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Long term enteral feeding in diabetes mellitus – a systematic review

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Diabetes mellitus is a common disorder affecting more than two million people in the UK[1]. Enteral tube feeding can be problematic in diabetes due to the rapidly absorbed carbohydrate in the feed[2]. As a result, pharmaceutical companies produce special feeds suitable for people with diabetes. The use of these feeds has recently been under the spotlight, with diabetes dietitians asking what is the evidence for their use[3]. The aim of this systematic review was to investigate if diabetic enteral feeds provide better glycaemic and lipid control compared with standard enteral feeds.

An extensive search of electronic databases (MEDLINE, AMED, CINHAL), the grey literature, handsearching, contact with professional groups and key authors was conducted to identify studies for review. Databases where searched from the start with the last search conducted on 20 April 2006.

The criteria for inclusion consisted of randomised controlled trials of adult populations with any type of diabetes of at least 4 weeks duration. The intervention was defined as a low-carbohydrate high-fat enteral feed. The outcome measures used were glycaemic and lipid control. The quality of the studies was assessed and data extracted. A meta-analysis was undertaken with eligible studies using RevMan 4.3.8[4].

Three studies met the inclusion criteria for this review. The meta-analysis of two studies failed to show any statistically significant results for fasting glucose ($P=0.26$), random glucose ($P=0.55$), total cholesterol ($P=0.35$), HDL cholesterol ($P=0.14$) or TAG ($P=0.49$). One primary study did show statistically significant results but unfortunately it was not possible to include this data into the meta-analysis. The direction of effect in all the studies was favouring the diabetes feed.

All the studies were underpowered and it is possible that a type II error has occurred. Many of the studies were poorly reported and the quality of the reported research could have been improved. There is currently not enough evidence to support the routine use of diabetes specific enteral feeds in people with diabetes. More primary research into the use of low-carbohydrate high-fat feeds in the long-term feeding of people with diabetes to assess glycaemic and lipid control needs to be undertaken.

1. Diabetes UK (2006) Reports and statistics Diabetes prevalence http://www.diabetes.org.uk/Professionals/Information_resources/Reports/Diabetes_prevalence_2006
2. Coulston AM (1998) *Clinical nutrition* **17** Suppl.2, 46–56.
3. Merryfield C (2005) *Complete nutrition* **5** (3) 8–10.
4. Cochrane Collaboration (2005) RevMan 4.3.8 http://www.cc-ims.net/RevMan