Preventing Type 2 Diabetes Mellitus in the 21st Century

Abstract
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An individual's genotype is important in determining the risk of his/her developing Type 2 Diabetes and is closely linked to the development of the obese phenotype. Obesity and Type 2 Diabetes are inextricably linked. Within the obese phenotype, however, there are also indicators of the likelihood of an individual progressing to the diabetic state, and these relate to the disposition of excess body fat. It is important to recognise this and direct resources to an "at risk" population, cf. Sharma. Despite this, in the 21st Century, there is likely to be an explosion in the prevalence of Type 2 Diabetes, which will impact most in developing countries who are least able to cope.

Weight management and the reduction in population mean weight will impact most in the reduction in prevalence of diabetes in any population. This implies that Governments, Healthcare Providers and individuals need to develop appropriate methods of reducing, or at least sustaining current weight. Given the history of population mean weight over the last half century, do we have mechanisms that fit for purpose in delivering weight stabilisation or weight loss? Current thinking would suggest not and therefore the time is ripe for a reconfiguration of the healthy diet. The Swedes have already tackled this and are the first developed country to challenge the current dietary dogma with a dramatic reduction in the recommended level of carbohydrate intake relative to energy intake. Is there evidence to support this?

Of course there is, and a large number of individuals worldwide have been advocating such changes in recommended dietary intake for a number of years. There is no evidence that low fat, high carbohydrate diets are the most advantageous to health. In fact the evidence might suggest the reverse. The current healthy eating advice, based on high carbohydrate intake, is not evidence-based, but opinion led from the late 1960's. This was also devised to reduce CHD risk and not the weight of the population. Interestingly high carbohydrate diets do imply increased insulin secretion and increased circulating concentrations of insulin promote atherogenic lipid profiles.

So, do we have it wrong? Should we re-evaluate our current dietary advice and will this lead to reduction in weight?

We do have a large and increasing obese population and this needs to be dealt with to reduce the risk of future development of diabetes. Recent work would suggest that we need to re-evaluate our current approved methods of achieving weight loss, especially given the recent approach in the use of low carbohydrate diets, the use of LCD/VLCD in the management of type 2 diabetes and the need to avoid mass bariatric surgery.

If a process is not working, we need to fix it and not keep applying the same policies in the hope that everything will eventually turn out in the way we hope. We have been applying the same policies for years and the system is clearly broken and requires fixing. Therefore think out of the box otherwise we shall create a new species Homo Adipatus. We must, however, remember not to swing the pendulum of medical management too far, as physicians are wont to. A population has a variety of shapes and sizes and the current vogue for a size 8 for all is totally wrong leading to severe mental health issues, especially in the young.

References:
Diabetes UK position statement at diabetes.org.uk