## Preventing weight regain after weight loss

ue to the difficulty in maintaining weight loss over a period of years, obesity has been classified as a chronic, relapsing disease (Orzano and Scott, 2004). It is crucial for healthcare professionals to accept this and deal with obese people as we would do for any chronic illness such as diabetes and hypertension.

It is natural for people to try and lose weight quickly. In fact, we are all pressurised by media and the "weight loss industry" to come up with quick-fix solutions. Tabloids, magazines and weight loss clubs often circulate "before" and "after" pictures, but pictures of someone "some time after" weight loss are rarely seen.

Indeed, weight regain is common after weight loss (Ulen et al, 2008). Healthcare professionals working in weight management clinics would have seen many people with similar history of weight regain after trying out a weight loss programme. This is particularly the case with very low calorie diets or meal replacements. I have found that on most occasions weight regain is more than the weight they have lost.

To lose weight, one must use up more calories than they consume. Since a pound (approximately 0.45 kg) of body fat equates to approximately 3500 calories, in order to lose about 1 pound in weight per week, one needs to reduce their calorie intake by 500 calories per day. However, those who work in weight management are well aware that there is no direct relationship between energy consumption and expenditure. The human body reacts to weight loss interventions at a different pace in different people; some may lose weight immediately and others will not see any result until after a prolonged duration. Similarly, weight regain can vary between individuals. Weight management is complex. It is no surprise that numerous weight loss programmes have emerged and the weight loss market is now a multibillion dollar industry.

With so many weight loss strategies to choose from, what works and what doesn't? In my experience, those who lose weight gradually and steadily (about 1–2 pounds per week) tend to keep the weight off. People are more successful in preventing weight regain when they are not unduly focussed on weight and have other non-weight related goals in life. Focussing on non-weight related goals can lead to change in habits, which may help to maintain weight loss over time and also overcome weight regain. This was demonstrated in a study of participants in the National Weight Control Registry in the US, which revealed that those who had a change in habits and adhered to that had maintained a significant weight loss and reported improvements in not only their physical health, but also their energy levels, physical mobility, general mood and self-confidence (McGuire et al, 1999).

Long-term weight regain is common after bariatric surgery. A 5-year prospective study showed that within 24 months after surgery approximately 50% of patients regained weight (Magro et al, 2008). Bariatric surgery success begins with changing habits; if bad lifestyle habits are not altered in the window period of 2–3 years after surgery, weight regain may occur.

As seen in another study in Cuba, weight loss at the population level was seen due to change in political scenario, followed by weight gain and associated medical illness (Franco et al, 2013). Here, the driving force was politics and ideology.

How can we learn from these experiences and develop an effective weight loss strategy for each individual and also at the population level? The solution is change in habits with gradual weight loss and concentrating on non-weight related goals. At the individual level, help people to understand food groups, change habits, increase physical activity, and learn to overcome craving and not to use food to relieve stress. At the population level, create an environment conducive to easy access to healthy food and physical activity, and providing difficult access to energy-dense food. This will involve a concerted effort by each one of us healthcare professionals and also the politicians and food industry. As we have targets for each individual weight management plan, we need to have a target for the society as a whole and work towards it.



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Franco M, Bilal U, Orduñez P et al (2013) Population-wide weight loss and regain in relation to diabetes burden and cardiovascular mortality in Cuba 1980-2010: repeated cross sectional surveys and ecological comparison of secular trends. *BMJ* 346: f1515

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

McGuire MT, Wing RR, Hill JO (1999). The prevalence of weight loss maintenance among American adults. Int J Obes Relat Metab Disord 23: 1314–9

Orzano AJ, Scott JG (2004) Diagnosis and treatment of obesity in adults: an applied evidence-based review. *J Am Board Fam Pract* 17: 359–69

Ulen CG, Huizinga MM, Beech B, Elasy TA (2008) Weight regain prevention. *Clin Diabetes* **26**: 100–13