions were checked together during the control appointment and the parents were advised to add bread to meals. The family met a nutritionist and received more advice on how to heighten energy intake. The patient was allowed to handle the school lunch by herself.

During the control appointments the patient verbalized that she was not afraid of gaining weight and that she disagreed with the prohibition of training. Four months after the treatment start, she was allowed to follow her teammates to a competition trip over the weekend. The trip was carefully planned, and during the control visit the patient talked about her motivation to start eating more and get back to training. She had hoped to be able to start mild training, but due to the still low weight (BMI 13.8 kg/m2), that was denied. The parents supported her in these situations to follow the doctor's advice.

In May she was allowed to perform in the team's annual skate show, which motivated her even more to eat. Her father reported that she seemed hungry and could eat more during the meals than she had earlier. Her parents were encouraged to enlarge the meal portions, and the patient was advised to take snacks every time she thought about food.

Her weight gain started five months after the treatment start, and during the summer months her nutrition intake started to normalize, as seen in *Picture 4*.

At the start of the school year, seven months after treatment start, the patient reached her earlier normal weight. Prohibition of PE classes was no longer necessary and the patient started to join her normal skate training gradually. The extra supplemental nutrition drink was taken as a recovery drink after her training sessions. During the autumn the patient seemed to return to her earlier normal habits of living. Neither she nor her parents verbalized any concerns about her eating any more, but during the control appointments the subject of possible long-term effects of eating disorders on mental health was discussed, and she was offered the possibility of discussions with a psychiatric nurse. She felt no need for this, but is now aware that the discussions can be organized for her when needed. Her menstruation started in February, one year after the treatment start.

During the first year of the c-FBM, the patient had 19 control appointments at a paediatric outpatient clinic. Every second month follow-up is still ongoing. Both parents were involved in the treatment, and at least one of them was present at the appointments every time. The patient met a c-FBM experienced school nurse during school days 17 times. Additionally, the family met a nutritionist once.

Picture 4. The body mass index (kg/m2) before and during the treatment months. Case 4



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DISCUSSION

Coaching family-based outpatient treatment method is a cost-effective and safe way to approach adolescent anorexia nervosa. The method is simple and does not demand large resources from the healthcare system. The method fits more than well with the strategy of Finnish youth psychiatric targets to ensure a basic level of mental healthcare (7). The cases in this report were chosen based on the unlimited access to all medical records, and they represent typical cases that we have treated earlier in northern Finland. However, these cases may not be generalizable mainly due to the limited number of patients being treated so far by a single paediatrician, but the method has now been implemented into primary healthcare and school healthcare in the Länsi-Pohja district of northern Finland.

In this case report we show how four typical adolescent anorexia patients with severe malnutrition and a very low BMI were able to be treated as outpatients with a familybased method. Their mental and somatic symptoms seemed to resolve well by relearning how to eat normally again, however, no validated questionnaires of psychosocial wellbeing (8) were used.

With c-FBM, the aim is to keep the treatment simple and support the family to gradually guide the patient from their "anorexia world" back to their earlier normal life. All patients in this case report were supported to continue with their ordinary living conditions, by maintaining their schooling and social life during the treatment.

Less is more - only one physician takes the main responsibility, with the assistance of one to three medical co-workers, and concentrates on getting familiar with the patient and the family to find individual solutions to their specific problems cooperatively. We have earlier found that there are five times more medical professionals that take part in inpatient treatment compared to outpatient treatment (4). In c-FBM we deliberately try to keep the staff close and weekly reachable, to avoid varying instructions for the family. We also infer that with a permanent medical staff the confidential relationship is easier to build, which may also help patient and parents' adherence to the treatment.

The parents, especially fathers, are an important resource in the family-based treatment method (1,9,10). In c-FBM we make efforts to always involve both parents in the treatment, and we also have good clinical experience that even divorced parents can take the responsibility well together. The parents do the hardest work (9) and face the disorder's symptoms 4-5 times a day while there are a lot of other everyday tasks to do. Unfortunately, strategies to support parents' wellbeing more during the demanding process have not yet been resolved.

The c-FBM method's main goal is the restoration of nutritional status and weight gain by eating normal food at home. Earlier clinical studies have shown that early weight gain is a prognostic factor for a good short-term outcome (12,13,14), and that weight gain also emerges as a significant predictor for improved psychological outcomes in short term follow up (15). With the examples of the current four cases and our earlier clinical experience, it usually takes 2-3 months for patients to reach the level of energy intake by eating normal food at home for that weight gain to be possible. If eating habits start to normalize in our patients, we patiently wait for weight gain but do not allow weight loss.

Psychological comorbidities, especially mood and anxiety disorders, are common in anorexia nervosa patients (16). In population-based studies, premorbid depression, obsessive-compulsive personality and autistic traits are associated with a decreased likelihood of long-term recovery in anorexia nervosa (17,18). It is not easy to differentiate between patients with or without psychological burden, because all underfed people seem to behave similarly in the time when malnutrition occurs (19). In c-FBM, possible psychiatric comorbidities are remarked and kept in mind, but starting the treatment as an outpatient by focusing first on nutritional recovery seems to be also safe for patients with earlier mental concerns (3), and the need for mental support is found later. In addition to these four cases, we have met in our clinics otherwise healthy adolescents who seem to fall into anorexia accidentally by starting a "too-healthy diet" (3). In our experience many of the earlier healthy patients fit well in c-FBM, since many recovered in a surprisingly short time (3) and have stayed in remission during the longterm follow up of over 5 years (preliminary analysis of our long-term follow-up study).

Our treatment method follows the current care guidelines in Finland, recommending early recognition and active outpatient treatment as the first choice (2). In the 21st century there have been concerns about inpatient treatment inefficiency (20,21,22), even though there are no randomized controlled trials (RCTs) comparing outpatient FBT to inpatient multimodal treatment (23). In our earlier study, we found that almost half of the patients with inpatient treatment in our area had not received active outpatient treatment beforehand (4), due rather to the non-availability of outpatient treatment than the seriousness of the disorder. In that retrospective paper, we found that 75% treated as

outpatients versus 25% treated as inpatients were free from medical control visits after a mean 3.4 years of follow-up (4).

There is a need for research in treating anorexia at primary care level, since there are not many published interventions and, to our knowledge, no published longterm follow-up studies. These cases, in addition to our prior studies (3,4), introduce, even though with a limited patient group, real-life experience of a family-based method in primary care.

We are not the first to treat adolescent anorexia nervosa patients by FBT modification in primary care, and the theme has been raised in several other publications lately (24,25,26). Mayo clinic's study from 2021 reported in their primary care FBT study positive insight into early access, and comparable outcome results to traditional FBT (25). In that study, voluntary primary care providers who had shown interest in adolescent healthcare were trained and supervised for the FBT method (24,25). In our opinion there is a need and a possibility for this kind of setting in northern Finland, with long distances and barriers to reaching special psychiatric care.

Based on our experience and, for example, supported by these cases, we suggest that outpatient family-based methods for treating adolescent anorexia nervosa can be implemented in primary care. Early access, availability and continuity of the active outpatient treatment with light psychoeducation could possibly spare the resources of special care for those with more serious conditions.

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