

STEPS: A weight management group programme for adults with complex and severe obesity

Arelis Rodriguez-Farradas, Joanne Quinn, Kurt Maloney, Tolu Shonibare, Chinnadorai Rajeswaran

The components of weight management programmes and their outcomes vary widely across the UK. Weight management services are key to the prevention of comorbidities related to obesity, namely diabetes and cardiovascular risks, which in turn trigger other comorbidities. STEPS, a 12-week, community-based Tier 3, weight management group programme based at Mid Yorkshire Hospitals NHS Trust was developed 3 years ago and uses generic cognitive behavioural therapy techniques to integrate advice on diet, exercise.

Obesity increases the risk of related comorbidities, such as diabetes, polycystic ovary syndrome and cardiovascular disease, and the UK is now among the most obese nations in the world (Department of Health, 2011). In response to the increasing prevalence of obesity nationally, numerous interventions have been implemented across NHS trusts. At present, there is no recognised standardised model of care for delivering weight management interventions for people who are severely obese across the UK. In a recent report by the Royal College of Physicians (2013), obesity services across the country were described as being “extremely patchy” with wide variation in outcomes for weight management interventions provided nationally.

Anecdotally recorded high patient attrition rates and poor adherence of individuals to weight management may be barriers limiting the effectiveness of these interventions for weight loss (Huisman et al, 2010). Nonetheless, despite a large number of variables investigated (the investigating studies have varied by sample size, type of programme, length of treatment and definition of attrition), no common attrition tendency has been found (Honas et al, 2003), and a recent study reported the heterogeneity of the literature on attrition in the treatment of obesity with ranges varying from 10–80% depending on the setting and the type of programme (Colombo et al, 2014).

While there is no clear consensus on the factors affecting attrition, we can consider how to optimise the effectiveness of weight loss services.

There is evidence to support the effectiveness of psychological interventions, such as behavioural modification or cognitive behavioural therapy (CBT), in weight management combined with diet and exercise (Shaw et al, 2005; Greaves et al 2011; National Obesity Observatory, 2011).

CBT has been described as fundamentally being a collaborative relationship between the client and the therapist with evidence indicating that the nature of the client’s participation in treatment is likely to be the strongest predictor of outcomes (Williams and Garland, 2002; Westbrook et al, 2007). Therefore, the use of generic CBT techniques should be considered when developing an effective weight management services.

The STEPS programme at Mid Yorkshire Hospitals NHS Trust

STEPS is a community-based weight management group programme for people with complex and severe obesity based at Mid Yorkshire Hospitals NHS Trust, which has been available for 3 years. It has been designed to be multidisciplinary in its approach to care and includes advice on diet, exercise and integrated generic CBT techniques to support client’s participation in treatment and to optimise outcomes following extensive review of the

Citation: Rodriguez-Farradas A, Quinn J, Maloney K et al (2013) STEPS: A weight management group programme for adults with complex and severe obesity. *Diabetes in Practice* 3: 113–7

Article points

1. According to the Royal College of Physicians (2008), current weight management programmes in hospitals are “poorly developed”. Further to this, there is no standardised weight management model for people with obesity and diabetes in the UK.
2. In Mid Yorkshire Hospitals NHS Trust, a community-based multidisciplinary weight management programme, STEPS, was set up in 2011.
3. STEPS incorporates cognitive behavioural therapy techniques, which has contributed to good participant retention rates.

Key words

- Obesity
- Weight management

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Page points

1. STEPS is a community-based weight management group programme for people with complex and severe obesity based at Mid Yorkshire Hospitals NHS Trust, which has been available for 3 years.
2. The programme has been developed on the behavioural approach to weight management, reflecting adult philosophy of learning and patient empowerment as per NICE obesity guidelines.
3. The programme sessions were based on education about diet and exercise with integrated elements of behaviour change such as self-monitoring, goal setting and moderation of expectations.

evidence for effective group therapy as documented by Bieling et al (2006) and colleagues. The STEPS programme has been developed on the behavioural approach to weight management, reflecting adult philosophy of learning and patient empowerment as per NICE obesity guidelines (2006). The generic CBT techniques integrated into the programme included:

- Building a collaborative relationship with participants.
- Assessment and formulation.
- Cognitive techniques (addressing unhelpful thoughts).
- Integrating the Socratic Method during the course of the intervention.
- Follow-up.

The STEPS programme

The STEPS weight management programme is delivered using a curriculum-based, 12-week schedule consisting of ten 2-hour weekly group sessions and two 20-minute one-to-one sessions. The weight loss target for participants is a $\geq 5\%$ loss in original weight. All sessions are given with the aid of a standardised manual written by the clinic following the principle that interventions should be evaluated rigorously using scientific methods to allow for gathering of reliable evidence towards effectiveness. The manual is currently only available to dietitians working across Kirklees and Wakefield weight management services.

Two dietitians (ARF and KM) provide the group and one-to-one sessions, and each group has the same dietitian throughout the intervention. The sessions are based on education about diet and exercise with integrated elements of behaviour change, such as self-monitoring, goal setting and moderation of expectations.

Of the STEPS programme, one of the 10 sessions is led by the team clinical psychologist (JQ). This session is based on the transtheoretical model of change (a model based on the participant's readiness to act on a new healthier behaviour, with five distinct steps: precontemplation, contemplation, preparation, action and maintenance).

Once the 12-week programme is completed, all participants are offered follow-up at 3, 6 and 12 months with a healthcare assistant to assess weight change and progress. They can attend optional monthly drop-in support groups for up to a year afterwards

and have access to a specialist weight management physiotherapist (Ramasamy, 2014) during or after the STEPS programme for advice on increasing physical activity and structured exercise.

Participant weight and BMI data are collected at baseline and after completion of the programme to measure the progress of the individuals. The presence of obesity comorbidities are also noted (e.g. diabetes, sleep apnoea, cardiovascular risks, polycystic ovary syndrome, asthma, hypothyroidism, anxiety or depression) and where relevant, further medical investigations are arranged.

Structural and organisational factors

In order to integrate generic aspects of the CBT model of working with people, the programme has taken into account a number of organisational and structural factors, which are identified as having a critical impact on group intervention outcomes (Bieling et al, 2006):

- Patient selection and preparation.
- The skills of the group facilitator.
- The structure of the sessions.
- The structure of in-between sessions.
- The venue.

Patient selection and preparation

The programme is offered to adults over the age of 16 with severe and complex obesity living in Kirklees, Yorkshire. Individuals are referred by their GP or practice nurse. Classification for complex and severe obesity is taken from the Obesity Action Coalition (OAC, 2014), which states that a person is affected by severe and complex obesity when:

1. BMI is greater than 40 kg/m^2 , or they are more than 100 pounds (45 kg) over their ideal body weight.
2. BMI is greater than 35 kg/m^2 with an existing comorbidity such as diabetes or hypertension.

To be eligible to participate in the STEPS programme, individuals must be committed to achieving and maintaining a healthy weight and to attending regular appointments as part of the STEPS weight management service. Potential users of the service must also score highly in confidence and motivation to make a change. A crude estimate of patient's readiness to change is obtained from self-assessment ratings of importance of change

(0–10) and confidence to change (both scaled from 0–10, 10 being extremely confident to change). Those scoring between 6 and 10 are deemed motivated enough to begin the programme.

People with severe and complex obesity who have previously attended the STEPS programme can be referred back to the weight management service after 6 months. People re-attend the programme if they did not complete it previously or for reasons such as “missing sessions the first time around”; “being in a better frame of mind”; and “wanting to refresh knowledge”.

All adults with eating disorders, unstable cardiac condition or psychiatric condition are not eligible to participate in the programme. Other reasons for exclusion from the STEPS programme include already attending a different weight management group, having dropped out of the STEPS programme in the last 6 months and being pregnant or breastfeeding. Participants are also required not to be consuming over the recommended weekly alcohol limit prior to the STEPS programme commencing.

Before the STEPS programme begins, written information about the group programme is sent to all consenting participants to manage their potential anxiety and expectations.

When developing the manual, we observed that group size can have a potential impact on group dynamics. Groups with fewer than six people were not considered to be cost-effective, and a group of more than 15 participants was considered to be too large for facilitators to identify and address individual progress. We, therefore, chose to maintain groups of 15 participants. If the number of participants drops significantly during the early stages of the programme, the facilitators are encouraged to consider offering participants a transfer to one-to-one sessions, or transfer to a waiting list so that the time and venues are used more effectively.

The skills of the group facilitator

Weight management services for people with complex and severe obesity must reflect the complexities of the condition and recognise the need for specialist skills, knowledge and expertise.

Dietitians can play a pivotal role in weight management as not only are they trained to

understand the fundamentals of nutritional science and physical activity, but also they are experts on the social, environmental and psychological factors that influence dietary and lifestyle behaviours associated with obesity. They are also able to apply expert counselling skills in clinical practice to promote behaviour change. Dietitians in Obesity Management UK (2007) recognises the interpersonal skills of the practitioners as key to effective and appropriate delivery of weight management interventions.

All members of the team delivering the STEPS programme sessions have attended at least one Behaviour Change course provided by local universities, and have been trained in motivational interviewing techniques by the clinical lead dietitian (ARF) for the service, who has successfully completed a course in *Practical Foundations for CBT*.

The STEPS programme has developed a robust training system for healthcare professionals wishing to take a facilitator role. Group facilitators have the opportunity to observe the delivery of group sessions by a more experienced member of the team, thereby consolidating learning by “live” reflective supervision after each session prior to delivering the programme themselves.

The structure of the sessions

The first session of the STEPS programme is an introduction to the programme, and is entirely dedicated to managing potential worries and unrealistic expectations of participants. In the past, during the initial assessment participants of STEPS have tended to express confusion and disappointment towards the focus of the programme, saying that they expected “to be given a diet” and “to be told what to eat”. For this reason, the focus of the first meeting is to integrate CBT techniques to effectively negotiate an agenda that is very different from the preconceived expectations of the group.

Throughout the 12 weeks, the dietitian facilitating the programme follows an agenda for each session (see *Box 1*), which is the same for all groups. The facilitator can vary the order of the sessions according to the group’s progress.

The standardised structure for each weekly sessions is as follows:

- Feedback on progress from participants.

Page points

1. The programme is offered to adults over the age of 16 with severe and complex obesity living in Kirklees, Yorkshire. Participants were recruited following a referral from their GP or practice nurse.
2. To be eligible to participate in the STEPS programme, individuals must be committed to achieving and maintaining a healthy weight and to attending regular appointments as part of the STEPS weight management service.
3. All members of the team delivering the STEPS programme sessions have attended at least one Behaviour Change course provided by local universities, and have been trained in motivational interviewing techniques.

Box 1. The topics covered by the group sessions in the STEPS programme by week.

- Week 1: introduction and moderation of participants' expectations of the programme.
- Week 2: developing structured eating and breaking the cycle of dieting.
- Week 3: guidance on portion sizes and meal plans.
- Week 4: balancing food groups.
- Week 5: importance of being physically active for improving health and losing weight.
- Week 6: optional one-to-one session.
- Week 7: session with psychologist.
- Week 8: managing automatic unhelpful thoughts.
- Week 9: understanding food labels and looking at calorie content of common foods.
- Week 10: open session.
- Week 11: staying motivated after the programme, managing lapses.
- Week 12: optional final one-to-one review.

- Introduction of new information.
- Exploring and challenging beliefs about making changes based on new information.
- Goal setting for in-between sessions.

Participants are encouraged to actively participate and share their progress with the group to create an opportunity for developing a range of skills that are reflective of the CBT framework that promotes behaviour change, e.g. self-monitoring techniques and sharing their behaviour change goals with others (NICE, 2007).

Each participant is encouraged to set realistic goals for the week ahead based on the new information provided during the sessions.

The structure of in-between sessions

In-between sessions are those that take place between set sessions of the STEPS programme. For instance, if a participant fails to attend a session, the facilitator is encouraged to consider making telephone contact to enquire about the reason for their absence.

The venue

The venues where the STEPS programme takes place are selected taking into account the needs and characteristics of the population group attending the sessions. For instance, participants with complex and severe obesity are likely to require large, firm chairs and to have specialist requirements to access facilities such as stairs, lifts, emergency access and large toilet cubicles.

All group facilitators are responsible for the weekly setting of the rooms to ensure easy access and so that the layout is appropriate for the activities planned, e.g. chairs are arranged in a semi-circular fashion for most sessions to allow for all participants to see a flipchart and to make eye contact with each other.

Outcomes so far

Between April 2013 and April 2014, 170 adults across the Metropolitan Borough of Kirklees enrolled in the STEPS programme (152 were women). The mean ages of participants was 48.6 years (range: 18–79 years), the mean weight was 126.3 kg (range: 85.4–208 kg), and the mean BMI was 45.9 kg/m² (range: 35.1–68.7 kg/m²).

The most common comorbidities reported by participants before starting the programme were diabetes and anxiety and depression. Annual reports provided for commissioners estimate that 30% of people enrolled in the STEPS programme have a recorded diagnosis of type 2 diabetes. For the year 2013 to 2014, 15 separate groups embarked on the programme. Data collected after the programme are presented in *Box 2*. Although there is currently insufficient data to report the characteristic differences between individuals who lost the target weight loss and those that did not, we perceive that those not achieving the target weight loss reported low motivation to make changes and cited poor health during the programme.

Future plans

The clinical psychologist (JQ) has been organising post-intervention research regarding changes in motivation and confidence, which is yet to be published. Results are also being collected by our clinical consultants on the effect of changes in medication on weight loss, including diabetes medication. We hope to publish these findings in the future.

Final thoughts

The STEPS programme has been running for over 3 years and has delivered the intervention to 38 groups.

Previously published results show that participant retention on the STEPS programme in the period from 2012 to 2013 (Rodriguez-Farradas et al, 2013) was 89.5%, which is encouraging. The programme continues to obtain moderately high levels of retention, which suggests that its structure and delivery methods are effective in motivating and engaging people with severe and complex obesity or diabetes. These results are promising in terms of health improvements as there is evidence to support that a 5% weight loss is associated with a significant reduction in cardiovascular and metabolic disease risk (Scottish Intercollegiate Guidelines Network, 2010). Weight management programmes may also be a more cost-effective way of tackling the obesity and diabetes crisis than medication as the cost of drug prescribing increases annually by £16 with each 1 kg/m² rise in BMI (Tigbe et al, 2012).

The challenge now is to develop a standardised

Box 2. Data from the STEPS programme between April 2013 and April 2014.

- In total, 130 participants completed the 12-week STEPS programme (93 females and 37 males) and 40 participants did not (32 females and eight males).
- Retention rates for this year were better for men (82.2%) than for women (74.4%). Of those that dropped-out, most dropped-out during the first half of the programme and those who contacted the programme to ask to be discharged reported poor health as the main reason for doing so.
- Of the 130 people who completed the programme, 50 achieved the target weight loss of $\geq 5\%$ of their original body weight. Overall, 54.6% of completers lost over 3% of their initial body weight (average weight loss 6 kg). Nine completers gained weight (range: between 0.1 and 3.6 kg). In this time period, we observed that more women exceeded the weight loss target of $\geq 5\%$ than men, 32% and 28.8% respectively.
- The 40 individuals who dropped out were weighed at the point of discharge. At this time, 14 people lost between 1.7% and 8.2% (average weight loss 3.1 kg), 23 people stayed at the same weight and three participants gained weight.
- The mean BMI of those who completed the STEPS programme was 44.2 kg/m^2 (range: $32.6\text{--}65.6 \text{ kg/m}^2$) and the average reduction in BMI was 1.7 kg/m^2 .

“The challenge now is to develop a standardised weight management model that can be distributed across the UK to provide effective care and aid weight loss in people with severe and complex obesity and diabetes.”

weight management model that can be distributed across the UK to provide effective care and aid weight loss in people with severe and complex obesity and diabetes. ■

Acknowledgements

The data presented here were analysed by Pat Hudson (Information Analyst, Knowledge Management Service, Mid Yorkshire Hospitals NHS Trust).

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