## 260 Motivational interviewing and dietetics – a fresh approach to adherence issues

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Motivational interviewing (MI) is 'a directive, client-centred counselling style for eliciting behaviour change by helping clients to explore and resolve ambivalence' (Miller 1983). This client centred counselling technique can be effective in chronic disease management especially with patients who have struggled to adhere to treatments for more than 6 months following conventional advice and education regarding their health.

Following training in MI, dieticians under the supervision of the CF psychologist, identified 4 patients with long standing adherence issues to use this new approach with. They were aged between 20–38 years, Fev1 ranged between 23–50% and BMI 16.0–23.4 kg/m$^2$. The adherence issues that were addressed were declining BMI and continued refusal of nutritional support interventions (n = 3), and poor adherence to cystic fibrosis related diabetes (CFRD), with a HbA1c of 15.3% (n = 1).

Following a series of MI consultations, all patients who had previously declined enteral feeding commenced nasogastric (n = 2) or gastrostomy feeding (n = 1), with weight gain of between 0.2–5 kg. The patient who was not adhering to CFRD improved their adherence to blood sugar monitoring and insulin therapy, with an improved HBA1c of 14%.

An MI approach to counselling CF patients may be an effective way of helping patients to address long standing adherence issues when conventional consultation techniques have been unsuccessful. From our experiences patients are more likely to make changes and adhere to their treatments if they are given the opportunity to explore and resolve ambivalence and set their own treatment goals.

## 261 Clinic wide implementation of a behavioural nutrition education programme "Eat Well with CF" (EWCF) in adults

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**Introduction:** Malnutrition remains a major clinical problem in CF. As the degree of underweight correlates closely with reduced survival, interventions are needed to optimize nutritional outcomes. The aim of this project was to further develop, evaluate, implement and test the effectiveness of EWCF on patient outcomes. The intervention consists of a previously tested 10 week nutrition education intervention involving home-based educational modules and 3 web workshops (Watson H, et al. 2008). Patients complete one educational module each week. Following the successful pilot group (n = 10) subsequent groups consisted of 20 patients. Specific outcomes, namely weight, BMI, $FEV_1$ and specific nutrition knowledge (SNK), were measured pre- and post-programme.

**Results:** To date, 50 patients have completed the programme (28 males, 22 females). Their mean age was 23.9 yrs (range 17–45). Their pre-programme weight (mean±SD) was 59.9±13 kg and FEV1 was 67.9±24.3 percent predicted. Post-programme weight was 60.4±13.7 kg and FEV1 was 67.2±22.3 percent predicted (not significantly different from pre-programme). However a significant difference was seen in SNK scores which increased from 37.8±4.72 pre-programme to 40.5±4.6 post-programme (p = 0.0001; paired Student t test). Patient comments support the significant improvement in nutrition knowledge. For example: "This booklet has been my lifeline, I started snacking and eating treats in front of the tv. I have put on 6 lb and feel great."

**Conclusion:** Nutrition knowledge specific to CF was significantly improved by patients undertaking EWCF. Larger studies will be needed to examine its impact on long term weight gain.

## 262 Growth outcomes in children with moderate-to-severe CF on an intensive exercise and dietetic programme

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**Introduction:** The correlation between nutritional status and clinical outcomes in CF is well documented. Children with moderate-to-severe CF who exercise regularly may require frequent dietetic input to optimise growth.

**Objectives:** To evaluate change in weight, BMI and lean muscle mass (LMM) in children undertaking a 12 month intensive exercise and dietetic programme.

**Methods:** 16 children (12 female; median age 11 [5–15] years) who required >40 IV days in the previous year were enrolled. All except one were pancreatic insufficient. Dietetic input included 1–2 monthly monitoring of weight, appetite, intake and absorption, with structured nutritional teaching sessions. Total body water was measured pre and post intervention using deuterium dilution techniques as a proxy for LMM.

**Results:** Baseline weight (mean±SD; –0.49±0.61) and BMI (–0.25±0.81) were below the 50$^{th}$ centile. There were no significant changes in the rate of decline in weight or BMI SDS in the intervention year compared with the preceding year. The majority of children maintained their centiles. Clinically significant improvements [range 0.01 to 1.39 SDS] in LMM were noted in 7 children, although the increase for the group was <0.25 SDS. Some children with higher baseline BMI had greater increases in LMM.

**Conclusion:** These results show that maintaining growth parameters is a challenge in children with CF who exercise intensively. More frequent dietetic input identified and addressed nutritional needs earlier and there was no significant decline in weight or BMI SDS. A larger study with longitudinal monitoring may result in better growth and nutritional outcomes especially for those with less severe CF.

## 263 A review of oral nutritional supplement use in a single centre clinic

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**Objectives:** The use of oral nutritional supplements (ONS) in paediatric cystic fibrosis (CF) care is controversial, with little evidence for additional benefit over standard dietetic advice. Yet UK guidelines continue to advocate ONS in poorly nourished patients, and the increasing emphasis on early nutrition focuses attention on early use (or not) of ONS. We surveyed our recent practice and changes over time. Our aim was to identify the characteristics (including age, nutrition and lung function) of patients receiving ONS.

**Method:** We interrogated our database for annual review data between 2003 and 2010 for reported oral supplement use, BMI Z score and FEV1 (in children over 5 years). We excluded patients receiving gastrostomy feeds and those under 1 year. Oral supplements were defined as glucose powders, fat emulsions and complete nutrient drinks.

**Results:** Data was retrieved from a total of 165 annual review episodes from a total of 31 patients.(11 male, 20 female; 2 pancreatic sufficient). Supplement use by year ranged from 35% to 59% of cohort with a significant increase (p = 0.007) over the 8-year period. Median BMI Z score was consistently lower in those receiving ONS. There was no difference in median age between those receiving and not receiving ONS (10 years).

**Discussion:** ONS are commonly used in our clinic, and children with poorer nutrition (in line with guidelines) and poorer lung function are more likely to be receiving ONS. Despite the lack of evidence, their use appears to be increasing, including in children with better BMI Z scores, perhaps due to a desire to maximise nutritional status from an early age.