M147 - Patient-Reported Outcomes Indicate Plant-Based Enteral Formula Improves Nutrition and Gastrointestinal Symptoms

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Purpose: Little information is known on the tolerance and efficacy of plant-based enteral formulas (PBEF). The purpose of this study was to investigate patient-reported outcomes of those who have ever been on a PBEF.

Methods: Potential participants (n=1542) were identified using the manufacturer's online database. An electronic survey, utilizing REDCap®, was sent via email. Participants received a $25 Amazon® gift card for their time and participation. The survey consisted of questions on demographics, health outcomes while on a PBEF, and health outcomes while on the formula used previously, if applicable. Responses to health reported outcomes were on a 5-point scale of agreement with additional options for unsure and prefer not to answer. Strongly agree/agree (SA/A) were considered positive.

Results: Formula-user characteristics: There were a total of 398 respondents to the survey. Of those who completed the survey, (n=392), 46.7% (n=183) of responses were from actual users and 53.0% (n=207) of responses were from their caregivers. More formula users were female (57.0%) and most, 28.2% (n=111), were between the ages of 21-40 years. Primary diagnoses included gastroparesis (17.0%), cancer (16.6%), failure to thrive (7.9%), or malnutrition (7.4%). Of those who had used any of the PBEFs, 63.8% used an intact pea protein formula and 48.7% used a hydrolyzed pea protein formula. Over half of the formula users, 53.6% (n=210) took the formula by mouth and the remainder (n=182) reported it to be used via feeding tube (syringe, gravity, and/or pump). Approximately one-half of formula users (49.7%) were on the PBEF > 6 months. For 71.0% of formula users, the PBEF made up 50% or more of their nutrition. Prior to the PBEF, 45.0% (n=176) were on an intact dairy-based formula, 7.4% were on a blended formula, and 6.6% were on a hydrolyzed dairy formula. Patient-reported outcomes: Among formula users, 78.6% (n=308) felt healthier on the PBEF (SA/A) while 1.3% (n=5) did not. In addition, 88.5% (n=347) reported that the PBEF improved their nutrition; 1.0% disagreed. Two-thirds (n=246) of respondents reported that the PBEF improved digestive symptoms (i.e., easier bowel movements; or less reflux, abdominal discomfort, bloating, or nausea). Weight gain was reported in 58.4% of formula users, 27.8% reported no change in weight, and 6.4% reported weight loss. At the time of the survey, 63.7% (n=249) were still using a PBEF. For those no longer using a PBEF, 12.3% reported that there was no longer a need for a formula, 8.7% reported no insurance coverage, 4.3% didn't tolerate it, and 1.0% didn't like the taste.

Conclusion: This study assessed patient-reported outcomes of pediatric and adult users of plant-based enteral formulas containing intact or hydrolyzed pea protein. PBEF use resulted in the report of improved GI tolerance, improved nutrition, and improved health among users. Limitations to this study include that it is a retrospective survey of formula user and caregiver perceptions of health outcomes, initiated using a manufacturer's database. Prospective and further studies are needed to investigate the responses accumulated here.

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Table 1: Formula User Diagnosis (%)

Formula User Diagnosis (%)	
Other	23.0
Gastroparesis	16.8
Head and Neck Cancer	8.7
Difficulty Swallowing	8.7
Failure to Thrive	7.9
Malnutrition	7.4
Other cancer	6.1
Cerebral Palsy	5.6
Developmental Delay	4.1
Cystic Fibrosis	3.8
ALS	3.1
Brain Injury	1.8
Esophageal Cancer	1.8
CVA (stoke)	0.5
Achalasia	0.5

Diagnosis reported by respondent

Table 2: Formula User Age (years)

Formula user age (%)	
1-5 years	22.2
6-12 years	10.7
13-19 years	7.7
20-40 years	28.3
41-60 years	16.6
>60 years	14.3

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