

# Better understanding of use of blended diets and its benefits

10.1136/ebnurs-2023-103859

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**Commentary on:** Phillips G, Coad J. Blended diets for tube-fed children and young people: a rapid review update. *Arch Dis Child*. 2023 Dec;108(12):1014-1018. doi: 10.1136/archdischild-2023-325929. Epub 2023 Aug 18.

## Implications for practice and research

- ▶ Blended diets may be used for enteral nutrition which may have a positive impact on gastrointestinal symptoms and a reduction of incidence of respiratory infections.
- ▶ A combination of commercial enteral formula combined with blended diet can also be effective in relieving symptoms.

## Context

Blended or blenderised diets or homemade blended formulas are a hot topic regarding enteral nutrition today. In medical history, different food and drink blends were already prepared and used for enteral feeding. The necessity of this type of preparation was reduced over the 1970s with the production and use of commercial enteral formulas. Soon, home enteral nutrition (HEN) was established as a reliable and effective nutritional intervention for patients with chronic diseases who were unable to cover their nutrition requirements via normal diet or in patients with trouble swallowing, hence feeling insecure, or who could not swallow. Use of HEN has enabled shorter hospitalisation, lower costs of treatment and also lower risk of secondary malnutrition-associated complications.

Today, indications for use of HEN have increased, mostly because of the rising prevalence of feeding and swallowing difficulties due to improved survival rates of paediatric patients with severe and complex disabilities. Although nasogastric tube is widely used, especially for short-term use, for medium-term and long-term enteral feeding the gastrostomy tube is the preferred choice.<sup>1</sup> Current guidelines for enteral feeding of children and adults recommend using standard commercial formulas, however there are conditions when blended diets can be used.<sup>2,3</sup> Blended diets have been found to have beneficial effects on gastrointestinal symptoms (eg, gagging/retching, vomiting, nausea, abdominal pain, constipation or diarrhoea) and therefore the use of blended diet as a part or as a sole type of nutrition for paediatric patients has been increased.<sup>4</sup> Also, the use of blended food and drinks for tube feeding patients and their caregivers is perceived to be more 'normal', as it, in a way, demedicalises the feeding process. It is also associated with social benefits like the use of the real food, having more food/meal choices, emotional well-being of the child and better psychosocial interactions of whole family.<sup>2</sup> In addition, the use of blended diets is also linked to sustainable nutrition. However, the environmental ramifications of blended diets versus artificial nutrition have not been thoroughly studied, warranting further investigation.<sup>5</sup>

## Methods

The review update by Phillips and Coad<sup>6</sup> gives the latest evidence on the use and effects of blended diets in the last 5 years since their review was published in 2017.<sup>7</sup> The authors appropriately used Cochrane rapid review for the condition of this review update including 29 papers. The authors nicely report their results on four themes: (1) symptom improvement and clinical outcomes, (2) nutritional content, (3) caregiver experiences and (4) blended diet practices.

## Findings

The results confirmed previously published data and provided further evidence not only on the positive impact of blended diets on gastrointestinal symptoms but also

on the reduction of incidence of respiratory infections and the number of hospital admissions for children and young people. Moreover, evidence in this review demonstrated that a combination of commercial enteral formula with blended diet can be also effective in the same way.

## Commentary

In this review, not only the issues regarding the hygiene aspects of preparation and use of blended meals remained but issues related to viscosity and tube blockage also remained. Most of the studies done on the hygiene aspect of blended diets showed acceptable bacterial counts. On the other hand, tube blockage occurred more often when blended food was used in comparison with commercial formula, and the duration of the meal was significantly longer as viscosity of the feed was high. Although families are keen to use blended diets for enteral nutrition, the financial burden in this case is all on them in contrast to expenses of enteral feeds in most European countries.

Nutritional adequacy of blended diets is still not well established. There is some evidence on nutritional content of blended diets in hospital settings where the variability of nutritional content went up to 50% difference between hospitals. The nutrition content of blended diets used by families at home is not well analysed and data are scarce. Blended diets are often used in combination with commercial enteral formulae which is a good way of nutritional and energy enrichment of blended diets. However, it is reported that families require a good education, engagement and support from dietitians to properly use blended diets for enteral feeding.<sup>5</sup> Current data and evidence given by this review confirm the findings of previous reports. As blended diets are no longer formally opposed, there is an increase of research and evidence which will not only lead to a better understanding of use of blended diets and its benefits but also to a better understanding of possible adverse effects and limitations. This will create new data for development of evidence-based guidelines and policies.

Competing interests None declared.

Provenance and peer review Commissioned; internally peer reviewed.



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