DIETITIAN'S APPROACH TO MANAGING ENTERAL NUTRITION INTOLERANCE: A CLINICAL PRACTICE SURVEY

Steel, C[1] & Wile, H[1]
[1]Nestlé Health Science, Toronto, Canada

INTRODUCTION

- Enteral nutrition intolerance (ENI) is often defined as the presence of one or more gastrointestinal (GI) symptom(s) related to the enteral nutrition (EN) and may have a significant impact on patients, caregivers, and healthcare resources.[1,2]
- There are many strategies to help manage ENI, with changing the EN formula being just one.[3]
- The objective of this practice survey was to understand ENI management across care settings and what enteral formula features a dietitian considers when choosing the formula to help manage ENI.

METHODS

- A practice-based survey of 28 questions was developed & piloted to ensure content validity.
- Targeted dietitian participants (n=4827), across care settings, identified using a convenience sample, were invited to complete the prospective, online survey if they managed enterally fed adult and pediatric patients in Canada
- Descriptive statistics and frequencies were reported, with stratification by care of adult or pediatric patients.

RESULTS

- 338 fully completed surveys by adult and pediatric dietitians from across Canada and representing all care-settings; including ICU, acute care, long term care and home care (Table 1)
- ENI was reported to be less prevalent by adult dietitians. 83.3% of adult dietitians, compared to 68.8% of pediatric, reported ENI occurs in less than 40% of their patients (p=0.0012)
- To manage ENI, the highest ranked strategies were:
  - For ADULT patients: Assessing medications, elevating the head of the bed and changing the rate of EN infusion or volume (Table 2)
  - For PEDIATRIC patients: changing the rate of EN infusion or volume, changing the feeding regime and assessing medications (Table 2).
- >90% of all respondents reported they change the EN formula less than 50% of the time, to manage ENI in both adult and pediatric patients.
- To manage upper gastrointestinal (GI) symptoms, respondents consider caloric density and form of protein as the most important EN formula features, with most recommending a caloric density between 1.0-1.5 kcal/ml and peptide-based (semi-elemental) protein.
- To manage lower GI symptoms, fibre source was ranked as the most important formula feature by all respondents, with most recommending a blend of soluble/insoluble fibre most often.
- The presence of real food ingredients was ranked higher in importance in the management of pediatric patient's GI symptoms (both UGI and LGI) compared to adults (Table 2).

References: **1.** Hopkins B, et al. Prevalence and Management of Enteral Nutrition Intolerance in the Non-ICU Setting in Canada. *Cdn J of Clin Nutr.* 2017;5(2):82-101. **2.** Gungabissoon U, et al. *Prevalence, risk factors, clinical consequences, and treatment of enteral feed intolerance during critical illness. JPEN.* 2015;39(4):441-448. **3.** Malone A, Seres D, Lorde L. Complications of Enteral Nutrition. In: Mueller CM, ed. *The A.S.P.E.N. Adult Nutrition Support Core Curriculum.* 3rd ed. Silver Spring, MD: A.S.P.E.N.; 2017:265-283.

Dietitians use **multiple strategies** to manage ENI

Different **enteral formula features are considered,** depending **on the patient population and,** if the symptoms are UPPER GI or LOWER GI

Scan code to download this poster

Presented at ASPEN 2023 Nutrition Science & Practice Conference, April 20-23/23. Las Vegas NV.

DISCUSSION / CONCLUSION

- ENI was reported to be less prevalent amongst adult patients, compared to pediatrics
- To manage ENI symptoms, dietitians consider several EN formula features, depending upon the patient population and their symptoms.
- Results of this study helps benchmark dietitians ENI management practices across patient populations and suggest that regardless of the patient age, multiple strategies are used to manage enteral nutrition intolerance before deciding to change the enteral formula.

Table 1: Respondent demographics

Characteristic	N (%)
Patient Population Managed	
Pediatrics (1-16 years of age)	32 (9.5%)
Adults (>16 years of age)	306 (90.5%)
Care Setting	
Acute Care Hospital: ICU	64 (18.9%)
Acute Care Hospital: non-ICU	78 (23.1%)
Acute Care Hospital: Outpatient	15 (4.4%)
Acute Care Hospital: Outpatient and Inpatient	29 (8.6%)
Long Term Care/Nursing Home	50 (14.8%)
Rehabilitation/Complex Continuing Care	22 (6.5%)
Community/Home Care/Primary Care	67 (19.8%)
Other	13 (3.8%)

Table 2: Prevalence of ENI, management strategies, and formula features

	Dietitian's responses per patient population	
	Pediatrics	Adult
% Patients experiencing EN intolerance	**N (%)**	**N (%)**
≤ 40% of patients	22 (68.8%)	255 (83.3%)
> 40% of patients	10 (31.2%)	51 (16.7%)
ENI Management Strategy Ranking	**Mean score (SD) - RANKING [a]**	**Mean score (SD) – RANKING [a]**
Assess medications	4.0 (2.0) - 3	2.8 (1.8) - 1
Change enteral-feeding formula	5.2 (1.8) - 6	5.2 (1.7) - 6
Change rate or volume of EN	2.4 (1.4) - 1	3.1 (1.6) - 3
Change to feeding regime	2.9 (1.6) -2	4.6 (1.7) - 5
Change amount of water provided	5.6 (1.2) - 7	5.8 (1.5) - 7
Change/check enteral tube	4.6 (2.4) - 5	4.4 (2.3) - 4
Elevate head of bed	4.1 (2.1) - 4	2.9 (2.2) - 2
Stop enteral feeding	7.9 (1.5) - 8	7.7 (1.3) - 8
Importance of formula features to manage upper GI symptoms of ENI [b]	**N (%)**	**N (%)**
Caloric density	27 (84.4%)	217 (70.9%)
Form of protein	22 (68.8%)	187 (61.1%)
Fibre source	6 (18.8%)	164 (53.6%)
Presence of real food ingredients	15 (46.9%)	31 (10.1%)
Percent of calories from fat	4 (12.5%)	89 (29.1%)
Source of protein	13 (40.6%)	85 (27.8%)
Osmolality	9 (28.1%)	130 (42.5%)
Other	0 (0%)	15 (4.9%)
Importance of formula features to manage lower GI symptoms of ENI [b]	**N (%)**	**N (%)**
Caloric density	15 (46.9%)	113 (36.9%)
Form of protein	19 (59.4%)	167 (54.6%)
Presence of real food ingredients	11 (34.4%)	37 (12.1%)
Percent of fat from MCT oil	6 (18.8%)	76 (24.8%)
Source of protein	6 (18.8%)	34 (11.1%)
Fibre source	24 (75.0%)	279 (91.2%)
Osmolality	15 (46.9%)	199 (65.0%)
Other	0 (0%)	13 (4.2%)

[a] Ranking: 1=highest ranking, 10=lowest ranking
[b] Percentages add to more than 100 as respondents could answer up to 3.

This study was funded by Nestlé Health Science.