

Weight-management services: Specialist physiotherapy for a tailored exercise programme



Mohan Ramasamy
Specialist Physiotherapist,
The Weight Management Service,
The Mid Yorkshire Hospitals NHS
Trust

Many people who are overweight, including a large proportion of those with diabetes, are unable to follow the NICE guidelines for weight loss, which recommend 30–60 minutes of moderate intensity exercise on five or more days per week (NICE, 2014). For example, some people experience difficulty increasing physical exertion due to a comorbidity (such as diabetes or hypertension), increased shortness of breath (due to heart and lung disease), or the pain associated with arthritis or fibromyalgia. Some struggle to perform any kind of physical activity for more than 1 or 2 minutes. For these people, it is unwise to prescribe 30 or 60 minutes of exercise initially, as it would be unachievable. The individual might also fear that commencing or increasing their physical activity could worsen their symptoms.

Service geography

Integrated weight-management services to help people lose weight and better control their diabetes or general health have been developed in a limited number of localities. The Mid Yorkshire Hospitals NHS Trust provides weight-management services in Kirklees (Dewsbury and Huddersfield) and Wakefield (Castleford, Pontefract and Wakefield; Rodriguez-Farradas et al, 2013), while the Aintree University Hospital NHS Foundation Trust does so for Liverpool and its surrounding areas.

The following regions have also set up their own weight-management services:

- Glasgow and Clyde
- Rotherham
- Barnsley
- Salford, Manchester
- Ashton, Leigh and Wigan
- Sheffield and Doncaster

A new service is also in the process of being set up in York.

The Mid Yorkshire specialist weight-management service differs from other similar services because of its multidisciplinary approach. The team includes a consultant physician, nurse, specialist physiotherapist, specialist dietitian and psychologist. It is a cost-effective approach, as both weight and weight-related problems are simultaneously addressed.

Case study: Mid Yorkshire

In Mid Yorkshire, people with a BMI >30 kg/m², many of whom have type 2 diabetes, can be referred to the Kirklees Weight Management Service (Huddersfield and Dewsbury), or Wakefield Weight Management Service by their GP. These obese people are seen by consultants within the weight-management service for initial review, followed by input from a specialist dietitian. The consultant will refer to the specialist physiotherapist people who are experiencing problems performing physical activity sufficient to achieve weight loss. They receive an assessment and appropriate treatment.

The specialist physiotherapist at the weight-management service in Mid Yorkshire carries out an initial assessment to understand the medical history and personal history of the patient and barriers related to physical activities. The physiotherapy offered includes elements of behaviour modification and motivational interviewing to aid people in addressing personal issues, debunk myths and resolve fears that have become barriers to exercise. Following this assessment, individuals are offered either four one-to-one appointments, 12 weeks of supervised group exercise sessions, or 6 weeks of hydrotherapy exercise sessions with the specialist physiotherapist, although this can vary based on the clinical judgement of the physiotherapist.

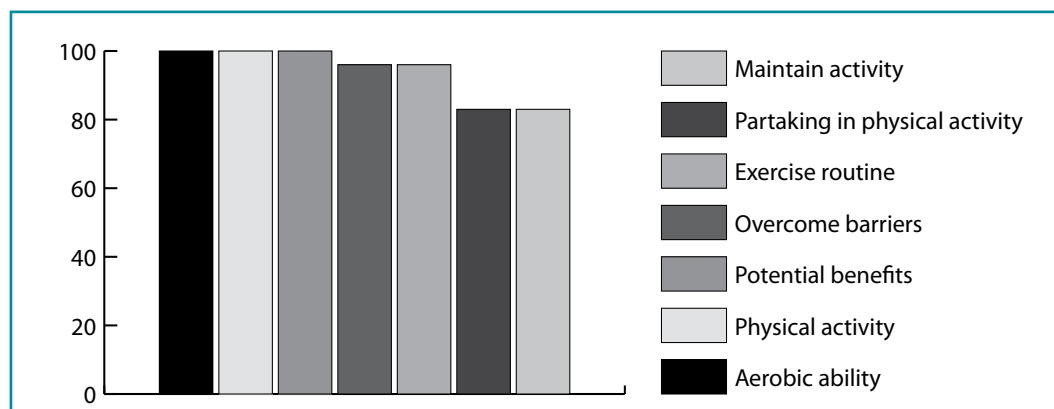


Figure 1. Percentage of participants in the Mid Yorkshire Hospitals NHS Trust's specialist weight management physiotherapy programme indicating improved outcomes using a subjective assessment questionnaire.

Studies of the approach taken in Mid Yorkshire indicate very positive, short-term results. A 2012–13 audit of responses to a subjective questionnaire indicated that, following the physiotherapist's intervention, all participants felt that their fitness level had improved, which helped them to establish regular physical activity in their daily life (Figure 1). The unpublished research also showed that 96% of patients overcame some barriers to performing physical activity. These included a lack of internal motivation, which 61% of participants said they overcame; a busy home/work/family schedule (43%); lack of confidence in ability to exercise (61%); exercising alone at home (70%); boredom with exercise routine (31%); and inability to set attainable goals (22%) (Figure 2).

Specialist physiotherapy is an under-utilised approach in many weight-management services and most bariatric services. Colin Waine (Chair of the National Obesity Forum) recognises its importance: "Physiotherapists can play a crucial part in devising strategies for those people who cannot take part in ordinary physical activity because of the complexities of their conditions" (Chartered Society of Physiotherapy, 2008).

A specialist physiotherapist, with their extensive assessment and treatment skills, and knowledge of anatomy, biomechanics and exercise physiology (including a broad knowledge of the body's energy systems), can provide an appropriate exercise programme based on a person's current physical ability and tolerance level, and help a person achieve optimal weight loss safely.

Right type of exercise

Initially, people should be taught to focus on

their maximum safe physical ability level so that doing too much and causing harm is avoided. It is important to advise or prescribe the right type and intensity of weight loss activity or exercise following a specialist assessment with an appropriately qualified professional.

Depending on comorbidities, the programme can begin with non-impact or low-impact aerobic exercises. Someone who experiences pain due to arthritis, for example, could be started with joint movement exercise and non-impact aerobic exercise in a hydrotherapy pool where they would experience minimal joint reaction force. Most NHS hospitals in the UK have a hydrotherapy pool, but few weight-management services use these facilities.

After completing non-impact exercise in people with joint problems, progress to chair-based aerobic exercises can be made, where weight-bearing by joints is minimised. To enable weight loss, the focus of exercise needs to be on how long the exercise is performed comfortably, rather than performance of the activity in a standing or sitting position. If an individual can perform simple movement at a brisk speed for more than 10 minutes, they will begin to use energy stored in body fat. Once the patient begins to lose weight, they will be able to do more exercise while standing.

People without joint pain could start with low-impact exercise, such as walking, marching on the spot, jogging, running or exercise at the gym using equipment, such as a treadmill, exercise bike or cross-trainer. Activities can be gradually expanded to include high-calorie-burning exercises, high-impact exercises and high-intensity interval training (currently, one of the most popular training programmes). Including simple anaerobic exercises, such as strengthening

"Physiotherapists can play a crucial part in devising strategies for those people who cannot take part in ordinary physical activity because of complexities of their condition."

Colin Waine, Chair of the National Obesity Forum

“Over time, people who are seriously overweight, including many with diabetes, need to combine a minimum of 30 minutes of exercise, 5–7 days per week for at least 6 months, with a healthy diet to achieve good weight loss.”

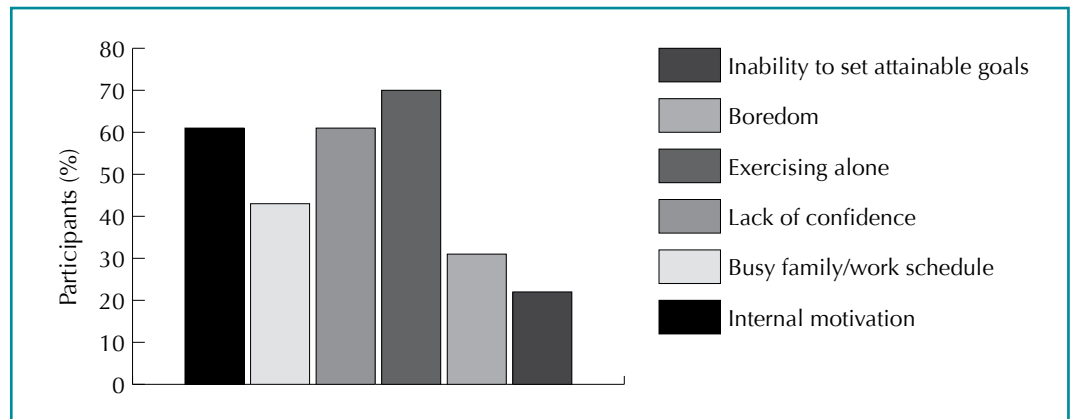


Figure 2. Percentage of participants reporting reduced barriers to performing physical exercise, using a subjective assessment questionnaire.

exercises or short-duration, high-intensity exercise at the person’s maximum, safe ability level, is also very important because it uses more energy from glucose, which helps to improve diabetes.

Home-based exercise

Some people may not like exercising in group sessions, or may be unable to attend gyms or have a personal trainer due to embarrassment, financial hardship or a lack of time. Even for those who regularly attend, a once-weekly weight-management exercise session is not enough. People with diabetes who have struggled to exercise and lose weight need to introduce exercise at home and incorporate exercise into their daily life so that it becomes automatic.

During the weight-management programme, people are encouraged to establish an exercise area at home that enables them to carry out the type of activity recommended to help them achieve their optimal weight, within their current ability level.

An important part of the weight-management physiotherapy service at the Mid Yorkshire Trust is patient education about the energy system and how to use body fat energy as a fuel for their daily activities based on exercise physiology and non-exercise activity thermogenesis (NEAT) principles – a description of energy in the body in three forms: protein (stored in muscle), glucose (available in blood) and fat energy (stored in adipose tissue underneath the skin). Individuals are then educated about the right type of exercise, intensity level and its relationship with these energy types. By educating people in this way, we aim to discuss simple ways to include activities at home in day-to-day life that use the energy stored in fat. In the case of housework, we advise people to pick up a few

things at once and try to do all of the activity in one period so that they develop the four symptoms of fat-burning exercise: breathlessness, increased heart rate, leg tiredness and sweating.

It is very important that individuals are given advice to do the right exercise at the right intensity to help them achieve good weight loss.

Outcomes

Over time, people who are seriously overweight, including many with diabetes, need to combine a minimum of 30 minutes of exercise, 5–7 days per week for at least 6 months, with healthy eating to achieve good weight loss.

On the Mid Yorkshire community-based, physiotherapy course, people are invited to attend weekly appointments of various types of exercise and intensity level for 8–12 weeks. We encourage them to continue the exercises 3–4 days per week, eventually aiming for 7 days per week, at home.

If patients stick to the recommended exercise regimen and show improvement on the 2-minute march test and 6-minute walk test, they are ready for discharge. If the tests show no improvement, however, we offer to continue the exercise programme for some more weeks and, finally, provide them with details of community physical activity services and refer them to these if they want to attend further motivational classes. For those who do not like group sessions, four more appointments of one-to-one advice with the physiotherapist are provided. During these, the energy system is revisited, as is the need for continuous exercise to trigger the four signs of fat burning. They are encouraged to exercise at home and invited to return for a follow-up appointment. ■

Chartered Society of Physiotherapy (2008) *Love Your Body*. CSP, London. Available at: <http://bit.ly/1k1U1Rs> (accessed 23.05.14)
 NICE (2014) *Managing overweight and obesity in adults – lifestyle weight management services (PH53)* NICE, London. Available at: <http://www.nice.org.uk/ph53> (accessed 02.06.14)
 Rodriguez-Farradas A, Srinivasan BT, Rajeswaran C et al (2013) Effectiveness of STEPS, a community based, structured, weight management programme for adults. Presented at: *Diabetes UK Professional Conference 2013* (poster 293). Manchester, UK, 13–15 March

Acknowledgement

This article was prepared by Cher Thornhill (SB Communications Group)