A locality-based, dietetic-led group for bariatric patients in North East Wales

Eleri H Hughes, Elaine Jennings

Bariatric surgery is an established, effective procedure for treating obesity and has been shown to reverse type 2 diabetes. In the North East Flintshire Locality (NEFL) in North Wales, people are referred for bariatric surgery to Salford Royal NHS Foundation Trust, Greater Manchester, where they also receive pre- and post-surgery treatment. In 2009, a locality-based diabetes service was established in NEFL to provide diabetes care to the locality. It became apparent that those referred to bariatric surgery in Salford found the 100-mile round trip difficult for routine appointments, so in May 2012 a dietetic-led peer-support group was set up within the NEFL to provide additional pre- and post-surgery care. This article covers the inception of the group and the results of the first service evaluation.

Bariatric surgery is an established, effective procedure for treating obesity. An estimated 340 768 procedures were performed worldwide in 2011, to which the UK contributed substantially (Buchwald and Oien, 2013). Demand for bariatric surgery is increasing across England and Wales (National Obesity Observatory, 2010), with accumulating evidence demonstrating improvements in obesity-related comorbidities such as type 2 diabetes, hypertension and sleep apnoea relative to non-surgical interventions (Buchwald et al, 2004; Arterburn and Courcoulas, 2014).

Research is also consistent in observing weight loss and type 2 diabetes remission in people who have undergone bariatric surgery in both short-term (Buchwald et al, 2004; Gloy et al, 2013; Schauer et al, 2014; Sjostrom et al, 2014) and long-term analyses (Maggard et al, 2005; Sjostrom et al, 2014). *The First Registry Report* of 7000 bariatric procedures in the UK (National Bariatric Surgery Registry, 2010) reported an average loss of 57.8% of excess body weight for people who had undergone bariatric surgery (herein referred to as bariatric patients) 1-year post-operatively and total remission of type 2 diabetes for 85.5% of people with the condition 2-years' post-surgery.

NICE (2014) also recognises in the updated obesity guideline the short- and long-term efficacy of bariatric surgery. They advise that an assessment for bariatric surgery should be offered to all individuals with recent-onset type 2 diabetes (diagnosed within the last 10 years) and a BMI ≥35 kg/m² as long as they are receiving or will receive assessment in a tier 3 weight management service (or equivalent), and an assessment should be considered for people with recent-onset type 2 diabetes (diagnosed within the last 10 years) and a BMI between 30 and 34.9 kg/m² as as long as they are also receiving or will receive assessment in a tier 3 service (or equivalent).

Introduction

Importance of post-bariatric surgery follow-up care

Weight regain or worsening obesity comorbidities, such as type 2 diabetes, are known to occur in the long-term among people who have undergone bariatric surgery due to non-compliance with dietary recommendations, surgical and hormonal factors, physical inactivity and mental health issues (O'Brien et al, 2006; Magro et al, 2008; DiGiorgi et al, 2010).

NICE (2014) recommends that a follow-up care package be offered to bariatric patients for a minimum of 2 years' post-surgery and information

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Article points

1. People residing in North East Flintshire, North Wales, who are referred for bariatric surgery travel to Salford Royal NHS Foundation Trust, Greater Manchester, for pre- and post-surgery care.
2. In 2012, a locality-based, dietetic-led group network was set up to provide peer support for those receiving bariatric care in Salford, so that there was support nearer to home in North East Flintshire.
3. A service evaluation was carried out among service users to appraise the group network structure and experience.
4. Group members appreciate that the support group is closer to home than Salford, and they find the group helpful in providing the information they require pre- and post-surgery.

Key words

- Bariatric surgery
- Peer support
- Service evaluation

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be provided about available support groups. Beck (2012) found that individuals attending ongoing support groups or psychotherapeutic interventions post-surgery appeared to experience greater weight loss relative to surgery alone. However, Courcoulas et al (2013) found that variability in the provision of follow-up care contributed to less predictable clinical outcomes, and they identified the need for enhanced support to continue adherence to long-term lifestyle modification.

In regard to attrition to follow-up care, Moroshko (2012) found the reasons were associated with greater pre-surgical weight and a longer distance to travel to the follow-up centre. Increased attrition was, in turn, associated with poorer outcomes (e.g. poorer weight loss or maintenance and obesity-related comorbidities) following bariatric surgery.

Considering the importance of effective post-surgery follow-up, a group support network was established to provide additional pre- and post-surgery care in North East Flintshire Locality (NEFL) in North Wales for people who receive bariatric surgery in Salford, Greater Manchester, so that there was follow-up care nearer to their homes.

The situation in NEFL

NEFL is one of three localities in the county of Flintshire and is one of fourteen localities within six counties in North Wales, which are all served by Betsi Cadwaladr University Health Board (BCUHB). Flintshire has approximately 10 200 people with diagnosed type 1 or type 2 diabetes, and two areas of North East Flintshire are in the most deprived 10% of areas in Wales, as shown in *The Welsh Index of Multiple Deprivation* (Statistics for Wales, 2011).

In 2009, a locality-based diabetes service was established in NEFL to provide care for individuals with diabetes in the locality. The service included the holistic management of obesity and type 2 diabetes by a consultant diabetologist, diabetes specialist nurse (DSN) and diabetes specialist dietitian (DSD [EJ]).

Current funding agreements with the Welsh Health Specialised Services Committee (WHSSC) provide bariatric surgery for 69 people annually. Twenty five of these individuals are from North Powys & BCUHB (National Assembly for Wales Health and Social Care Committee, 2014) predicting that, on average, one to two people in NEFL receive funding annually. Those approved for bariatric surgery are referred for surgery in Salford, Greater Manchester, 50 miles away from Flintshire.

Bariatric patients are entitled to 2 years of after-care by the multidisciplinary team at Salford via telephone or face-to-face clinic appointments in addition to a bariatric patient support group held at Salford once a month. An annual review conducted by medical weight management consultants is provided indefinitely.

Establishment of the support network

By May 2012, there were three individuals known to the DSD (one did not have diabetes but had been referred via the endocrinology clinic) who found the practicalities of attending the ongoing appointments in Salford problematic, even though they reported good experiences of care and desired continued support.

Scope of the dietetic-led group

The DSD suggested conducting clinical follow-up in a group setting in the NEFL. The aim of the group was to provide dietetic review for individuals. The group was to have a support group element, utilising open-floor discussion. Group members had the opportunity to share experiences, swap coping strategies and problem-solve with each other. A suitable space was identified in the locality health centre and the duration of the group meetings was set to 1.5 hours. The meetings were held every 4–6 weeks, typically occurring mid-morning. The original group members were happy to welcome new additions, and an element of pre-bariatric support from these "expert patients" developed as a function of the group.

The group members and DSD collaboratively developed the culture of the group. Confidentiality was expected; there would be turn-taking on individual's dietary and diabetes self-management plan; and members would contribute to problem-solving along with the DSD. The group sessions provided another opportunity for the DSD to identify members in need of individual assessment, for instance in the event of weight stabilisation or deterioration of diabetes control. Appropriate concerns would be escalated to the DSN, consultant diabetologist or the specialist team in Salford.

Page points

1. In 2009, a diabetes service was established in North East Flintshire Locality (NEFL) in North Wales to provide care for people with diabetes in the locality.
2. People requiring bariatric care in NEFL are referred for treatment and surgery to Salford, England.
3. By May 2012, there were three individuals attending the diabetes service who found the practicalities of attending the ongoing appointments in Salford problematic. The diabetes specialist dietitian suggested conducting clinical follow-up in a group format in the NEFL to provide care closer to home for these individuals.

Initially there was no overt decision to encourage partners to attend; however, this did occur as the group evolved.

The service evaluation

By August 2013, there were eight members of the group: five female and three male (age range 37–63 years) and seven of whom had type 2 diabetes. At this time, we decided to survey the service users to appraise the group structure and experience, to reflect on the effectiveness of the support group and to consider its future development.

Method

Advice was sought from the BCUHB Service User Experience team regarding evaluation and ethics. A group feedback questionnaire and individual semi-structured interviews were agreed as the methods to gather both quantitative and qualitative information. In October 2013, all eight current group members were invited to participate in the evaluation and received a written letter briefly outlining the purpose of the evaluation. Consent was not sought to obtain and analyse biomedical information, as this was beyond the scope of this evaluation.

All eight members agreed to participate and completed the evaluation between November and December 2013 at the health centre. All participants signed a consent form to allow the results of the service evaluation to be shared and were asked to complete the questionnaire in a separate room to the researcher (EH) to eliminate social desirability bias (the tendency for respondents to answer questions in a manner that could be viewed favourably). The interviews were purposely conducted by an individual not directly involved in providing patient care, so as to not influence the respondents, and respondents were explicitly informed that their responses and feedback would not affect their care in any way.

Attendance from the group's inception in May 2013 to June 2014 (several months following the evaluation) was also measured to identify trends.

Group feedback questionnaire

The group feedback questionnaire consisted of eight items (*Box 1*). Group members were asked to rate on a 5-point Likert scale the extent to which they agreed or disagreed with each statement (strongly agree, agree, neither agree nor disagree, disagree, strongly disagree). Members who had not attended the group prior to bariatric surgery began at item 2.

Semi-structured interview

A semi-structured, 14-item interview was developed to qualitatively identify the factors that contribute to successful or unsuccessful service delivery, and identify outcomes (intended or unintended) and how they occur (Spencer et al, 2003). Participants were interviewed at the NEFL health centre by the same researcher (EH) for consistency. Verbal consent was sought from participants to audio record the interviews at the outset.

The questions explored several areas such as the members' experience of the group; the aspects they enjoyed the most and least; their satisfaction with

Box 1. Eight-item group feedback questionnaire.

1a. I found it helpful to attend the group before having the surgery

1b. I found it beneficial to know that I was able to attend this group again following my surgery

2. I have learnt new, useful information about managing my condition and living with the effects of surgery, as a result of attending this group

3. This new information has to some extent changed my lifestyle or the way I manage my condition post-surgery

4. I find it helpful to meet with the dietitian as part of a group

5. I benefit from the opportunity to meet others in a similar situation to myself

6. I would find it helpful to meet with the diabetes specialist nurse as part of the group

7. I would recommend this group to other patients pre- and post-bariatric surgery

Page points

1. In November–December 2013, a service evaluation was carried out among the group members to appraise the group structure and experience, to reflect on the effectiveness of the support group and to consider its future development.
2. The service evaluation comprised of a group feedback questionnaire and individual semi-structured interviews.

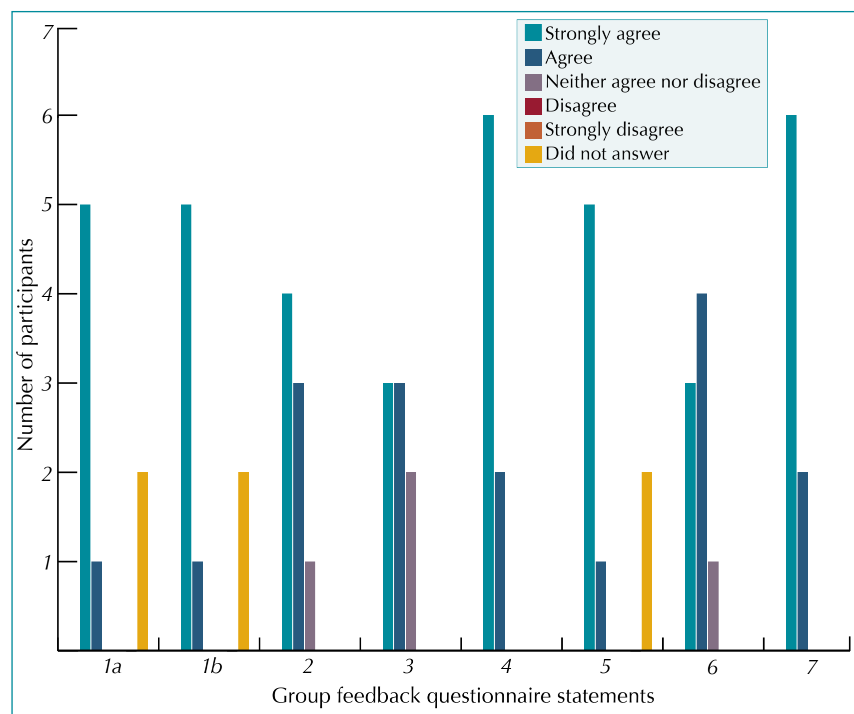

Figure 1. A graph to show the responses to the group feedback questionnaire statements from eight participants.

location and times of the group; their expectation of the group and if this had been met; whether any benefits of the group were maintained as time since surgery increased; whether they had implemented any information taken from the group sessions into their lifestyle; how they would feel if there were no local group to attend; whether there was adequate dietetic contact; how they felt participating in group conversations; whether partners should attend; and ways in which the group could be improved.

Analysis

Responses to the group feedback questionnaire were summarised to quantify the level of agreement or disagreement with each statement.

The transcripts from the semi-structured interviews were read independently by both authors to increase inter-rater reliability (the level of agreement between the two) and to minimise error and bias. Recurring key themes were identified and were used to devise an initial framework. Key themes were defined as statements or ideas that were a common answer to one particular question or that frequently emerged in response to different questions. Transcripts were re-read and statements that were consistent with the identified key themes were recorded and tallied (Braun and Clarke, 2006). Other less common sub-themes were also identified, recorded and tallied. The results of both researchers were compared and compiled into a single framework.

Results

Group feedback questionnaire

The eight members who completed the group feedback questionnaire mostly "agreed" or "strongly agreed" with each questionnaire statement (*Figure 1*). Statements 4 and 7 (whether meeting with a dietitian in the group was helpful and whether they would recommend this group to others) received the strongest responses, with six of the eight participants strongly agreeing.

Statement 6 (whether group members would find it helpful to meet with the DSN during the group) did not receive as an emphatic response. All participants agreed or strongly agreed except for one member who gave a neutral response; this could have been the participant who did not have type 2 diabetes. Group members were most ambivalent when rating statement 3 (whether new information acquired during the group had changed their lifestyle or condition management).

The two participants who did not respond to statements 1a and 1b are most likely those who did not attend the group prior to receiving bariatric surgery. No participant disagreed or strongly disagreed with any statement. The non-responses to statement 5 by two group members were due to a printing error.

Semi-structured interview

The semi-structured interviews lasted approximately 30 minutes. The key themes emerging from the interviews were identified independently by both researchers and were well-matched when aggregated. Key themes are discussed in detail below.

Social support and interaction

The group members cited the social support aspect of the group meetings as an important positive factor for attending. This was a predominant theme among the members. Members shared in each others' successes and sometimes failures, and their experiences of surgery and its side-effects. They also swapped information on managing diet at different stages post-surgery during the group sessions. Several participants remarked how they had used social media to contact

and provide support for one another outside of the group sessions.

Dietetic input

Group members appreciated the dietetic input of the group support network. Members reported having acquired more information on an appropriate post-surgical diet and commented that expert input was appreciated. Several members also commented on the positive experience of being triaged for individual dietetic assessment or detailed nutritional assessment, and that they were able to contact the dietitian between groups if required.

> "I like the social support meeting everybody else and seeing how everyone is getting on..."
>
> "…to hear other people going through the same and that you are not on your own. It is reassuring."
>
> "…it is nice to know that there is somebody there if you are struggling…"

Preference to attend a group in locality

Group members consistently and unanimously reported reluctance to attend the support group in Salford, mainly due to logistics of distance and parking. When asked how they would feel if there was no group clinic to attend locally, the majority of responses were "unhappy", "disappointed" and "lost". Interestingly, if there was no local group, many members reported that they would not readily attend the group in Salford. The logistics of the group in the NEFL (e.g. location, parking, times) were highly commended and made the group more convenient to attend.

> "…there is only a limited amount of follow-up from the hospital afterwards…"
>
> "it's important to touch base...address things as they arise, which is an opportunity you might not get otherwise because I don't think your GP would have full knowledge of everything."

Group setting

The preference for the group setting was strongly expressed by the group members. Several members commented that they preferred the dietetic contact in a group setting rather than individually. The underlying reasons were generally not stated, although "embarrassment" during one-to-one sessions was mentioned. The group setting was considered a more relaxed and informative atmosphere, where everybody had the opportunity for input. No group member reported feeling uncomfortable asking questions or disclosing personal information in front of others. Several members also suggested encouraging family and friends of members to attend the group to educate and raise awareness of this population.

> "[it] is too unrealistic to get to Salford for their support group"
>
> "Salford is a long way to travel…having this local is a lot better…it's easy to get to and there is always parking."
>
> "I know Salford offered me a group session as well but…this is so much easier for me."

Room for improvement

Participants of the evaluation were explicitly asked to suggest any improvements for the group. Six out of eight participants stated that they would make no changes as the current format met their needs. One group member suggested greater commitment from other members to attend every session for continuity purposes. Another respondent suggested a psychologist could attend to help deal with the emotional transitions following bariatric surgery, described as "a life changing [experience]". Another respondent did not like members re-visiting the same issues each session.

> "An informal atmosphere, nobody gets irate… anybody can have their input. If you need to get something off your chest or if you need help it is there [for you]…like family atmosphere."
>
> "…a safe environment to get weighed in, somewhere to come and ask questions...and ongoing support."
>
> "I prefer to be in a group situation…because one-to-one sometimes puts you under pressure…a group is more relaxed."
>
> "I think I give other people ideas as well which is a good thing…you have got to take in as well as put out."

"Group members consistently and unanimously reported reluctance to attend the support group in Salford, mainly due to logistics of distance and parking."

Page points

1. Total attendance at each session has continued to steadily increase from May 2012 to June 2014.
2. The findings of this service user evaluation conducted at the end of 2013 suggest high satisfaction within the bariatric support group.

Attendance

Total attendance at each session (*Figure 2*) has continued to steadily increase from May 2012 to June 2014. Thirteen different people (twelve of whom had diabetes) have attended the group at some stage. The highest number of people booked to any one group was twelve (in April 2014), although only six people ultimately attended, indicating attrition. One reason for this, highlighted by one of the members during the semi-structured interviews, was work commitments.

> "…it is well-managed, everybody has their opportunity to speak, so no I don't think it could [be improved]."
>
> "…It has been brilliant and I don't think I would have got this far without it, I really don't."
>
> "I think it is a good thing to have…it's very easy to get off track and to just forget…it is a way of life now."

Discussion

The findings of this service-user evaluation conducted at the end of 2013 suggest high satisfaction among users of the bariatric support group. The most valued aspects of the support network were the social support and interaction, and the dietetic input in the group setting. All members said they would recommend the group to others, and would have been unhappy and found it difficult to manage their weight if no such group existed. Group members also commended the local setting of the group, close to home, which allowed them to easily engage in longer-term support compared to attending the Salford clinic.

To date, of the eight participants who completed the evaluation, five continue to attend the group. The service evaluation was conducted within 18 months of surgery for all participants, and, despite reporting that they felt no improvements were necessary, attrition was observed. It is possible that the group may be more suited to bariatric patients in the pre-surgery and immediate post-surgery stage and be less of a necessity later, though this requires further exploration.

Twelve of the 13 participants who attended the group between May 2012 and June 2014 resided in NEFL (one joined from a neighbouring locality). This is a higher proportion of individuals receiving bariatric surgery than would be expected based on total funding for North Wales and North Powys of 25 individuals per year. The reasons for this disproportionate number would be interesting to explore.

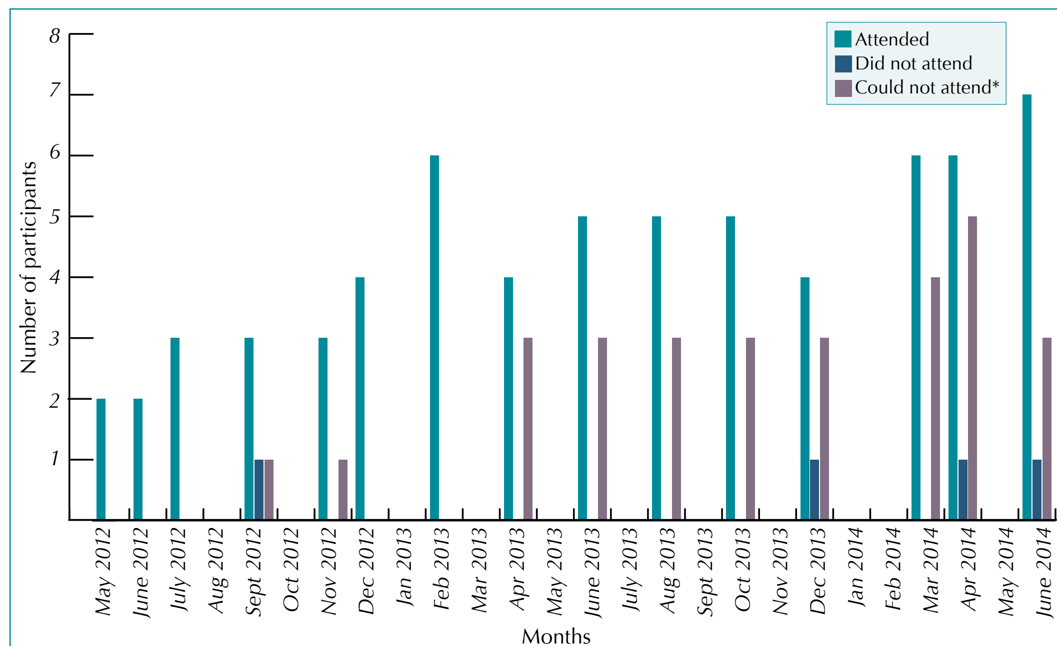

*Figure 2. A graph to show the attendance at the dietetic-led, peer-support group held between May 2012 and June 2014. *Group members had informed the group lead that they were unable to attend.*

Limitations

Despite the mainly positive outcomes of this service-user evaluation, caution is required when interpreting the findings as the sample size was small. Topics including how the experience of members changes over time; whether the group format needs further tailoring to specific patient types and problems; how follow-up support impacts on long-term clinical outcomes and quality of life; and cost effectiveness were not explored. A cohort of individuals who have undergone similar bariatric surgery from another locality and who have not attended a group clinic would provide an interesting control group to explore these questions.

The results of the Likert scale questionnaire exhibited a consistent pattern of "agree" or "strongly agree". In hindsight, some statements ought to have been asked inversely to limit the use of leading questions, passive responding and bias. Similarly, while the semi-structured interview technique was employed to facilitate freedom and depth in group members' expression, some questions may have been perceived as leading, particularly when respondents were providing feedback on the care they received. Even though group members were reassured that their answers would not affect the care they would receive, this fear may still have affected what they were willing to share.

Future ideas

The group members highlighted areas where the group support network could be improved to make it more helpful to people who have undergone bariatric surgery. One respondent requested greater commitment from group members to attend every session, which could be addressed by outlining the attendance expectation more explicitly when members join the group.

Another respondent remarked that input from a psychologist would help to deal with the emotional changes post-surgery, although this was not further elaborated. In future analyses, it may be beneficial to explore the emotional experience of the individual. Notably, some group members have received one-to-one support from psychological therapy services in the past, which may indicate why more members did not recognise this as a caveat of the group. It may be necessary to screen people have undergone bariatric surgery intermittently and offer a tailored psychological intervention from a suitable trained healthcare professional where appropriate, though the feasibility of this needs consideration.

Measuring biomedical markers such as weight loss and weight loss maintenance, HbA_{1c}, or following prescribed medication would provide further insight into whether the ongoing support provided by the group is a cost-effective contribution to achieving and sustaining optimal clinical outcomes. Such investigation was beyond the scope of this service-user evaluation; the aim being to appraise the group structure and experience.

Final thoughts

A group support network approach may offer a more time- and cost-effective means of providing weight and type 2 diabetes management by the DSD. In addition, the group sessions have provided an excellent opportunity to identify whether further clinical intervention is needed, which can be raised to the appropriate healthcare professionals in a timely manner to prevent further deterioration.

From a healthcare professional perspective, collaborating with the specialist bariatric dietitians at the tertiary centre during this group development increased the knowledge and skills of the locality DSD and DSN regarding bariatric surgery management, and helped maintain consistent messages and continuity of care for people who have undergone bariatric surgery.

The members of the group are satisfied with the locality-based, dietetic-led support group, and four of the members have shown improved HbA_{1c} and have reduced their medication or stopped all medicines completely 4-months' post-surgery. The support group has been running for over 2 years, and we plan to continue running the group with the hope of making future improvements and developing the service further. Further evaluation is necessary to explore the patient experience, which is especially pertinent given the apparent increased demand for bariatric services in North Wales. ■

Arterburn DE, Courcoulas AP (2014) Bariatric surgery for obesity and metabolic conditions in adults. *BMJ* **349**: g3961

Beck NN (2012) Do postoperative psychotherapeutic interventions and support groups influence weight loss following bariatric surgery? A systematic review and meta-analysis of randomized and nonrandomized trials. *Obes Surg* **22**: 1790–7

Braun V, Clarke V (2006) Using thematic analysis in psychology. *Qualitative Research in Psychology* **3**: 77–101

Page points

1. The evaluation was conducted within 18 months of surgery for all participants, and, despite reporting that they felt no improvements were necessary, attrition was observed.
2. Areas for improvement given by the group members included requiring greater commitment from group members to attend every session and having input from a psychologist to deal with the emotional changes post-surgery.
3. A group support network approach may offer a more time- and cost-effective means of providing weight and type 2 diabetes management by the diabetes specialist dietitian.

"The locality-based, dietetic-led group has shown it has longevity and is rated satisfactory by individuals who have attended the group sessions."

Buchwald H, Avidor Y, Braunwald E et al (2004) Bariatric surgery: A systematic review and meta-analysis. *JAMA* **292**: 1724–37

Buchwald H, Oien DM (2013) Metabolic/bariatric surgery worldwide 2011. *Obes Surg* **23**: 427–36

Courcoulas AP, Christian NJ, Belle SH et al (2013) Weight changes and health outcomes at 3 years after bariatric surgery among individuals with severe obesity. *JAMA* **310**: 2416–25

DiGiorgi M, Rosen DJ, Choi JJ et al (2010) Re-emergence of diabetes after gastric bypass in patients with mid- to long-term follow-up. *Surg Obes Relat Dis* **6**: 249–53

Gloy VL, Briel M, Bhatt DL et al (2013) Bariatric surgery versus non-surgical treatment for obesity: A systematic review and meta-analysis of randomised controlled trials. *BMJ* **347**: f5934

Maggard MA, Shugarman LR, Suttorp M et al (2005) Meta-analysis: Surgical treatment of obesity. *Ann Intern Med* **142**: 547–59

Magro DO, Geloneze B, Delfini R et al (2008) Long-term weight regain after gastric bypass: A 5-year prospective study. *Obes Surg* **18**: 648–51

Moroshko I, Brennan L, O'Brien P et al (2012) Predictors of attrition in bariatric aftercare: A systematic review of the literature. *Obes Surg* **22**: 1640–7

National Assembly for Wales Health and Social Care Committee (2014) *Inquiry into the availability of Bariatric Services in Wales.* Heath and Social Care Committee, Cardiff, Wales. Available at: http://bit.ly/1x6boKH (accessed 05.11.14)

National Bariatric Surgery Registry (2010) *First Registry Report to March 2010.* Dendrite Clinical Systems Ltd, London. Available at: http://bit.ly/1tceGqI (accessed 05.11.14)

National Obesity Observatory (2010) *Bariatric surgery for obesity.* Solutions for Public Health, London. Available at: http://bit.ly/1u0fF2a (accessed 05.11.14)

NICE (2014) *Obesity: Identification, assessment and management of overweight and obesity in children, young people and adults. (CG189).* NICE, London. Available at: https://www.nice.org.uk/guidance/cg189 (accessed 01.12.14)

O'Brien PE, McPhail T, Chaston TB, Dixon JB (2006) Systematic review of medium-term weight loss after bariatric operations. *Obes Surg* **16**: 1032–40

Schauer PR, Bhatt DL, Kirwan JP et al (2014) Bariatric surgery versus intensive medical therapy for diabetes – 3 year outcomes. *New Engl J Med* **370**: 2002–13

Sjostrom L, Peltonen M, Jacobson P et al (2014) Association of bariatric surgery with long-term remission of type 2 diabetes and with microvascular and macrovascular complications. *JAMA* **311**: 2297–304

Spencer L, Ritchie J, Lewis J et al (2003) *Quality in Qualitative Evaluation: A framework for assessing research evidence.* Government Chief Social Researcher's Office, London

Statistics for Wales (2011) *Welsh Index of Multiple Deprivation.* Statistical Publication Unit, Cardiff, Wales. Available at: http://bit.ly/1Aiyfat1 (accessed 05.11.14)

White S, Brooks E, Jurikova L, Stubbs RS (2005) Long-term outcomes after gastric bypass. *Obes Surg* **15**: 155–63