Physical Activity for Health Research Centre (PAHRC)
Obesity

Summary

The summary of our evidence submission is as follows:

- There is a need for a wide definition of physical activity (PA) as sport is only one domain of activity.
- Current evidence suggests the following:
  - Exercise combined with diet interventions are more effective than diet-only interventions.
  - Moderate-intensity to high-intensity exercise only interventions, without prescribed diet, are also effective.
  - Walking interventions that promote increases in step counts can result in 1-1.5% weight loss without calorie restrictions.
  - There is an important role for PA in maintaining weight loss.
  - It is likely that the volume of activity required for weight loss is higher than the current public health dose.
- ‘Football Fans in Training’ has provided Scottish data on an approach to weight loss for men and resulted in 5% weight loss at one year and maintenance of weight loss over baseline levels at 3.5 years.
- There are many ‘myths’ about the role of PA in weight management and we have shown how these were based on unsound understanding of scientific evidence.
- PA provides mental and physical health benefits even if weight loss is not experienced. It is a ‘win-win’ behaviour.

Definitions

We encourage the use of the term physical activity [PA] in this discussion rather than ‘sport’ to make the point that everyday modes of activity such as walking or cycling, which have a higher prevalence than sport in the population, have the potential to contribute to weight management and the treatment or prevention of obesity. Sport is only one domain of activity and others include leisure-time activity and exercise, active travel (walking and cycling), occupational activity, gardening and housework. Our recently published a paper, within the Scottish population, underlines this point (Strain et al., 2016).

The role of PA in weight management.

Creating a negative energy balance by increasing PA and reducing calorie intake is a common strategy for weight loss and weight maintenance but it is fair to say that the evidence for this approach remains inconclusive. A recent review has provided a detailed critique of the previous literature and provided new input from high quality studies (Chin, Kahathuduwa, & Binks, 2016). We have considered this review as the most recent and reliable evidence. The authors make the following conclusions:
1. Exercise combined with diet interventions are more effective than diet-only interventions in creating weight loss at 6 months and result in 8–11% weight loss.

2. Moderate-intensity to high-intensity exercise only interventions, without prescribed diet, are also effective and result in 2–3% loss of the initial weight within 6 months.

3. Walking interventions that promote increases in step counts can result in 1-1.5% weight loss without calorie restrictions in 3-6 months.

4. There is an important role for physical activity in maintaining weight loss but the exact dose of activity needed for this purpose remains unclear.

In addition to this review we would like to note that it is likely that the volume of activity required for weight loss is higher than the current public health dose. The Scottish Intercollegiate Network Guidelines recommend a minimum of 45 minutes of activity every day for weight loss.

**Scottish data from the Football Fans in Training [FFIT] project.**

Football Fans in Training (FFIT) was devised as a way of incentivising overweight men to attend weight management groups by giving them behind-the-scenes access to professional football clubs in Scotland. Grounded in current behaviour change theory, the project used fans’ ‘home’ stadiums as supportive environments for a 12 week programme of classroom-based advice and pitch-side physical activity sessions.

The programme, and the evidence it was based on, centred on encouraging overweight men to make changes to their eating habits and to engage in more physical activity. The University of Edinburgh’s particular contribution – led by Professor Nanette Mutrie and colleagues in the Physical Activity for Health Research Centre (PAHRC) - was to develop a walking programme for the physical activity (PA) element and advise on how to approach the pitch side physical activity sessions.

Graduated over 12 weeks, the walking programme was designed to help participants increase their day-to-day PA levels. This complemented what they were doing weekly, in groups, at the stadia, and involved wearing a pedometer to help them measure progress and meet their goals.

By the end of the 2013-2014 football season, over 3,000 men had participated in the programme. Over these, 747 took part in one of the world’s first randomised control trials of a health programme delivered through professional sports clubs.

Funded by the National Institute for Health Research [NIHR], the trial showed that FFIT was extremely popular among both participants and coaches and, being relatively inexpensive to deliver, was value for money. It also showed that a year after the programme participants’ step counts were higher and
that, overall, the difference in their weight loss, compared to non-participants, was around 5% of weight loss from baseline levels (Hunt et al., 2014). A follow up of these participants has just been completed with further funding from [NIHR] and it has shown that 3.5 years after the intervention there has been maintenance of weight loss over baseline levels.

PA and obesity myths

There are myths about PA and obesity which require refutation. Recent narratives have suggested that PA is irrelevant when considering weight management or weight loss (Malhotra, Noakes, & Phinney, 2015). We have shown how these narratives were wrong, had been misunderstood, or were based on unsound understanding of scientific evidence (Kelly et al., 2015). We note that while these “eye catching” publications were picked up by certain media outlets, they included no empirical evidence and amounted to personal opinion of individuals. They do not meet the standards usually required for public health evidence, and should be disregarded in this discussion.

PA is a ‘win-win’.

Increasing levels of PA may not result in weight loss. People compensate for increasing activity by sometimes decreasing the amount of everyday activity they undertake [for example on days when people go to the gym they may not take the stairs or take an active journey to work] or increasing their food intake. However the increased PA will benefit physical and mental health in many ways for people who compensate and do not experience intended weight loss. These benefits are now strongly evidenced and documented.

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References


