A service evaluation of the implementation of dedicated chefs on a specialist adult cystic fibrosis unit.
Introduction to Cystic Fibrosis

- Cystic Fibrosis (CF) is a genetic disorder, resulting in issues with the cystic fibrosis transmembrane conductance regulator (CFTR) protein. CFTR controls movement of sodium, chloride and bicarbonate in cells.

- The widespread presence of CFTR throughout the body (lungs, salivary glands, pancreas, liver, kidneys, sweat ducts and reproductive tract) helps to explain why CF is a multisystem condition affecting many organs. The two major systems affected are the lungs and the gastrointestinal tract.
Introduction to Cystic Fibrosis

- People with CF have high energy and protein requirements and often poor dietary intake (Cystic Fibrosis Trust, 2016; Turck et al., 2016; Stallings et al., 2008).
- Poor nutritional status in CF negatively affects lung function and can lead to early death (Cystic Fibrosis Trust, 2011; Dodge and Turck, 2006).
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What were we looking for?

Retrospective evaluation to assess the benefits of dedicated chefs on health of CF inpatients in terms of:

• weight,
• BMI,
• lung function and
• nutrition support.
Methods

Exclusion criteria included: ascites, pregnancy and post-lung transplant. All eligible patients (n=74) had every stay of any length compared between centres. The main study group consisted of patients with ≥10-day stays (n=46) in both centres, closest admissions selected from each centre.

Changes during admission in weight, BMI and lung function (FEV1 and FVC % predicted) were collected, together with nutrition support, stay lengths and demographics.
Results

• Implementation of dedicated chefs for CF patients did not result in significant changes in inpatient weight gain or BMI

• Mean weight gain was 0.3kg in both centres. But trend towards weight gain in new centre with median 0.7kg vs Old Centre 0.3kg.
Results

- The percentage of patients on ONS and ETF decreased from 65% to 46% in the old and new centre respectively.

- Although this was a non-significant decrease in mean energy (kcal) provided from ONS and ETF in the new centre.
During admissions, percentage improvements in FEV₁ and FVC % predicted were significantly higher in the new centre in comparison to the old centre.

For the FEV₁ % predicted, the improvement between centres gave P=0.013.

For the FVC% predicted, the improvement between centres gave P=0.032.

Mean percentage change FEV₁% predicted and FVC% predicted during admission in the old and new centre (n=31). Data are presented as mean ± S.E.M. Significant differences between groups transcripts (B>A and D>C where P<0.05).
Conclusion

The cause of the greater improvements in lung function in the new centre in those that gained weight cannot be inferred, but is very encouraging.

Although there is great interest in this idea, further research is needed as this food provision is more expensive. Increased costs may be offset by reductions in ONS and ETF and justified by potential positive impacts on patient wellbeing and improved health.
Impact on Dietetic Practice

This analysis suggest there could be an impact on dietetic practice as ONS and ETF prescription may be decreased with dedicated chefs.

Two weeks may be too small a time frame to have significant impact on weight, we now routinely measure grip strength and body composition. There are suggestions fat free mass correlates better with health and lung function than BMI in CF (Sheikh et al., 2014).

We aim to further enhance this model with individualised recipe adaptations for patient needs during admissions.
Acknowledgements

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References

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