

Diabetes:

Before, after and for some time after

“Give a man a fish, and you have fed him once. Teach him *how* to fish, and you have fed him for a lifetime.”

A Chinese axiom

Diabetes is a term used to denote two major chronic illnesses. It should be managed like any other chronic illness and, accordingly, there should be continuous input from healthcare professionals for people with diabetes. The message that obesity and diabetes are chronic illnesses should be passed on to people in our care, colleagues, media, decision makers and healthcare institutions. It would be prudent not to restrict ourselves to “before and after” comparisons of those with diabetes. People with diabetes should be provided with the tools for continuous improvement “for some time after”, which is prerequisite for any chronic illness.

According to a recent estimate, just over a quarter of adults in England (24% of men and 26% of women) are obese (body mass index [BMI] greater than 30 kg/m²) and a further 41% of men and 33% of women are overweight (BMI 25 to <30 kg/m²; The Health and Social Care Information Centre, 2013). Overweight and obese individuals are at a much higher risk of developing type 2 diabetes during their lifetime. Several studies have shown that weight loss reduces the risk of developing several metabolic and non-metabolic complications (Campfield et al, 1998). The health benefits of weight loss in people with type 2 diabetes have been published extensively. One study, comprising 263 people with type 2 diabetes or impaired glucose tolerance, showed that a 10 kg weight loss would restore the 35% loss of life expectancy associated with the diagnosis of type 2 diabetes (Lean et al, 1990).

Not a day passes when you do not come across “before and after” pictures in magazines, tabloids or on the Internet to advertise weight loss programmes. We have all been programmed to use “before and after” pictures as a yardstick for success. This, again, is the criterion for most weight management organisations in the NHS and the private sector. Not many monitor body weight “for some time after”. No one looks at end points for weight management, such as waist circumference, exercise tolerance or quality of life. Being weight centric in weight management may be one of the biggest reasons for failure in any weight loss programme.

Healthcare professionals looking after people with diabetes are well aware that our patients need to be seen at regular intervals and have an annual diabetes review. An optimal HbA_{1c} or good blood pressure control does not mean that we discharge our patient. We continue to encourage our patients and the care is continued “for some time after”.

The concept of “before and after” does not exist for diabetes, but does for weight management. Clinicians treating people with diabetes should follow a similar frequency of contacts as adopted for diabetes. All those with diabetes should be reviewed at 4–6-month intervals depending on their clinical and psychological needs and, thereafter, should have an annual review. The annual review of someone with diabetes should, in addition to the usual parameters, include a detailed assessment, evaluation (weight, waist circumference, exercise tolerance and quality of life) and discussion of aetiology, prevention of weight regain and maintenance of weight loss, whilst altering medications appropriate to their glycaemic profile.

Metabolic memory, also known as glycaemic memory or hyperglycaemic memory, explains



Chinnadorai Rajeswaran

Consultant Physician in Diabetes and Endocrinology at Mid Yorkshire NHS Trust, and Chair, National Diabetes Forum

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the consequences of good or poor glycaemic control after a period of good or poor diabetes management. A similar effect was demonstrated during the 10-year UKPDS (UK Prospective Diabetes Study) follow-up study and was termed the “legacy effect” (Holman et al, 2008a; 2008b). Long-term follow-up of patients in the UKPDS showed that early, aggressive therapy made a difference to the outcomes “for some time after”. Despite an early loss of glycaemic differences, a continued reduction in microvascular complications and risk of myocardial infarction was observed during the 10 years of post-trial follow-up (Holman et al, 2008b).

The DCCT (Diabetes Control and Complications Trial) study showed that the risk of developing retinopathy remained significantly low in the intensively treated type 1 diabetes individuals in the first 4 years after completion of the trial (DCCT and EDIC, 2000). The EDIC (Epidemiology of Diabetes Interventions and Complications) follow-up trial, conducted 10 years later, showed that HbA_{1c} levels were similar in both the conventional and intensively treated groups. However, the rates of retinopathy and proliferative retinopathy remained lower in the intensively treated group than in the conventional group (DCCT and EDIC, 2003). A study conducted in Japan showed that previous obesity, as well as present obesity, was closely associated with nephropathy in type 2 diabetes. This study revealed that obesity is an independent risk factor, not only if it is present, but also if it was present in the past. This might indicate a “legacy effect” of obesity on nephropathy (Meguro, 2013).

Weight regain is common and, hence, should not be considered a failure of the system or the inability of the individual to follow a regimen prescribed by the healthcare team. Research has shown that about 20% of overweight individuals are successful at long-term weight loss when it is defined as losing at least 10% of their initial body weight and maintaining the loss for at least one year (Wing and Phelan, 2005).

Weight regain is also common after all forms of bariatric surgery. It was observed within 24 months after surgery in approximately 50% of individuals (Magro et al, 2008; Faria et al, 2009). In order to avoid weight regain, people with obesity or diabetes should not just be seen

“before and after”, but should continue to be monitored “for some time after”.

It is, therefore, important for clinicians to understand that short-term goals for individuals with diabetes may not be helpful, and management should be focussed on long-term goals, including change in behaviour and lifestyle, for long-term success. The skills necessary for long-term maintenance of weight loss in the context of an obesogenic environment remain a challenge for all healthcare professionals. In fact, treatment of obesity could supersede the treatment of the other chronic diseases, such as type 2 diabetes and hypertension. Systems and processes in place in a diabetes clinic should be adapted in all diabetes clinics. There should be regular reviews and diabetes should be managed as a chronic condition requiring continued support. ■

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