POSTER SUMMARY

Health Economic Benefits of Real Food Tube Feeding Formulas Compared to Standard Tube Feeding Formulas in Post-Acute Pediatric Patients

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Introduction:

Enteral nutrition (EN) is often employed for the nutritional management of patients in an acute care setting, and may be continued as part of post-acute care.[1] The prevalence of home enteral nutrition (HEN) as part of post-acute care in the US has increased in recent decades due to its clinical and economic benefits.[2] Healthcare professionals, patients, and caregivers are requesting tube feeding formulas including more real food and recognizable ingredients.[3,4] Commercially blenderized tube feeding formulas (CBTF) containing a variety of real foods are suitable, and often preferred, for patients who have difficulty tolerating standard tube feeding formulas (STD-TF) which might be plant-based but do not contain real food.[3]

Objective:

To conduct HCRU and cost analysis of CBTF compared with plant-based STD-TF in post-acute care pediatric patients.

Methods:

This was a retrospective observational study, conducted using data from the Decision Resources Group Real World Evidence Data Repository, which covers 98% of US health plans and includes medical and pharmacy claims.

Patients 1-14 years of age, with a prescription of either CBTF (Compleat® Pediatric Organic Blends, Nestlé HealthCare Nutrition, US) or STD-TF (Kate Farms® Pediatric Standard 1.2, Kate Farms Inc., US) between Jan 2018 and Dec 2020 were included. The index date was defined as the date of hospital discharge. Outcomes were compared at 84 days post-index between the two groups. HCRU and associated costs were compared between the CBTF and STD-TF groups. Costs were adjusted for age, gender, and Charlson comorbidity index (CCI) score.

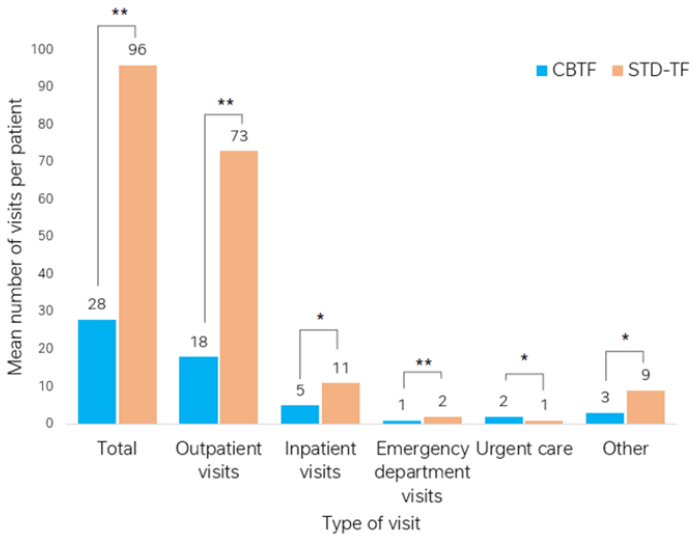
Patient Characteristics:

The study included 469 patients in the CBTF group (44% female, mean age 5.17 years), and 595 in the STD-TF group (40% female, mean age 4.96 years). There were no statistically significant differences between the two groups regarding mean age or gender. The most common diagnoses were diseases of the digestive system (CBTF 81%, STD-TF 85%), respiratory system (CBTF 78%, STD-TF 82%), and congenital malformations, deformations, and chromosomal abnormalities (CBTF 76%, STD-TF 69%). Fifty-nine percent of patients in the CBTF group had at least one CCI comorbidity compared with 58% of those in the STD-TF group. Of these, 88% in the CBTF group had CCI scores of 1–2 compared with 84% in the STD-TF group; 10% in the CBTF group had CCI scores of 3–4 compared with 12% in the STD-TF group; 1% of patients in the CBTF group had CCI scores ≥5 compared with 4% in the STD-TF group.

Results (Visit Types):

At 84 days post-index, the mean total number of visits (28 visits per CBTF patient vs 96 per STD-TF patient, p<0.001), visits to outpatient (18 vs 73, p<0.001), inpatient (5 vs 11, p=0.001), emergency departments (1 vs 2, p<0.001), and other places of service, including assisted living, intermediate care, and unidentified facilities (3 vs 9, p=0.005), were significantly lower for the CBTF group compared with the STD-TF group **(Figure 1)**. A significantly higher proportion of patients receiving STD-TF required inpatient visits, emergency department visits, urgent care and visits to other places of care than those receiving CBTF (all p<0.001). Most patients in both groups required outpatient visits (100% in the CBTF vs 97% in the STD-TF group)

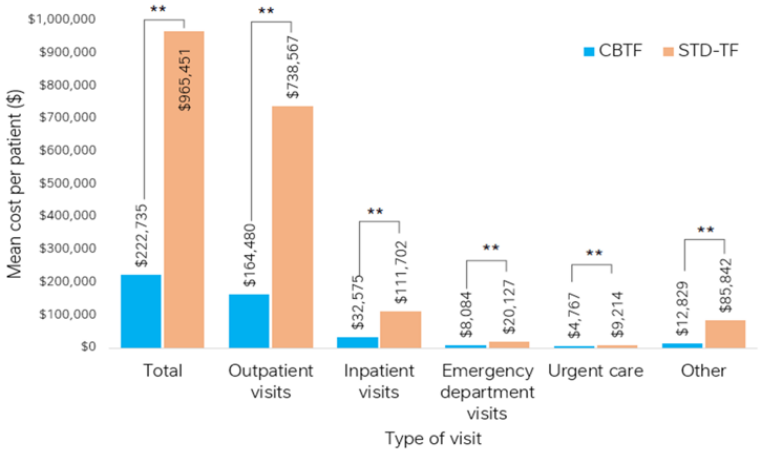
Figure 1: Mean number of visits to different places of service



Results (Cost of Care):

After controlling for age, gender and CCI score, significantly lower adjusted costs attributed to outpatient visits (CBTF $164,480, STD-TF $738,567, p<0.001), inpatient visits (CBTF $32,575, STD-TF $111,702, p<0.001), emergency department visits (CBTF $8,084, STD-TF $20,127, p<0.001), urgent care (CBTF $4,767, STD-TF $9,214, p<0.001), and other visits (CBTF $12,829, STD-TF $85,842, p<0.001) were recorded for the CBTF group compared with the STD-TF group **(Figure 4).**

Figure 4: Adjusted costs by place of service



Abbreviations: CBTF, commercial blenderized tube feeding formula; STD-TF, standard tube feeding formula. *p<0.05, **p<0.001, t-Test,alpha=0.05.

Conclusion:

A CBTF containing a variety of real food prescribed in post-acute care was associated with fewer visits to healthcare providers and reductions in costs attributed to those visits compared with a plant-based STD-TF. Post-acute care pediatric patients prescribed a CBTF had lower inpatient, outpatient, urgent care, and other mean visits than those prescribed a plant-based STD-TF. Pediatric patients prescribed CBTF in post-acute care had significantly lower adjusted costs associated with inpatient visits, outpatient visits, emergency department, urgent care, and other services compared with those prescribed a STD-TF.

References : 1. Toole BJ, et al. *Congenit Heart Dis.* 2014;9(1):15-25.; 2. Mundi MS, et al. *Nutr Clin Prac.* 2017;32(6):799-805.; 3. Gramlich L, et al. *Nutrients.* 2018;10(8).; 4. Boullata JI, et al. *JPEN J Parenter Enteral Nutr.* 2017;41(1):15-103.