These papers have changed my life ... but are they changing the lives of people with diabetes?

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Until very recently, I would have had no hesitation in identifying not one but two exactly contemporaneous articles with identical results as having changed my outlook on diabetes more than any others. The USA-based DPP (Diabetes Prevention Project; Knowler et al, 2002) and the Finnish Diabetes Prevention Study (Tuomilehto et al, 2001) were dramatic in showing that a modest, achievable diet and exercise programme could prevent type 2 diabetes. Most of the future incidence of diabetes in obese participants identified as at high risk was prevented for at least 4 years – extraordinarily, by exactly the same amount (58%) in both studies. Whether the very expensive intervention used in the DPP (complete with free trainers and gym membership), or the simple, low-cost European solution, ultimately walking briskly for 30 minutes a day and cutting dietary fat to under 30% of energy intake, were essentially all that was required to generate a sustained weight loss of approximately 6–7 kg and block the development of one of the most common, most devastating and most expensive diseases people can face. Reducing waist circumference is a key predictor of benefit (Laatikainen et al, 2007).

Did these articles change everyone's lives? Did they lead to a massive switch in public funding away from our largely palliative treatment of type 2 diabetes towards effective prevention? No. They led to ongoing and insoluble arguments as to whether diet or physical activity was the most important component of the intervention. The results have contributed to pressure for screening – or rather, mass diagnostic testing for impaired glucose tolerance (IGT) – as the participants in these trials all had IGT. Screening is a good idea when it avoids introducing an intervention that could be hazardous (i.e. for those without IGT). However, this does not apply to the case at hand as all obese people would benefit from the intervention (modest weight loss), whether or not they have IGT, and there are essentially no hazards. The only criterion is a high waist circumference (women >80 cm; men >94 cm; with downward adjustment for people of south Asian origin [National Heart, Lung, and Blood Institute, 1998]).

The hazards presented by type 2 diabetes are appalling: a doubling of mortality risk, blindness, amputations, kidney failure and dementia. Risks enough, one might think, to stimulate diet and physical activity measures in people identified as being at high risk. But people are not so easily swayed from their marketing-led, high-fat, low-activity lifestyles. Type 2 diabetes prevalence is rising rapidly. Between one-in-five and one-in-ten of us can expect to develop it, mostly those who have gained weight as adults (Han et al, in press). Drug companies have not ignored this trend and current clinical guidelines lead most people with type 2 diabetes to be prescribed something in the order of five to eight different drugs to manage their condition directly – plus others for hypertension, angina arthritis, depression and so on, which are all aggravated by obesity. The net effect of this polypharmacy was assessed by the Cambridge Group as contributing just 5–10% risk reduction, and prognosis remains awful (Echouffo-Tcheugui et al, 2008). People with type 2 diabetes do not like all those drugs and their side-effects (many causing further weight gain), and it is estimated that 30% of medicines prescribed are not taken (Emslie-Smith et al, 2003).

Do we have an alternative to this poor, palliative treatment? Well, along has come the next article to change my life: a randomised, controlled trial of weight loss using laparoscopic gastric banding, which reversed the diagnosis of type 2 diabetes completely in 73% of those who received the surgery (Dixon et al, 2008). The key cut-off was >15 kg weight loss maintained for at least 2 years. These people no longer had type 2 diabetes. No diabetes complications to face. No insurance penalties. Interestingly, an old Scottish study that changed my life 20 years ago (Lean et al, 1990) suggested that 15 kg intentional weight loss should be enough to normalise the shortened life-expectancy of overweight people with type 2 diabetes.

Does this mean that all overweight people with type 2 diabetes should be sent for surgery? If there is no alternative, possibly yes. An alternative could be found in studies of very-low energy diets (VLEDs) that have shown normalisation of blood glucose with >15 kg weight loss (Wing et al, 1987). However, people are seldom able to maintain that weight loss. Our priority now should be to establish ways to maintain weight loss after VLEDs for a reasonable proportion of people, by, for example, the use of anti-obesity drugs (Mathus-Vliegen and Balance Study Group, 2005; Richelsen et al, 2007). If weight loss can be maintained we will be able to offer new "curative" interventions for type 2 diabetes soon after diagnosis – while beta-cells are still functioning. That will change a lot of lives.

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