

### **P30 - Tolerance and Adherence to Home Enteral Nutrition Therapy Based on Formula Category: Conventional Versus Plant-Based Versus Blenderized**

Jamie Haselhorst, RDN, LD, CNSC<sup>1</sup>; Rebecca Brown, RDN, CNSC<sup>2</sup>; Erika Ryan, DCN, MS, RD, CDN<sup>3</sup>; Anne Brettschneider, RD<sup>4</sup>; Jacqueline Carder, MS, RD/LD, CNSC<sup>5</sup>; Zoe Sharplin, RDN<sup>6</sup>; Katie Geiger, MS, RDN<sup>7</sup>

<sup>1</sup>Amerita Specialty Infusion, Round Rock, Texas; <sup>2</sup>Amerita Specialty Infusion, Aurora, Colorado; <sup>3</sup>Kate Farms, Long Beach, New York; <sup>4</sup>Kate Farms, Denver, Colorado; <sup>5</sup>Amerita Specialty Infusion, San Antonio, Texas; <sup>6</sup>Amerita Specialty Infusion, Littleton, Colorado; <sup>7</sup>Amerita Specialty Infusion, Centennial, Colorado

**Background:** Home enteral nutrition (HEN) therapy is a life-saving intervention, however there are challenges with adherence and compliance. While proper nutrition from supplemental formulas or enteral feeding can help alleviate the risks of malnutrition and its associated outcomes, feeding intolerance can compound them. Enteral feeding intolerance is a well-recognized challenge and a cause of suboptimal nutrition provision of patients on HEN. Emerging formula options are available and include conventional (milk-based formulas), plant-based (pea-protein formulas), and blenderized formulas. The protein source, protein size, fat source, fiber, and osmolality are all considerations to be taken when choosing a formula for the HEN patient. The purpose of this study was to uncover prevalence of formula changes for adult patients receiving HEN therapy from a home infusion company.

**Methods:** A retrospective cohort study was conducted to review CPR+ software of adult patients ( $\geq 18$  years old) on HEN receiving care from a home infusion company from March 2021 to March 2022. The registered dietitian team reviewed records of all patients that met the inclusion criteria and reviewed CPR + software to collect demographic data, baseline formula category, formula change orders and reason for these changes. This study included a review of records for three groups based on initial formula ordered: conventional, plant-based, or blenderized. Formula change order was defined as a change in formula category, protein size or fiber content. Intolerance to formula resulting in a formula change was collected and reported. Feeding intolerance was defined as diarrhea, constipation, bloating, abdominal discomfort, nausea, vomiting, reflux, early satiety. This study was conducted under an exempt status by the IRB.

**Results:** A total of 2770 patients were included in this data analysis; 42% female (n = 1168) and 58% male (n = 1602), with a mean age of 63.83 years old. The conventional group totaled 2523 (91.1%) patients; 41% female (n = 1033), 59% male (n = 1490) with a mean age of 58.5 years old. The plant-based group totaled 225 (8.1%) patients; 56% female (n = 126), 44% (n = 99) male with a mean age of 58.5 years old. The blenderized group totaled 22 (0.7%) patients; 41% female (n = 9), 59% male (n = 13) with a mean age of 49.02 years old. A total of 12.8% (n = 355) of all patients had formula change orders: 13.2% (n = 332) in conventional, 8.8% (n = 20) in plant-based, 1.4% (n = 3) in blenderized. In the conventional group, 7.8% of patients (n = 198) changed formula due to intolerance; of those patients, 24.2% (n = 48) involved a change in protein size. In the plant-based group, 6.7% of patients (n = 15) changed formula due to intolerance; of those patients, 33.3% (n = 5) involved a change in protein size. Of all formula changes, 1.4% (n = 3), in blenderized group were due to intolerance.

**Conclusion:** This retrospective study demonstrated an overall low volume of formula changes due to intolerance for adult patients receiving HEN from a home infusion company. This finding emphasizes the importance of the clinical nutrition team at this home infusion company in providing support to HEN patients. Patients receiving conventional formula had more overall formula changes and changes due to

intolerance in comparison to those patients receiving plant-based or blenderized formula. Increased formula changes may translate into increased healthcare utilization. Enteral formula components should be considered when choosing an optimal formula for HEN.

Financial Support: Kate Farms supported research project.

Table 1. Formula Changes Due to Intolerance for Adult Patients Receiving HEN in Conventional, Plant-Based, and Blenderized Formula Group.

	Conventional formula n=2523		Plant-based formula n=225		Blenderized formula n=22	
	n	%	n	%	N	%
<b>Total formula changes</b>	332	13.2	20	8.8	3	1.4
<b>Changes due to intolerance</b>	198	7.8	15	6.7	3	1.4
<b>Change in protein size</b>	48	24.2	5	33.3	N/A	N/A

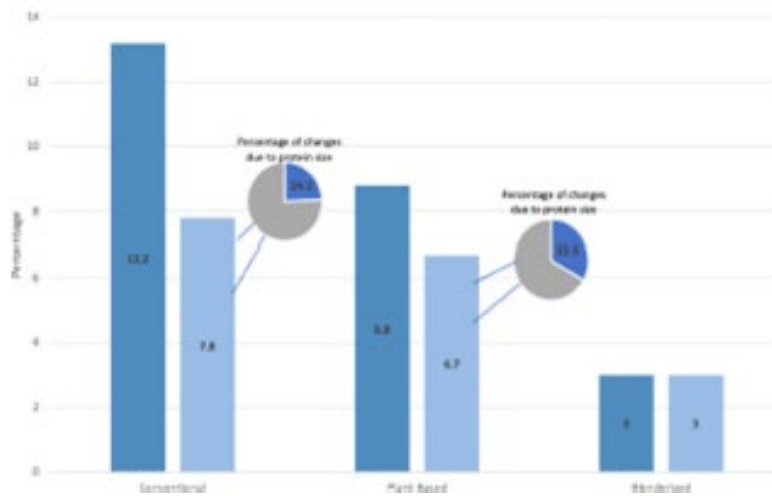


Figure 1. Total and Intolerance Formula Changes in Each Formula Category