



BACKGROUND

- Intolerance to enteral formulas can be challenging in patients receiving home enteral nutrition (HEN) and may lead to poor outcomes.^{1,2}
- Commercially blenderized tube feeding formulas (CBTF) containing a variety of real foods may be suitable and preferred in those with intolerance to a standard tube feeding formulas (STD-TF), including formulas that are plant-based but do not contain real food.
- Use of CBTF in post-acute care adults and children is well-tolerated and has demonstrated significant health economic benefits.^{3,4}
- There is an evidence gap for use of tube feeding formulas containing real food compared to standard formulas *without* real food ingredients.

OBJECTIVE

- Describe patient characteristics and clinical outcomes in adults fed CBTF formula compared to a plant-based STD-TF in post-acute care setting.

METHODS

- Retrospective study conducted using nationally representative US claims data from the Decision Resources Group Real World Evidence Data Repository. This repository covers 98% of US health plans and includes medical and pharmacy claims.
- Inclusion criteria were adults ≥14 years, fed a CBTF formula (Compleat® Organic Blends, Nestlé HealthCare Nutrition, US) or plant-based STD-TF formula (Kate Farms® Standard 1.0 and 1.4, Kate Farms, Inc., US) as sole-source nutrition for ≥7 days in post-acute care.
- Patient characteristics, medications, GI intolerance symptoms, health care resource utilization and costs were assessed between January 2018 - December 2020.
- The index date was defined as date of hospital discharge.
- Outcomes were measured in the post-index period based on the last record in the study period at 84-days post-discharge.
- GI intolerance symptoms were compared between CBTF and STD-TF group at 84-days post-index using chi-square test.

REFERENCES

(1) Elfadil OM et al. JPEN 2021;1-9; (2) Mundi MS, et al. NCP. 2020;35(3):487-494; (3) Henrikson A et al. JPEN. 2022 Mar;46(S1): S162-S163; (4) Desai A et al. NASPGHAN Annual Meeting: October 13-15, 2022 (Orlando, FL).

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Significant reductions in GI intolerance symptoms were observed in adults receiving real food tube feeding compared to a plant-based standard tube feeding formula

Table 1. Patient Characteristics (N=448)

	CBTF N=124, n (%)	STD-TF N=324, n (%)	p-value [†]
Mean Age, (SD) [§]	41.8 (23.9%)	41.5 (23.1%)	0.882
Female	64 (52%)	143 (44%)	0.156
Comorbidities[‡]			
Chronic pulmonary disease	43 (35%)	128 (40%)	0.347
Paraplegia and hemiplegia	48 (39%)	96 (30%)	0.066
Cancer	33 (27%)	88 (27%)	0.907
Cerebrovascular disease	14 (11%)	45 (14%)	0.467
Peripheral Vascular Disease	15 (12%)	41 (13%)	0.873
CCI score, Mean (SD) [§]	3.4 (3.3)	3.9 (3.5)	0.208

Abbreviations: CBTF, commercial blenderized tube feeding formula; STD-TF, plant-based standard tube feeding formula; CCI, Charlson Comorbidity Index; SD, standard deviation
[§] t-Test; [†]chi-square test, alpha=0.05 level of significance
[‡] Assessed during the year prior to hospital discharge

Table 2. Patients Experiencing GI Intolerance Symptoms at 84-days Post Index

	CBTF N=124, n (%)	STD-TF N=324, n (%)	p-value [†]
Any intolerance symptoms	36 (29%)	158 (49%)	< 0.001
2 Intolerance symptoms	9 (25%)	46 (29%)	0.045
3+ Intolerance symptoms	3 (8%)	39 (25%)	0.002
Nausea & vomiting	11 (9%)	76 (23%)	< 0.001
Abdominal pain	10 (8%)	76 (23%)	< 0.001
Diarrhea	2 (2%)	33 (10%)	0.002
Flatulence	2 (2%)	21 (6%)	0.037

Abbreviations: CBTF, commercial blenderized tube feeding formula; STD-TF, plant-based standard tube feeding formula
[†]chi-square test, alpha=0.05 level of significance

RESULTS – PATIENT CHARACTERISTICS

- 448 adults included (46% female; mean [standard deviation (SD)] age 41.5 [23.3] years) from all US regions.
- Most common pre-index diagnoses were diseases of the digestive system (90%), musculoskeletal and connective tissue (81%) and nervous system (78%).
- Overall mean Charlson Comorbidity Index (SD) score was 3.8 (3.4).
- Most frequent comorbidities were chronic pulmonary disease (38%), paraplegia and hemiplegia (32%) and cancer (27%) (Table 1).
- No significant difference, between groups was observed, including use of concomitant medications such as CNS agents, GI drugs (antidiarrheals, antiemetics, laxatives, others) and anti-infective agents.

RESULTS – GI INTOLERANCE

- Significantly fewer patients experienced GI intolerance symptoms at 84-days post-index with the CBTF formula (29%) compared to STD-TF (49%) (p< 0.001, Table 2).
- Difference in GI intolerance for CBTF was observed in individual symptoms of nausea and vomiting (p< 0.001), diarrhea (p=0.002), abdominal pain (p< 0.001) and flatulence (p=0.037) at 84-days post-index.
- Significantly more patients experienced three or more GI intolerance symptoms among the STD-TF group (25%) compared to CBTF (8%, p=0.002).

CONCLUSIONS

- Use of CBTF with a variety of real foods was well tolerated in adult patients in the post-acute care setting.
- Significant reductions in GI intolerance symptoms were observed with CBTF compared to plant-based STD-TF formulas, demonstrating clinical benefits in post-acute care patients.