Training in flexible intensive insulin management improved glycaemic control and quality of life in type 1 diabetes


QUESTION: Does training in flexible intensive insulin management (combining dietary freedom and insulin adjustment) improve glycaemic control and quality of life in patients with type 1 diabetes?

Design
Randomised (allocation concealed*), unblinded,* wait list controlled trial with follow up at 6 months (Dose Adjustment for Normal Eating [DAFNE]).

Setting
3 hospital diabetes clinics in Sheffield, Northumbria, and London, UK.

Patients
169 patients > 18 years of age with clinical features of type 1 diabetes, moderate or poor glycaemic control (glycated haemoglobin [HbA1c] 7.5–12%), and duration of diabetes > 2 years without advanced complications. Exclusion criteria were inability to understand English, severe psychiatric illness, pregnancy, and unawareness of hypoglycaemia. 136 patients (80%) completed baseline and 6 month assessments (mean age 40 y; 56% women).

Intervention
84 patients were allocated to the intervention, which comprised a 5 day skills course delivered by 2–3 educators (diabetes specialist nurses or dieticians) to groups of 6–8 participants in each centre. Patients were taught the skills to adjust their insulin by matching it to the desired carbohydrate intake at each meal (rather than adjusting the timing and content of meals to match prescribed doses of insulin). 85 patients were allocated to usual care for 6 months, after which they received the training intervention.

Main outcome measures
HbA1c concentrations patient recorded episodes of severe hypoglycaemia (ie, episodes causing coma or requiring the assistance of another person), and impact of diabetes on quality of life (Audit of Diabetes-Dependent Quality of Life [ADDQoL] questionnaire, 19 point scale).

Main results
At 6 months, patients in the intervention group had better glycaemic control (table) and weighted impact of diabetes on quality of life (mean difference between groups 0.4, p < 0.01) than the usual care group. The groups did not differ for episodes of severe hypoglycaemia (18% v 15%, p = 0.68).

Conclusion
In patients with type 1 diabetes, training in flexible intensive insulin management (combining dietary freedom and insulin adjustment) improved glycaemic control and quality of life at 6 months.

*See glossary.
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