



Main Diagnoses In Tube-Fed Adults In The Post-Acute Care Setting: Clinical And Health Economic Benefits Associated With The Use Of Commercial Blenderized Enteral Nutrition Formula

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BACKGROUND

- Use of commercial blenderized tube feeding (CBTF) formula in post-acute care patients has demonstrated significant clinical and health economic benefits.^{1,2}
- There is an evidence gap in understanding which clinical diagnoses are associated with improved clinical and healthcare resource utilization (HCRU) outcomes, with CBTF.

OBJECTIVE

- Describe clinical outcomes and HCRU among adults diagnosed with malnutrition, diseases of the digestive system, and cancer receiving CBTF in a post-acute care setting.

METHODS

- A retrospective study (January 1, 2018, - December 31, 2020) using nationally representative US claims data obtained from the Decision Resources Group Real World Evidence Data Repository.
- Patients included were ≥14 yrs, prescribed CBTF (Compleat® Organic Blends, Nestlé HealthCare Nutrition, US) as sole-source nutrition for at least 7 days.
- GI intolerance and HCRU were compared in pre-index (within 1 year before discharge date) and post-index (last record in study period at 28-, 84- and 168-days post-discharge).
- Patient characteristics, comorbidities, concomitant medication use, GI intolerance symptoms, HCRU (outpatient, inpatient, urgent, emergency department (ED) visits and other places of services) and cost of care were assessed.

RESULTS

- The study included 124 adults (52% female; mean [standard deviation (SD)] age 41.8 [23.9] years) from all US regions.
- Patient characteristics and clinical comorbidities are previously reported.¹
- Nearly 95% had recorded diseases of the digestive system, 50% malnutrition, and 35% cancer.

RESULTS – HEALTHCARE RESOURCE UTILIZATION AND COSTS

- Significant reductions of mean total number of visits and associated costs were observed across all three diagnoses (**Table 2**).
- Mean of total visits were significantly (p< 0.05) decreased for malnourished (12 vs 7); diseases of digestive system (20 vs 10) and cancer (30 vs 19) patients at 168-days post-index.
- Among patients with digestive diseases, at 168-days post-index, significantly (p< 0.05) fewer patients reported claims for inpatient visits (51% vs 16%); ED (11% vs 3%); outpatient visits (100% vs 70%) and mean number of outpatient (8 vs 5) visits.
- Among cancer patients at 168-days post-index, significantly (p< 0.05) fewer reported inpatient visits (68% vs 30%); other visits (32% vs 14%); mean outpatient visits (20 vs 8) and associated costs (\$173,654 vs \$58,526).
- Statistically significant reductions in HCRU transformed into significant cost savings. Mean total costs at 168-days post-index were significantly (p< 0.05) lower among patients with digestive diseases (\$170,327 vs \$92,391), cancer (\$249,978 vs \$89,936) and malnutrition (\$175,437 vs \$76,166).

A commercial blenderized enteral formula is well tolerated and associated with **significant improvements in clinical and HCRU outcomes** in adults with **malnutrition, GI diseases and cancer**

Table 1. Adult patients experiencing GI intolerance symptoms pre-index and 28-, 84-, 168-days post-index according to main diagnosis

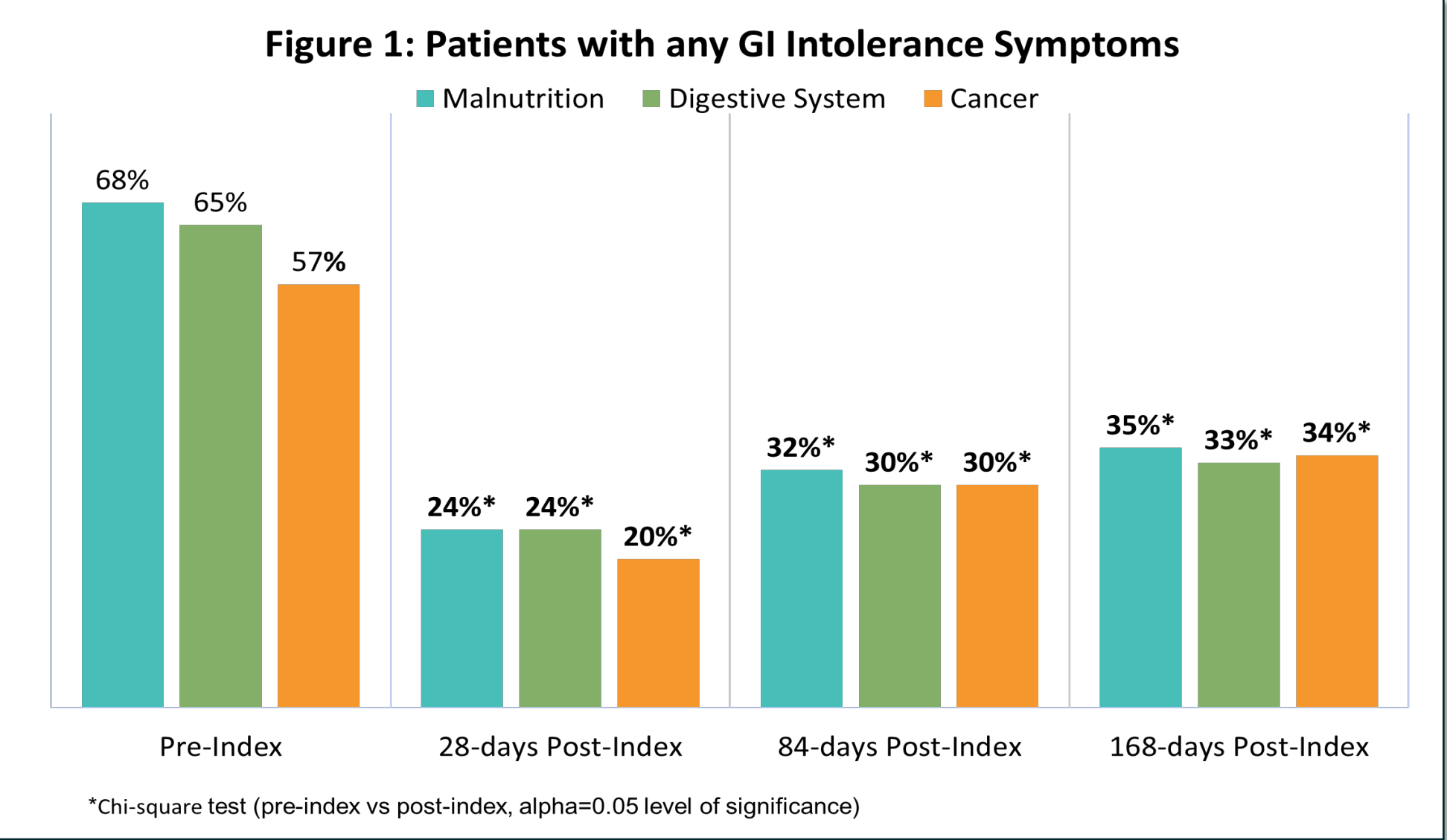
GI Intolerance Symptoms	Malnutrition N=62				Digestive System N=119				Cancer N=44			
	Pre-index	Post-index			Pre-index	Post-index			Pre-index	Post-index		
		28-days	84-days	168-days		28-days	84-days	168-days		28-days	84-days	168-days
Constipation	42%	10%*	15%*	18%*	39%	15%*	18%*	21%*	25%	7%*	11%	16%
Nausea & Vomiting	26%	6%*	11%*	13%	24%	6%*	9%*	12%*	23%	11%	16%	20%
Abdominal pain	34%	8%*	11%*	15%*	26%	6%*	8%*	11%*	34%	11%*	14%*	18%*
Diarrhea	13%	2%*	2%*	3%*	12%	2%*	2%*	3%*	9%	2%	2%	5%
Gagging & Retching	11%	26%*	3%	3%	8%	2%*	3%*	4%	11%	2%	7%	7%
3 or more Symptoms	26%	0%*	5%*	14%*	27%	7%*	8%*	18%*	24%	11%*	15%	33%

*Chi-square test (pre-index vs post-index), alpha=0.05 level of significance

Table 2. Healthcare resource utilization (HCRU) and costs pre-index and 28-, 84-, 168- days post-index to main diagnosis

HCRU	Malnutrition N=24				Digestive System N=91				Cancer N=37			
	Pre-index	Post-index			Pre-index	Post-index			Pre-index	Post-index		
		28-days	84-days	168-days		28-days	84-days	168-days		28-days	84-days	168-days
Inpatient (% visits)	100%	8%*	13%*	21%*	51%	9%*	13%*	16%*	68%	16%*	24%*	30%*
Emergency Department (% visits)	4%	0%	0%	0%	11%	1%*	2%*	3%*	11%	3%	5%	5%
Other (% visits)	13%	0%	4%	4%	9%	2%*	3%	4%	32%	5%*	11%*	14%*
Outpatient (% visits)	100%	50%*	63%*	67%*	100%	56%*	67%*	70%*	100%	86%*	89%*	95%
Outpatient (mean visits)	7	1 [†]	2 [†]	4	8	2 [†]	3 [†]	5 [†]	20	3 [†]	5 [†]	8 [†]
Total Visits (mean)	12	2 [†]	5 [†]	7 [†]	20	6 [†]	7 [†]	10 [†]	30	7 [†]	14 [†]	19 [†]
Outpatient (mean costs, \$)	\$74,819	\$7,755 [†]	\$14,623 [†]	\$33,278	\$92,188	\$23,601 [†]	\$37,704 [†]	\$62,674	\$173,654	\$20,193 [†]	\$40,246 [†]	\$58,526 [†]
Total (mean costs, \$)	\$175,437	\$84,889 [†]	\$76,045 [†]	\$76,166 [†]	\$170,327	\$44,227 [†]	\$71,331 [†]	\$92,391 [†]	\$249,978	\$51,226 [†]	\$68,438 [†]	\$89,936 [†]

[†] t-Test; *Chi-square test (pre-index vs post-index), alpha=0.05 level of significance; Other places of service include assisted living, intermediate care, and facilities not identified on the submitted claim; Total include post-acute care visits associated with inpatient, emergency department, outpatient, urgent care and other places of service combined.



RESULTS - GI INTOLERANCE

- Significantly (p< 0.05) fewer patients across all the diagnoses reported GI intolerance symptoms at 28-, 84- and 168-days post-index compared to the pre-index period (**Figure 1**).
- Significant reductions in constipation, nausea and vomiting, abdominal pain, diarrhea, gagging, and retching were observed at 28-days post-index for patients with malnutrition and digestive diseases (**Table 1**).

CONCLUSIONS

- A CBTF formula prescribed for post-acute care adult patients diagnosed with malnutrition, diseases of the digestive system and cancer was well-tolerated and associated with significant reductions in GI intolerance symptoms.
- Also, significant reductions in HCRU were observed, demonstrating the potential role of CBTF in improving clinical and health economic outcomes for adults with chronic conditions.

REFERENCES

(1) Henrikson A et al. JPEN. 2022 Mar;46(S1): S162-S163; (2) Desai A et al. NASPGHAN Annual Meeting: October 13-15, 2022 (Orlando, FL).

