BGAT, BINGO or BASH – What's in a name?

Hypoglycaemia is the most important complication of insulin treatment. Although rates of severe hypoglycaemia are thought to increase exponentially as HBA_{1c} levels fall towards the non-diabetic range,¹ recent evidence suggests that when intensive insulin therapy takes place within a structured training programme, the frequency of very low blood glucose levels does not invariably increase.²

Early detection and avoidance of hypoglycaemia is the 'Holy Grail' for patients on insulin. Unfortunately, studies suggest that up to 25% of patients with long-standing type 1 diabetes have complete hypoglycaemia unawareness³ and locally we have found that 31% of insulin-treated individuals self-report a reduction in intensity of warning symptoms irrespective of insulin regimen or formulation. Whilst there have been significant advances in detection of hypoglycaemia using continuous glucose monitoring systems,⁴ the majority of at-risk individuals still rely on detecting characteristic warning symptoms combined with traditional home blood glucose monitoring. Unfortunately, there are errors related to the performance of home blood glucose monitoring devices,⁵ which do not appear to be resolved by alternative site testing.⁶ For some patients, the process of finger-stick testing can be painful, messy and troublesome as evidenced by the report that only 20% of insulin treated patients appear to pick up enough blood glucose monitoring strips for at least once daily testing.

Blood Glucose Awareness Training (BGAT) is an established programme, originating from the USA, which teaches patients to improve their accuracy in estimating the prevailing blood glucose level. The technique involves recognition of external cues such as food and alcohol and internal signals including physical symptoms and emotional well being.8 They are taught the nuances of insulin kinetics and carbohydrate counting as well as the anticipated effects of exercise. BGAT is available on the Internet for use by patients with type 1 diabetes (www.hsc.virginia.edu/medcntr/centers/bmc/bgat/). There is a certified course and training manual and the programme has been adapted for use in Holland as BINGO (Bloedsuikers Inschatten no Gestructureered Oefenen) and locally as BASH (Bournemouth Awareness of Symptoms of Hypoglycaemia). The results are impressive, with improved accuracy in estimating blood glucose levels, detecting the onset of hypoglycaemia and practical benefits including a fall in the number of road traffic violations and accidents for diabetic drivers.^{9,10} The program is now being developed to deal specifically with patients with recurrent severe hypoglycaemia - Hypoglycaemia Anticipation Awareness Treatment Training.¹¹

Clearly BGAT is effective with a solid evidence base, yet within the UK access to it at the present time is very limited. The theory and methodology behind BGAT lends itself to the skills and expertise of diabetes specialist nurses, who are invariably involved in dealing with the physical and psychological consequences of severe hypoglycaemia.

The role of the diabetes specialist nurse (DSN) consists of expert clinical practice, education, facilitation, innovation and research. The DSN is particularly effective in the first three but often less so in the last two. One of the reasons may be the overwhelming workload, where DSNs are so busy firefighting there is not the time to look at the causes of the fires and implement effective preventative methods.

Programmes such as BGAT have huge implications in allocation of time and resources but we believe priorities have to be made for such programmes in order to reduce the cost of severe hypoglycaemia to patients.

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Please see related review on diabetes and driving in the UK on page 290.

Reflections following the 2002 PCD Europe Annual Conference

Based on an exclusive interview by *Practical Diabetes International* with the Chairman and two leading Executive Committee members of Primary Care Diabetes Europe after the Annual Conference of PCD Europe in Stockholm on 10/11 May 2002 (*see page 299 for a full conference report*).