

# Tolerability and Symptom Relief with a Novel Whole Food Plant-Based Pediatric Nutrition Drink Based on Almond Butter and Buckwheat in Children Previously Using a Hypoallergenic Formula.

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## Background

Consumers are increasingly seeking plant-based milk alternatives for medical reasons, including functional gastrointestinal disorders; allergy; and other food-related reactions involving the immune system, such as food protein-induced enterocolitis or eosinophilic esophagitis. In such patients, it is thus important to study effects of novel plant-based pediatric nutrition drinks based on almond butter and buckwheat (Else Nutrition), which recently became commercially available.

## Objective

The study objective was to examine parent perception of their child's acceptance and tolerance to a novel plant-based nutritional drink, after having previously used a hypoallergenic formula (extensively hydrolyzed protein or amino acid based).

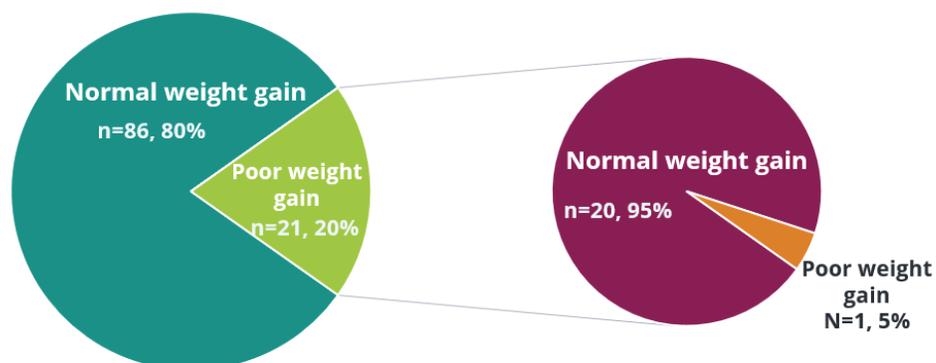
## Design/Methods

Data collected from a consumer survey, administered by a 3rd party vendor, were retrospectively analyzed. Repeat consumers who had ordered product via company's website were prompted to participate in an online survey. Survey content was adapted from validated pediatric questionnaires (ROME IV) and modified to include questions on usage, volume, demographics, and anthropometrics. Bristol Stool Form Chart was used to assess stool patterns. Data were analyzed from responders who reported transitioning off a hypoallergenic formula (N=107). Statistical significance with  $\alpha=0.05$  was examined using Student's t-test for continuous parameters and Chi-square for relative frequencies.

## Results

The products were well tolerated. Weight gain was improved ( $P < 0.05$ ) in 95% of consumers with reported poor weight gain on previous formula. Dairy allergy diagnosis was reported for 69%. Almost half of participants reported clinical reasons as the main reasons for transitioning. For the later, there was an 81% reduction in severely abnormal stools (Type 1 or 7), 94% improvement in GI symptoms (spit-ups, vomits, diarrhea, constipation, etc.), and 55% reported significant improvement or complete relief of symptom. Previous skin rash was reported in 31%; significant improvement ( $P < 0.05$ ) in frequency, length, and severity of dermatologic symptoms was achieved following consumption of the plant-based nutritional drinks.

**Figure 1: Poor weight gain rates on previous formula were reduced following use of Else nutritional drink (n=107)**

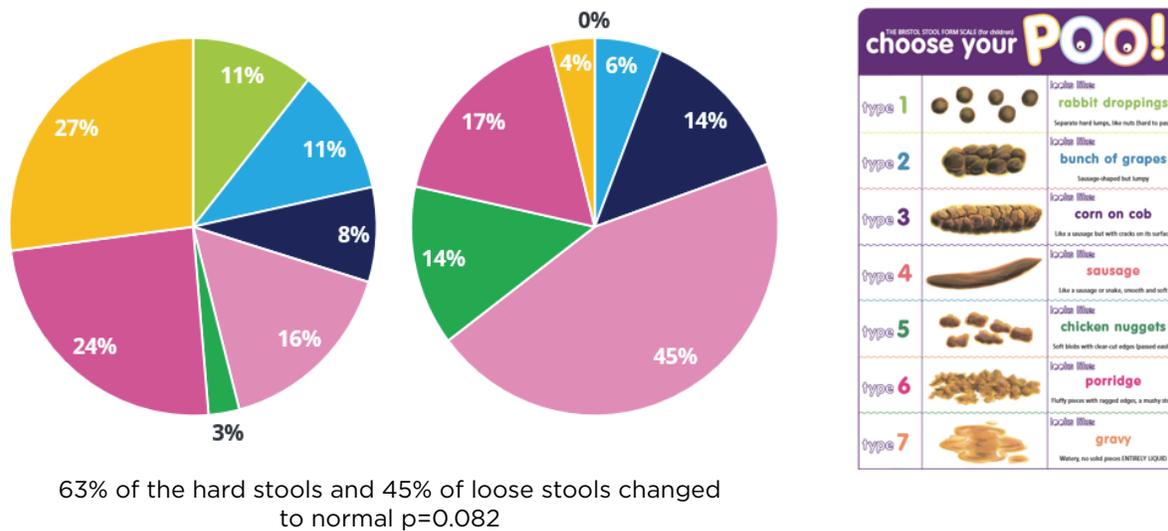


**Table 1: Z-scores calculated using PediTools\* for all participants with available data before and since using Else (mean duration 4.8 months)**

	Before using Else formula	Since using Else formula	
Z-score	-0.049	0.29	P=0.002 ( $\Delta Z=+0.339$ )

\*Chou JH et al., J Med Internet Res 2020;22(1):e16204

**Figure 2: Improvement in stool consistency from too hard or too soft to normal shape by Bristol scale (n=51)**



### Conclusion

This study revealed a high level of parents' perception of clinical improvement of intolerance symptoms for patients previously using a hypoallergenic formula. This suggests a potential role for almond butter and buckwheat-based formulas in such children; however, these results need to be confirmed in a controlled clinical study.

\* Poster presented at the 2022 Pediatric Academic Societies Meeting