MEETING PEDIATRIC NUTRITION NEEDS WITH AN ENTERAL FORMULA CONTAINING REAL FOOD

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BACKGROUND

• Enteral nutrition (EN) is critical for growth and development in children unable to meet daily energy and protein needs orally
• Health care professionals and caregivers are asking for enteral formulas that include more real food and easy to recognize ingredients
• Caregivers are blenderizing foods at home more often which can be both complex and time intensive to prepare
• A pediatric fiber-containing formula with real food ingredients was renovated to add more real food, improve the vitamin and mineral content and update to a blend of insoluble (pea hull fiber) and soluble (fructooligosaccharides, inulin and acacia gum) fiber plus fiber from fruits and vegetables (Table 1)

OBJECTIVES

• The purpose of this prospective observational study was to assess the ability to meet energy goals in a clinically stable, pediatric tube-fed population
• Secondary objectives included the ability to meet protein goals, assess formula tolerance, subject mood and frequency and nature of adverse events

METHODS

• Clinically stable, tube-fed children (1–13 years) with established enteral access, currently tolerating enteral feeding (EN) and anticipated to require EN to provide at least 90% of their nutritional needs for 7 days were recruited
• Consented subjects were observed on their Pre-Study Formula (PSF) for 1 day (Day -1)
• At study Day 0, study formula (SF) Compleat® Pediatric (Nestlé Health Science, Bridgewater, NJ) was initiated
• Each subject was fed for another 7 days (Day 1–7)
• Caregivers completed a Daily Diary to record study formula intake, gastrointestinal measures (stool frequency/consistency, vomiting, gas, abdominal pain), mood and general health
• Physician assessment of tolerance measures was completed at final visit (Day 8)
• All data analyses were conducted using descriptive statistics. Means, standard deviations, minimum and maximum values calculated for continuous data, and counts and percentages calculated for categorical data.

RESULTS

• Twenty-one children (mean age 6.4 yrs, 57% male) fed via G-tube with feeding disorders secondary to developmental delay or other neurological disorders enrolled in study; one subject withdrew early
• Calorie & protein intake was similar with PSF and SF (1246 vs 1205 kcals/d; 39 vs 48 g/d, respectively) (Figure 1)
• Twelve subjects met at least 90% of calorie goal on SF; 8 subjects met 59-85% of goal
• Study formula was not associated with an increase in gastrointestinal symptoms; Formula was well tolerated based on caregiver report
• Stool consistency was reported most frequently as ‘Soft’ for both PSF and SF, with fewer reports of ‘Hard’ and ‘Watery’ for SF (Figure 2)
• Caregiver reported subject mood as “happy” or “content” the majority of the time
• No serious adverse events reported

CONCLUSION

• Pediatric enteral formula containing food ingredients provided nutritional intake equivalent to pre-study levels in children with neurological medical diagnoses
• Formula was well tolerated
• Study formula provides a convenient alternative for those looking to incorporate real foods into daily enteral diet

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<th>Study Formula</th>
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<tr>
<td>Kcal/mL</td>
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<tr>
<td>Protein (% kcal)</td>
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<tr>
<td>Carbohydrate (% kcal)</td>
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<tr>
<td>Fiber (g/L)</td>
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<tr>
<td>Fat (% kcal)</td>
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<tr>
<td>Protein Source</td>
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<td>Fiber Source</td>
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<td>Fruit &amp; Vegetable Ingredients</td>
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Figure 1: Daily Percentage of Nutritional Goals Met

![Figure 1: Daily Percentage of Nutritional Goals Met](image)

Figure 2: Stool Characteristics*

![Figure 2: Stool Characteristics*](image)

* For study formula stool characteristics reported as average

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