

Post Surgical Review of Bariatric Surgery Patients: A Feasibility Study of Multidisciplinary Follow Up Using Videoconferencing

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Abstract:

Background: Bariatric surgery is an effective means of managing weight and reducing medical co-morbidities in the obese patient. However, psychological difficulties are common and adequate multidisciplinary support is vital for post-surgical success. Videoconferencing is potentially a vehicle for the delivery of support to patients residing in remote areas.

Methods: Ten patients were invited to attend a videolink session utilising videoconferencing technology to allow clinicians to connect audio-visually with patients from two remote locations. Seven patients attended. A Consultant Surgeon, Clinical Psychologist and Specialist Dietitian reviewed the patients. Patients and clinicians completed a post-session evaluation questionnaire and commented on their experience.

Results: The videolink session was evaluated as acceptable and useful to both patients and clinicians. Patients and clinicians were satisfied with the user-friendliness of the technology.

Conclusion: Videolink technology may be a viable and accessible means of delivering specialist multidisciplinary input to bariatric patients. Further research is necessary.

Keywords: Bariatric surgery, obesity, videoconferencing.

INTRODUCTION

The evidence supporting bariatric surgery as the most effective means of managing severe obesity (BMI > 40 kg/m²) is becoming increasingly compelling. It has been demonstrated that surgical intervention allows obese individuals to lose weight and reduces or eliminates obesity-related comorbidities such as hypertension, diabetes, hyperlipidemia and obstructive sleep apnoea [1]. In addition to the weight loss and health benefits, bariatric surgery has been shown to have a positive impact on quality of life [2], depression [3] and anxiety [4].

Pre-surgery psychiatric difficulties are common in the treatment-seeking bariatric population, most frequently adjustment disorders, anxiety disorders, mood disorders and eating disorders. Research has shown that the lifetime prevalence of Axis I disorders in surgery seeking patients is up to 66% [5]. It has been demonstrated, however, that psychopathology generally improves following bariatric surgery. However, improvements may dissipate over time and patients may experience reoccurrence of previous difficulties [6]. Therefore, close monitoring of post surgical patients is recommended [7]. The obesity surgery patient may face massive challenges in response to the level of weight loss achieved; learning to cope with vastly reduced food consumption, coping with a dramatic change in appearance, relationship changes, weight plateaus and dealing with ex-

cess skin [8]. The post surgical assessment of patients ideally should take account of not only medical and surgical issues, but also dietetic difficulties, psychiatric status, psychosocial functioning, eating patterns and quality of life. Thus, multidisciplinary support is of crucial importance in managing this potentially complex clinical picture.

Positive surgical outcome has been found to be related to the provision of ongoing therapeutic contact [9]. Pre-surgical psychological assessment has become routine in this specialist area, but post-surgical psychological support is less common. Psychological support may help patients cope with the aftermath of surgery. In some cases, patients may feel a sense of failure if they do not feel able to make the surgery a success without assistance and this may limit their tendency to ask for help from professionals. It is therefore important that multi-disciplinary support is readily accessible to patients.

Many factors may determine how well supported patients are; resource, staffing, motivation and also geographical location. Due to the highly specialist nature of bariatric surgery, it is likely that bariatric teams are physically located in hospital settings, usually in urban areas. This means that patients living in rural areas are required to travel to attend appointments.

Videoconferencing technology has been successfully utilised in a range of clinical settings. Psychiatric and psychological assessments have been conducted via videolink [10-12] and, although the research in this area is sparse, results indicate that videolink is a viable alternative to face-to-face contact [13]. Ongoing therapeutic interventions using video-

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link have also been investigated with promising outcomes in terms of acceptability to both patients and clinicians [14]. Telemedicine in general has been demonstrated to be a feasible alternative to face to face contact across a wide range of clinical settings [15]. In a review of videoconferencing within the realms of psychiatry and psychology, it has been concluded that videoconferencing is at least as effective as face to face contacts [16], although methodological issues continue to limit the generalisability of many studies in this area.

In the complex and highly specialist arena of bariatric surgery, videoconferencing technology may allow the expertise of health professionals to reach remote and rural locations. This type of outreach is particularly vital for this patient-group, who frequently experience mobility problems which limit their own capacity to travel and attend appointments outside their local area.

There are no studies to date investigating the feasibility of using videoconferencing technology with bariatric surgery patients. However, it has been suggested that telecommunications technology may be used successfully to generate behaviour change in obese patients [17] and support weight management programmes [18-22]. Additionally, it has been shown that the use of telemedicine can in fact be a more effective means of improving obesity outcomes than routine hospital based interventions [23]. The current feasibility study involved the development of a remote multidisciplinary follow up clinic for patients living far from the specialist bariatric centre. The aim was to provide an accessible and acceptable service that would allow patients to make contact with team members in order to discuss any post-surgical issues – be it surgical, dietetic or psychological.

MATERIALS AND METHODOLOGY

Patients

Ten post-procedure bariatric surgery patients were contacted by telephone and invited to attend a follow up review session. The protocol for the session was explained to patients explicitly. Two patients were unable to attend due to other commitments and one patient became ill prior to her appointment and cancelled. Seven patients were reviewed.

Clinicians

Patients were seen by a Consultant Surgeon (face-to-face), a Senior Dietitian (via videolink) and a Clinical Psychologist (via videolink). All clinicians had previous experience of using videoconferencing technology in clinical settings. The session was conducted jointly, with all clinicians present. It was agreed that this was the most time-efficient method of reviewing the patients.

Technological Specifications

The connection was made using digital telephone lines (ISDN) with a band width of 384 kbit/s. The videoconferencing equipment in Aberdeen was a Tandberg 95Edge system. In Inverness, the equipment was a Tandberg 990MXP system.

Procedure

Patients were asked to attend their local acute general hospital (Inverness). On arrival for their appointment, pa-

tients were met in person by the project facilitator and the bariatric co-ordinator. Patients were again reminded of the protocol for the appointment; the surgeon would be meeting them in person, with the psychologist and dietitian linking in to the appointment from the specialist centre for bariatric surgery (Aberdeen) via videolink. On entry to the clinic room, the surgeon introduced each clinician and explained the format of the appointment; each clinician would ask questions in turn to avoid more than one person speaking at one time. It was explained to the patient that there would be a slight time delay when speaking over the videolink. The patient was encouraged to inform the clinicians if they were unable to hear any questions asked. The patient was also reassured that the dietitian and psychologist were the only people at the far end site and that the session was not being recorded. The follow up session lasted between 30-45 minutes. Each clinician asked the patient questions related to their progress following surgery. Any difficulties in each of the clinical areas (dietetic, psychological, surgical) were identified and recommendations were made. Finally, patients were invited to ask any questions. Following the session, patients were given an evaluation questionnaire by the project facilitator. They were also verbally asked how they had generally found the experience. Each clinician completed a questionnaire pertaining to each clinical session. The clinicians discussed each patient following the session and agreed on the pertinent details to be communicated to the patient's GP.

Measures

The evaluation questionnaires included a patient questionnaire and a clinician scale. The patient scale was a standard 19 item likert-type scale (1=strongly disagree – 5=strongly agree) which included questions from three domains: quality of the consultation, user friendliness of the system and overall patient satisfaction. Clinicians completed a 5-item questionnaire about their experience of the session. Patient demographics, type of surgery and outcomes were also recorded.

RESULTS

Ten patients were contacted. Two declined to attend due to having other commitments. Eight patients agreed to attend but one cancelled at late notice due to illness. Seven patients were reviewed via multidisciplinary videolink consultation. Six patients were female and one was male. The median age of patients was 54 years and the median number of days since surgery was 500. Four patients had undergone insertion of a gastric band only. One patient had undergone gastric band insertion with a later revision to gastric bypass. One patient had undergone insertion of an intragastric balloon and subsequently had a gastric bypass. One patient had an intragastric balloon inserted and subsequently underwent a sleeve gastrectomy operation.

Median, minimum and maximum values for the patient questionnaire are displayed in Table 1 and for the clinician questionnaire in Table 2.

Overall patients and clinicians found the videolink consultation to be acceptable and useful. There were no issues with the user-friendliness of the technology. Patient comments are displayed below.

Table 1. Patient Questionnaire

Quality of the Consultation	Median	Min	Max
"I found the clinic an acceptable way of meeting the specialist"	5	4	5
"There was enough time in clinic to discuss my problems"	5	4	5
"I was able to say all that I wanted"	5	4	5
"I feel shy and nervous about speaking"	2	1	2
"My questions were answered at the clinic"	5	4	5
"I found the doctors / dietitians / psychologists explanation of my symptoms satisfactory"	5	3	5
"I had confidence in the way that the doctor / dietitian / psychologist addressed my problems"	5	4	5
"I understood the diagnosis and treatment plan"	5	4	5
User friendliness of the system			
"I could hear everything that the doctors/dietitians/psychologists said"	5	4	5
"I felt that the doctors/dietitians/psychologists understood my problems"	5	4	5
" I felt comfortable talking via television screen"	5	4	5
"I was worried that others might be listening or watching during the outpatient appointment"	2	1	2
"Overall, I felt less self conscious than I do during face-to-face appointments"	3	2	3
Overall Patient Satisfaction			
"I would prefer a face-to-face clinic even if it involves travelling a long distance"	2	1	4
"The clinic was convenient and saved me time"	5	5	5
"I found the outpatient appointment with the doctor / dietitian / psychologist useful"	5	4	5
"I was worried that others might be listening or watching during the outpatient appointment"	2	1	2
I would like to have further consultations via the Telemedicine Clinic	5	4	5
"Overall I felt that the clinic met my needs"	5	4	5
"I found the weight loss surgery appointment via the tele-link acceptable and would agree to be seen by this method again"	5	4	5

Table 2. Clinician Questionnaire

	Median	Min	Max
"The clinic was an acceptable method of reviewing the patient"	5	5	5
"The clinic was as effective as a face-to-face interview"	5	5	5
"There was sufficient time to assess the patient and arrive at a management plan"	5	2	5
"The clinic visit had a useful outcome"	5	5	5
"Rapport was as easily established with the patient as in a face-to-face interview"	5	5	5

Patient Comments

I found the videolink to be a method of linking in with the health team without the need to travel long distances for short appointments. It has allowed me to express my views, ask questions and be given advice and guidance. I was able to engage with all members present in a meaningful way. On a slightly different note, weight loss surgery has been of huge benefit to me. It has been life changing and impacted on all areas of my being. From a health perspective I am no

longer diabetic or have high blood pressure. Both conditions impacted on my general health and well being. I have increased confidence in my day to day life and am more able to live my life to the full. I could not have achieved this level of weight loss and improved health and well being without surgery.

Very useful to see all staff at the same time. Noticeable time delay when speaking was slightly irritating. I was apprehensive about the meeting but enjoyed the experience.

Now more confident re weight loss. The convenience of not having the 9 hour round trip to Aberdeen was excellent. Hope this becomes more frequent. Thank you.

I find this way of an appointment good. It saves me a B & B and train fare. I would like face to face at some meetings because it is a slightly different way of relating to the dietitian etc. I did feel a little of a distance between myself and Aberdeen which one doesn't have in a face to face. On the whole I think the plan is a good idea. (patient called later to say that although she really enjoyed today's session, she really enjoys face to face with the surgeon as she has built up a good relationship with him).

The following observations were made by the project facilitator:

one patient wished to use the technology to help set up a patient support group.

one patient wished to use the videolink technology in her own working life.

one patient commented on how helpful it was having a local appointment as she did not need to pay for travel costs to Aberdeen or arrange childcare for her young child.

One patient stated that she found having the three clinicians at the same appointment very beneficial. She stated that she had failed to attend some previous appointments in Aberdeen due to the journey involved.

One patient stated that she would usually need to stay overnight in Aberdeen when attending appointments so the local appointment saved her money.

DISCUSSION

This feasibility study indicates that videoconferencing technology can be considered as a possible method of post-bariatric surgery follow up. The method was acceptable to patients and clinicians, irrespective of clinical background. Videoconferencing provides an accessible and convenient means of accessing complex patients in remote and rural areas. The results of the feasibility study suggest that patients from other remote areas may be able to access specialist bariatric surgery teams using videolink. This may serve to increase equity of access to follow up post-surgical services and in turn may enhance the patient experience in order to provide optimal outcomes, in terms of weight loss and quality of life. Travelling to remote areas may be a waste of valuable clinician resource and therefore videolink can minimise travel for clinicians, as well as patients. Videolink might assist in providing a more financially viable service for patients and may also have cost-savings for health providers. Due to the small sample size of the current study, findings should be treated with some caution and clearly further research is required to verify the feasibility of using videoconferencing technology as an alternative to face-to-face contact with bariatric surgery patients.

During clinical discussions where decisions are being made, the decision reached does not always meet with patient's expectations. This is particularly the case with surgical patients where hopes and expectations of surgical results can be unrealistic. It was observed that one patient involved in the study did not appear satisfied with the outcome of the

session. It would be interesting to consider whether satisfaction with the outcome of a consultation influences the patient's satisfaction with the technology used. If patients are unhappy with the decision that is reached, it may be that expression of discontent with the videolink is a way of communicating their distress, without directly addressing the issue with their clinicians.

AUTHOR'S CONTRIBUTIONS

EM, DMB, FS & CD participated in the conception of the study and its design and co-ordination. CD and EB performed data collection and EM carried out the data analysis, managed the literature searches and participated in the first drafting of the manuscript.

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