Video Therapy for Atypical Eating Disorder and Obesity: A Case Study

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Abstract: Both eating and weight disorders are prevalent in our society but many sufferers do not have access to specialist treatments, especially those living in remote and rural areas. Video therapy is proposed as a potential solution, allowing therapists to deliver psychological treatments without the costs associated with travel. Furthermore, there is a gap in the evidence base for those with co-morbid obesity and atypical eating disorders, but it is likely that treatments which focus on linking past and present patterns of behaviour and emphasise cognitive, behavioural and emotional change will be most effective. A naturalistic single case design was used to pilot the feasibility of providing video therapy using the schema therapy mode model, which involves a range of 'active' techniques including chair work and imagery. Results suggest that videoconferencing may be well suited to the delivery of experiential psychotherapy, leading to change across several domains. Scores on the EDE-Q showed a 77% improvement and the client was abstinent from vomiting during the last 28 days of treatment. The findings from this study indicate that video therapy may be effective for this co-morbid diagnostic group and highlight the need for further larger scale research.

Keywords: Obesity, eating disorder, video therapy, schema therapy, single-case design.

INTRODUCTION

Obesity has been identified as a global epidemic, with over 300 million people having been diagnosed by the World Health Organisation worldwide [1]. Rates of obesity in Scotland rose from 24.3% in 2003 to 26.8% in 2008 [2], with similar trends in England and Australia [3]. Obesity is associated with severe health risks, including a higher risk of heart disease, high blood pressure, type 2 diabetes and certain types of cancer [4]. It has also been linked to a range of psychological problems, including eating disorders, body dissatisfaction, depression and poor quality of life associated with unhealthy lifestyle factors [5].

Obesity is more accurately classed as a weight disorder than an eating disorder. However, it has been estimated that the prevalence of eating disorders (mostly accounted for by Binge Eating Disorder) in the obese population is in the region of 2-5% from community samples and 30% amongst obese patients seeking treatment at university weight loss clinics [6]. Obesity has been identified as a risk factor for the development of Bulimia Nervosa (BN) and initial evidence suggests there may be a specific genotype predisposing to obesity in certain patients with BN [7]. In addition, parental and/or childhood obesity have been identified as specific risk factors in the development of BN [8]. Dieting is believed to be a major solution to the problem of obesity, but paradoxically this has been linked with an increased likelihood of developing an eating disorder [9] and may therefore be contraindicated for this group. Cognitive Behavioural Therapy (CBT) is the most empirically validated treatment for bulimic disorders, but there is a lack of clear evidence for atypical eating disorders, especially for those without a clear pattern of binge eating. Sufferers who present with high levels of complexity or co-morbidity may require treatment which specifically addresses entrenched core beliefs and behavioural patterns in a more focused and intensive way [10, 11].

Approximately one third of the population of Scotland has no access to specialist eating disorders services, and those which do exist are in major cities [12]. Eating disorder sufferers living in remote and rural areas are particularly disadvantaged due to a dearth of locally available therapists who are trained and experienced in the treatment of eating disorders. For many, the prospect of travel to and from city centres in order to access weekly therapy sessions is impractical due to expensive and often unreliable transport options, severe weather and work and family commitments. For those with disabilities or other health problems linked to obesity, the journey may be nigh on impossible. There is little incentive for therapists to travel regularly to rural areas due to the prospect of lost time and financial compensation. Research to date has indicated promising developments in the use of a range of technologies to facilitate the provision of treatment for obesity and eating disorders. In particular, videoconferencing-based treatments may be a mode of treatment delivery which is beneficial for those who require specialist psychological and nutritional therapies from a distance. Indeed, results from a recent study indicate that CBT for BN appears to produce similar outcome when delivered by videoconfer-

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encing or in-person (face-to-face) [13,14], and may be more cost-effective in the treatment of patients in rural areas [15].

This paper presents a naturalistic single case study of the use of videoconferencing to provide treatment for a 39 year old woman with obesity and co-morbid atypical eating disorder (i.e. regular use of inappropriate purging after eating small amounts of food). The interventions were framed within a schema therapy model developed for longstanding, entrenched difficulties, which targets change on emotional, cognitive, interpersonal and behavioural levels. Video therapy was used creatively to facilitate a range of therapeutic techniques which have to date only been tested on a face-to-face basis. This pilot study aimed to evaluate the feasibility and acceptability of video therapy for co-morbid eating and weight-related disorders.

METHODOLOGY

Case Description

Merrin was a 39 year old woman with a 15 year history of yo-yo dieting with daily self-induced vomiting. She was married with 3 school-age children and living in a rural area 47km outside Aberdeen, where the main hospital and Eating Disorder Service are based. Her eating disorder symptoms included a persistent pre-occupation with eating and an irresistible craving for food, periods of overeating, constant attempts to restrict food intake and vomiting at least once every day. She had lost 7 teeth due to vomiting. There was no evidence of objective bingeing, no use of diet pills, overexercise, nor laxative abuse. Poor body image was evident, independent of fluctuations in weight, and in particular disgust in relation to her abdomen, back and legs. There was no overt body or weight-checking behaviour. Her weight at treatment onset was 110kg (BMI 39.1) and had ranged between 76kg (4 years previously) and 127kg (5 years previously). Unusually, she did not wish to be thin and considered her ideal weight to be 76kg (BMI 27.5). At this weight she believed she would feel less pressured to lose weight, and would also feel less pressured to maintain a 'thinner' BMI within the normal range.

Merrin was independently assessed at pre-treatment by a psychiatric registrar and diagnosed with EDNOS (Eating Disorder not Otherwise Specified) according to the DSM-IV diagnostic system [16]. Her weight was in the obese category. She had a smoking habit and a family history of heart disease and type 2 diabetes, making it a priority to improve her eating habits and reduce weight-related health risks. She had also been diagnosed with a borderline thyroid level. Her mean global score on the Eating Disorder Examination-Questionnaire (EDE-Q) questionnaire [17] at pre-therapy was 4.493, which is significantly higher than the norm (mean: 1.554; SD: 1.21) of a non-clinical population. She also scored higher on all of the subscales, indicating high levels of restrictive eating, associated with marked eating, shape and weight concerns. Pre-therapy ratings on the SCL-90 [18] showed elevated scores on the 'Somatisation' (Mean:1.33) and 'Depression' (Mean:1.69) subscales, indicating distress arising from bodily perceptions of physical ill-health and low mood, loss of motivation and energy. There was no previous contact with psychiatric services.

History of Eating Disorder

All family members except her father were overweight, and as children Merrin and her siblings were expected to finish everything on their plates at each meal. Meals usually consisted of two courses of processed high-calorie foods. Her mother often dieted, but this was not openly discussed. At the age of 12 she first became aware that she was taller and bigger than her peers. She was ridiculed at school for the size of her chest and although she was not teased explicitly about her weight, she assumed that this was the reason that some of her friends withdrew from her at that time. With her mother's help, she started dieting. Her perception of herself as 'big and slow' led to high levels of self-consciousness and an avoidance of school sports activities, social events and parties. She started to self-induce vomiting in order to persuade her mother that she was too unwell to go to school on the days that physical education classes were scheduled. From the ages of 12 to 17 she developed a strong sense of herself as 'fat' and unattractive to her peers. She blamed herself for her body size, but was unsure about how to lose weight.

She left school at the age of 16, and worked in a factory, feeling too self-conscious to take on any position that would involve exposure to the public. Her first marriage lasted 7 years. She developed Myalgic encephalomyelitis (ME) after having her first child, leading to exhaustion with joint pain. She described feeling alone and depressed. She was treated with pain-relief and anti-depressant medication. She later remarried and had 2 further children. An apronectomy was performed one year prior to referral to the eating disorder service. Unfortunately this was unsuccessful due to subsequent weight gain and resulted in a suspected hernia which interfered with her attendance at some of her scheduled video therapy appointments.

Formulation

Merrin developed a complex relationship with food from a young age. The majority of family members were overweight and she developed a sense of feeling different from her peers and stigmatized due to her shape and weight. Her avoidance of physical exercise further reduced opportunities for energy expenditure. Her first attempt at dieting at the age of 12 was unsustainable due to the fact that her family was entrenched in eating large high energy meals. She began to develop strong schemas (extremely stable and enduring patterns that develop during childhood and are elaborated throughout an individual's life) defining her self-worth and lovability. One of her strongest schemas was Social Undesirability ('I'm fat', I'm not sexually attractive',' I'm ugly') which was linked to self-consciousness around other people. She believed that she was not good enough and that others would ultimately abandon her. She learned to reduce the (perceived) likelihood of rejection and abandonment through sacrificing herself to meet others' needs and demands. Merrin learned to use eating as a way of comforting herself and detaching from difficult emotions, especially when feeling rejected or unloved. High levels of internalized shame led her to despise and blame her body. Restriction and vomiting were used to punish herself for eating what others would consider normal meals. She consistently skipped meals, and when distressed would often restrict for a day or more at a

time. This led to periods of overeating, followed by further vomiting episodes, thus developing a vicious cycle. Hypervigilant internal body scanning took place after even small amounts of food and she was sensitised to any sensations of fullness or bloated-ness. This was linked to immediate urges to relieve discomfort through vomiting. Signs of fullness were experienced as uncomfortable and interpreted as a sign of potential weight gain. The onset of ME exacerbated her perception that her body was out of her control and further reduced opportunities for physical exercise and weight loss.

Design

The present study relied on an AB design, representing assessment (A) and treatment (B). As is usual practice in the service, standardised measures were administered at intake (Eating Disorder Examination Questionnaire (EDE-Q); CORE [19], pre-therapy (EDE-Q, CORE, SCL-90, Rosenberg Self-Esteem Scale [20], Schema Mode Inventory [21], mid-therapy (EDE-Q, CORE, Working Alliance Inventory (WAI) [22]) post-therapy (EDE-Q, CORE, SCL-90, Rosenberg Self-Esteem Scale, WAI) and one-month follow-up (EDE-Q, Rosenberg Self-Esteem Scale, CORE). The Client Change Interview Protocol [23] was also carried out by telephone at mid- and post-therapy by a doctoral level Clinical Psychology Trainee (LS). A daily diary was also kept to record food eaten and eating disorder symptoms.

Treatment

Merrin was referred by her General Practitioner (GP) and was triaged before being placed on the Grampian Eating Disorder Service waiting list. From the point of referral she waited for 18 weeks for treatment. Before her first treatment session, Merrin was contacted by telephone and offered video therapy. Transport difficulties and logistics of childcare made attendance at regular face-to-face appointments in Aberdeen impractical. A 'Video-therapy: What to expect' information sheet was sent with the first appointment letter. Treatment took place at her local community hospital on the videoconferencing system in the Minor Injuries Unit, a 10 minute drive from her home. A clinical psychologist trained at doctoral level (SS) conducted sessions from a Tandberg videoconferencing system (56cm width screen) based at the Eating Disorder Service at Royal Cornhill Hospital, Aberdeen. The screen was pre-set at both ends so that the view was of torso and head. However, this view could be changed at any time by therapist or client by remote control. All sessions were conducted at ISDN 6 through the internal National Health Service network. Merrin was advised to attend her GP and dentist for regular physical check-ups throughout treatment.

The schema 'mode' therapeutic model [24] was chosen to address the longstanding nature of her eating difficulties and chronic low self-esteem dating back to childhood. Initial data suggest that this model may be highly relevant to the eating disorder population and that schemas may be linked with specific eating disordered behaviours [1, 25]. In the first two weeks of therapy Merrin learned to self-monitor her eating patterns and to link these with emotional triggers. Regular meals and snacks were slowly re-introduced and catastrophic cognitions in relation to weight gain were challenged. Behavioural strategies were used to plan meals and delay and eventually replace vomiting. Mode dialogues (an experiential chair-work technique) were used to challenge her extreme patterns of self-criticism, self-shaming and long-standing avoidant coping strategies. Imagery techniques were used to re-script early memories of being blamed and teased and to heal the underlying emotional damage caused by these experiences. She gradually learned to value herself and to relate to herself from a healthier compassionate position. Her eating patterns normalised as she began to conceptualise food as a necessary requirement, rather than as something 'sinful' which she should be able to resist. She learned to ask for comfort, practiced healthier patterns of self-soothing when distressed, and began to blame herself less in the face of conflict and others' negative behaviour. Sessions focused on increasing awareness of her needs and learning to be assertive. Schema 'flashcards' were used to challenge self-criticism, alert her to use her new coping strategies and affirm her inherent self-worth. Body image work took place through imagery and behavioural exercises and focused on developing a holistic view of herself by considering all the different aspects of her 'self' rather than defining herself entirely on the basis of one or two body parts. She began to examine herself from the (accurate) perspective of others, rather than through her 'Social Undesirability' schema. This work was facilitated by the videoconferencing – she was able to view herself using the Picture-in-Picture facility and to challenge any self-deprecatory statements that were triggered. The document camera linked to the videoconferencing unit was used to project her formulation diagram and homework onto the screen to facilitate communication. Email was utilized to reinforce material covered in sessions, to send out monitoring diaries, to send homework exercises and to give feedback on food diaries.

RESULTS

Seven video therapy appointments and one telephone appointment were attended over 11 weeks. Appointments were spaced twice weekly over the first 4 weeks and then weekly thereafter. Four appointments were cancelled due to heavy snow, transport difficulties, and weight-related illness (suspected hernia) and were substituted for telephone appointments with follow-up email exchanges

Main Outcome Measures

Global EDE-Q scores stayed stable between initial referral and pre-therapy (18 weeks), but then decreased from 4.49 at pre-therapy to 1.8 at post-therapy, placing her within the range of the normal population. This was a decrease of 77 % in severity of eating pathology. There was improvement on all subscales, as shown in Table **1**. This improvement in eating disordered symptoms was verified by self-report diaries. At pre-treatment vomiting was taking place on average six to eight times per week. Daily eating diaries indicated that in weeks 1 to 3 she vomited three times per week and missed at least 3 meals per week. In the final 28 days (i.e. weeks 7,8,9,10) of treatment she was abstinent from vomiting. Her weight had dropped to 103kg (BMI 36.7). At one-month follow-up her EDE-Q global score had further decreased to 0.46.

On the CORE there was marked improvement on all subscales, with an 86% reduction in global distress between pre and post-treatment (1.29 - 0.18). By one-month follow-up

Table 1. Mean Scores on EDE-Q

EDE-Q	Initial Referral	Pre-Therapy	Mid-Therapy	Post-Therapy	Follow-up	Norms [a]
Global	4.42	4.49	3.64	1.04	0.46	1.41 (1.15)
Restraint	2	3	0.4	0	0.2	1.31 (1.38)
Eating Concern	4	3.8	2.8	1	0.4	0.61 (0.94)
Shape Concern	5.88	5.38	5.75	1.4	0.63	2.10 (1.60)
Weight Concern	5.8	5.8	5.6	1.8	0.6	1.64 (1.41)

[a]Norms are from aged matched general population [19].

her global distress score was 0.29, well below the clinical cut-off score and within the 'normal' range. Scores on the Rosenberg Self Esteem Scale showed an improvement between pre-therapy (20 = low) and post-therapy (26 = above 'normal range'). At one-month follow-up her score of 22 was within the 'normal range'. At post therapy, mean scores for all 12 maladaptive schema modes were within one standard deviation of the normal population (compared with 6 at pre-therapy). The SCL-90 Global Severity Index mean score decreased by 72% between pre- and post- treatment (0.99 - 0.28), with a 73% reduction (1.69 - 0.46) on the depression subscale.

Ratings of Rapport and Therapeutic Experience – Self-Report and Interview

The therapeutic relationship, as measured by the WAI was rated at the maximum level (total score of 84) both at mid and post therapy, suggesting that the use of videoconferencing as a mode of treatment delivery did not interfere with the development of a positive therapeutic rapport. This was further supported by ratings on the self-developed Video Therapy questionnaire, which showed maximum satisfaction on quality of sound, picture and 'ease of communication'. Results from interview indicated that rapport was in some ways enhanced by video therapy see Table **2**.

DISCUSSION

The present pilot study explores a patient's journey through video therapy and provides evidence, within the context of a single case study, for the acceptability and effectiveness of the use of this technology. In particular it shows promise for the potential of using video therapy for people who suffer from co-morbid weight and eating disorders. Outcome data suggested a clinically important reduction in eating disordered behaviours, with daily diaries indicating that she was abstinent from vomiting for the last 28 days of treatment, and a 77% reduction in symptom severity on the EDE-Q. As her eating disordered symptomatology improved, her weight dropped from 110 to 103kg. To date, there has been a dearth of research on treatments for clients who fall within this diagnostic category, and in the UK they often fall short of meeting criteria for inclusion into treatment programmes offered by either Obesity or Eating Disorder services. It seems clear that the treatment of the eating disorder is usually a priority, given that the vicious cycles of self-critical thinking, dieting and compensatory behaviours are strongly linked to overeating and bingeing behaviours. Preoccupation with food, shape and weight must be addressed in treatment before weight loss can occur in a stable and more sustainable way. However, it is also clear that it is important to treat the eating disorder in the context of the obesity issue, recognizing the need to improve lifestyle factors and reduce weight through the introduction of healthy eating patterns and exercise.

Given the high levels of shame linked to eating disorder symptomatology [26] and the stigma associated with attending an eating disorder service, it appears that video therapy may be highly suited as a mode of treatment delivery to this diagnostic group. In the present study, Merrin noted that it met her treatment requirements from a practical point of view and that she "probably would have given up" if she had been required to travel to face-to-face appointments. This is an important factor when one considers the demands of family life in addition to physical disabilities linked to obesity, making regular attendance at appointments a stressful endeavor. The findings of this case study were consistent with those of previous studies [27, 28] suggesting that the provision of technology-based treatments can enhance engagement and reduce feelings of self-consciousness. It can provide a 'safe personal space' which may facilitate disclosure of difficult or shameful feelings, allowing clients to feel less scrutinized than they might in a more intense face-to-face context. It also lends itself to direct body –exposure work whereby clients can see themselves on the screen and practice dealing with self-critical thinking patterns, and building self-compassion. Body-related anxieties and avoidance can be openly noted, discussed and worked on through the use of still images, zooming the camera in and out on different body parts, and 'playing' with the size of their self-image on the screen. In the present case study these behavioural strategies were utilized in the context of the schema 'mode' model, which also uses a range of other experiential and interpersonal techniques to facilitate change on emotional and cognitive levels. Due to the high quality of picture and sound, the therapist was able to closely monitor gestures and changes in expression and emotion throughout these exercises, adjusting feedback accordingly. Change in levels of depression, self-esteem and schema modes between pre- and post- therapy suggest that the benefits of this type of therapy may reach beyond a symptomatological level, addressing general mood state and underlying beliefs and behavioural patterns.

Therapeutic alliance was found to be high at both mid and end-of-treatment, replicating findings from earlier studies [29], which suggest that video therapy can enhance rapport through allowing connection to develop at a pace that

Table 2. Themes from 'Client Change Interview'

Practicalities of Video Therapy (VT)	Therapeutic Rapport	Experience of Schema Therapy by VT	Behavioural Change	Self Description
Mid-therapy + "VT does not infringe on my kids' [needs], as I don't need someone to [baby]sit with them long" + "VT can reach people who can't get to Aberdeen" **Post-therapy** + "Its been really good [to use telephone & email as an adjunct to VT] – if I had problems I just emailed & she got back to me. I didn't feel closed off just because [our communication wasn't entirely] *via* video link" + "Given the choice of VT or face-to-face again, I would choose VT. Without VT I would have had to come to [Aberdeen] and wouldn't have been able to come weekly. By the time I had driven there & back I would have been rushing about to pick up my little one. I would have been totally stressed. To be honest, with that stress I probably would have given up."	**Mid-therapy** +/- "At first I was a bit apprehensive…I didn't know what to expect...but now it's fine" +/-"If you get upset the therapist isn't in the room to pat you on the back. But Susan has manner that makes you feel better" **Post-therapy** + "I think it [VT] was easier than face-to-face [would have been] …I think I would have been more embarrassed if I knew she was in the same room. In face-to-face therapy I would have held back but [as I was] in a separate room I was able to say anything. I get shy when I'm face-to-face & that might have made it more difficult"	**Mid-therapy** "Role play & [mode work] were weird to start off with. It wasn't upsetting doing it, but it put me in touch with what the different parts of me were saying and that [made me] upset" **Post-therapy** "The most difficult part was letting myself get into the role-plays. It was uncomfortable trying to think back. After the first time it was a breeze." "I was conscious of seeing myself on the TV. But …I was there to get my eating disorder under control and one of my goals was to overcome that fear [of looking at myself]. I think that VT has made me less self-conscious about my body. I would sit in front of the screen [before linking up] at the start of my sessions & talk to myself the way Susan has taught me to – pushing the negative [mode] aside."	**Mid-therapy** + "I can tell when I'm starting to go downwards & try to use new coping mechanisms" +"I talk more to my husband" + "Before I was negative about myself but now I am making these changes for me" + "I'm not as scared to eat out now" + "It's been a shock to see how quickly [these changes] have happened" -"I still have… negative thoughts, but now I have arguments between the negative & positive thoughts". **Post-therapy** +"I would still like to lose weight but its not the 'be-all-and-end-all' now. Before it was an obsession. Now its nice to take [the weight] off naturally instead of doing it with fads & diets. I want to keep doing what I'm doing now."	**Pre-therapy** +/- "I'm fat. I hide feelings behind a 'mask'. Not pretty. A good kind person, helpful." **Mid-therapy** +/-"I aim to please & help everyone else. I'm there all the time if anyone needs me. I give good advice but cant take my own advice. I'm a good friend." **Post-therapy** +"I'm more confident. I don't see myself as fat now, I see myself as big. I'm more assertive & I don't get 'stepped on'. People [make demands] on me,but I took a step back and said 'no'. My husband describes me as "confident, positive & sexy".

feels comfortable to the client. The video therapy 'space' also appears to minimize any feelings of intimidation and loss of privacy or personal control that may be more prevalent in a setting that takes place on the therapist's 'turf'. In fact, whereas clients seem to consistently rate high levels of satisfaction with video therapy, it is often the therapists who have reservations about its potential as a mode of therapy delivery [30]. One possible reason for this may be due to anxieties about 'sharing' the control with clients, and about adjusting to a new therapeutic space outside of their familiar 'territory'. As was noted by Merrin in the present study, although the expression of empathy in video therapy may not always be through traditional means, a range of alternatives are available which may be just as effective (e.g. providing verbal support, use of reassuring phrases and respectful silences, ensuring that patient has a good view of therapist's facial expressions).

This single case study has begun to examine the scope of videoconferencing as a mode of therapy delivery for obesity, using a sophisticated psychological model that addresses both co-morbidity and characterological issues. Although the generalisability of these findings is limited, the examination of a single case has allowed for a detailed exploration of both therapy process issues and the factors which make the use of videoconferencing potentially useful for this client group. Further larger scale studies with longer-term follow-up are required to determine whether video therapy is effective for those with obesity and eating disorders and whether particular eating disorder diagnostic groups or personality styles are most suited to this type of therapy delivery.

CONCLUSIONS

This pilot case study suggests that video therapy may be acceptable and effective for sufferers of co-morbid obesity and eating disorders. In this case, the development of a strong therapeutic alliance was facilitated by video therapy, with important clinical improvements in both eating disorder and general psychopathology. Specialist eating and weight disorder clinics are generally located in large city centres. For this client, there were a range of obstacles to attending face-to-face treatment, including geographical distance, several snow-storms which blocked the roads, childcare responsibilities, unreliable transport options and weight-related health problems. The schema 'mode' model was used to

challenge weight and shape related belief systems using a range of experiential and cognitive-behavioural techniques. This study suggests that even in-depth emotional processing can occur in video therapy, which may be of particular benefit to those with complex or co-morbid conditions. Most importantly, videoconferencing provides a means of accessing psychological treatments to a group of people who otherwise may have little access to specialized resources. Further research is needed to evaluate the provision of video therapy for this client group.

LIST OF ABBREVIATIONS

VT = Video therapy

EDNOS = Eating Disorders not Otherwise Specified

BN = Bulimia Nervosa

ME = Myalgic encephalomyelitis

EDE-Q = Eating Disorder Examination Questionnaire

ISDN = Integrated Services Digital Network

CBT = Cognitive behavioural therapy

BMI = Body Mass Index

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