



City Research Online

City, University of London Institutional Repository

Citation: Breaks, A., Smith, C., Bloch, S. & Morgan, S. (2018). Blended diets for gastrostomy fed children: A scoping review. *Journal of Human Nutrition and Dietetics*, doi: 10.1111/jhn.12563

This is the accepted version of the paper.

This version of the publication may differ from the final published version.

Permanent repository link: <https://openaccess.city.ac.uk/id/eprint/19340/>

Link to published version: <https://doi.org/10.1111/jhn.12563>

Copyright: City Research Online aims to make research outputs of City, University of London available to a wider audience. Copyright and Moral Rights remain with the author(s) and/or copyright holders. URLs from City Research Online may be freely distributed and linked to.

Reuse: Copies of full items can be used for personal research or study, educational, or not-for-profit purposes without prior permission or charge. Provided that the authors, title and full bibliographic details are credited, a hyperlink and/or URL is given for the original metadata page and the content is not changed in any way.

City Research Online:

<http://openaccess.city.ac.uk/>

publications@city.ac.uk

Table 2 Summary of Aims and Findings of the Studies

Author	Year of Publication	Aim	Finding
Sullivan, M. et al	2001	To investigate levels of contamination in hospital prepared tube feeds	Commercial feeds from prefilled or closed systems are safest in terms of microbial contamination
Novak, P. et al	2002	To gain perspective of MDT members on the issues surrounding BD	Balanced account of the pros and cons of BD from a range of perspectives
Sullivan, M.M. et al	2004	To analyze the nutritional quality and viscosity of blenderized enteral tube feedings	Hospital prepared blenderized enteral tube feedings give unpredictable levels of micro and macronutrients and The viscosity of the feed may be unsuitable for infusion through feeding tubes
Mundi, M	2014	To compare the force required to deliver a range of feeds with new EnFit system	Homemade blended feed required most force and commercial 1kcal/ml fibre formula required the least
Hurt, R.T. et al.,	2015	To learn more about the use of BD amongst home enteral nutrition population	Most patients used BD as part of nutritional regime
Waitzberg, D.L et al	2013	To analyse BD in comparison to commercially prepared formula	Batches of BD cannot be guaranteed as being consistent. Energy levels were insufficient to meet needs. Increasing calorific content risks increasing viscosity
Johnson, T.W et al	2013	To describe and evaluate all aspects of Bd with a real case	Balanced report and useful decision making tree
Johnson, T.W et al	2015	To elicit experiences of paediatric dietitians with BD in clinical practices	98% were positive about use of BD and 28% wanted more information about it. Parental request is the main reason for use
Edwards, S. et al.,	2016	Review of management, tube weaning and emotional support of tube fed children	Limited evidence suggests blenderized tube feedings may reduce side effects in children with a fundoplication. Randomized controlled trials are needed to evaluate the effectiveness of blenderized tube feedings in children with and without fundoplication
O'Hara, C	2015	Describe a case when BD resulted in scurvy in a child with multiple diagnoses	Fussiness may be improved by BD but more serious deficiencies can occur so BD nutrition should be agreed by dietitian
Jonkers-Schuitema, C.F	2009	To share basic sources of nutrients which can be used for homemade feeds and rules of preparation	Advised on equipment nutrient and hygiene issues
Hurt et al	2016	To examine the impact of the proposed new connector on a number of clinical areas including BD	ENFit design may negatively impact patients who use PEGs for venting, for delivery of medications and BD, compared to the current legacy system.
Epp L et al	2016	Study to assess the prevalence of the use of BD amongst members of the Oley Foundation	Most patients use some BD, making it essential that clinicians expand their knowledge related to BD to appropriately care for this patient population
Vermilyea S et al	2016	Invited review to present the different methods of enteral nutrition (EN) access placement, maintenance, formula	Whole EN 'process' should be regularly monitored by MDT
Brown B et al	2014	To inform clinicians of research regarding use of specialty formulas,	EN products do not have to undergo the 4-phase process for gaining FDA approval, as required for pharmaceutical agents. Standard formulas, however, are rarely studied, except when being compared with specialty formulas.
Nowak-Copperman et al	2013	To describe tube weaning programme	Hunger based weaning may be appropriate but a MDT approach including family and child are crucial
Seche G	2014	To gain clinical perspective on feeding with Rett syndrome	Parents wanted more information about blended diets and blenders and issues to be aware of that may arise out of their need for high calorie diets
Pentiu S et al	2011	To evaluate effect of BD diet on children with fundoplication	BD is an effective way of feeding these children and can lead to reduction in gagging and retching
Bobo E	2016	To summarize history of diets, and points to consider when using a BD	Despite EN policy stating commercial feeds should be used no RCT have evaluated BD vs Commercial formula
Campbell S	2006	To summarise advances in tube feeding formulas in USA	Describes the range of commercially available formulas and their benefits
Walia C et al	2016	To provide advice to dietitians about advantages and disadvantages of BD including patient selection and recipe planning	Current literature on BD is mainly based on expert opinion and more research is required into this area

British Deitetic Asscoation	2013	To provide advice to dietitians about BD and their professional duty	Dietitians can support families who wish to sue BD but cannot recommend the use
Santos V et al	2009	To evaluate nutritional quality of BD and growth parameters	Despite inconsistent levels of macro nutrients and energy BD had no negative effect on patients' weight
Klek S et al	2011	To examine the effect of HEF on clinical outcomes	Home nutrition support is up to 75% more cost effective than hopsital or nursing home
Samela K et al	2016	To determine the effects of BD on children with intestinal failure	100% transitioned to real food formula and it was well tolerated and improved stooling patterns
Mascarenhas M et al	2008	To discuss optimal nutritional management of neurologically impaired child	Improved nutritional status is linked with improved QoL and health outcomes
Jalali M et al	2009	To assess levels of microbacterial contamination in hospital prepared blends	Microbial quality of majority of blenderised feeds are not within safety guidelines
Fredstrom et al	1991	To determine levels of fibre in different types of formula feeds	Fibre levels vary greatly and there is no ideal content, but changing from blenderised to soy polysaccharide fibre may be beneficial
Heimberger D.C et al	1985	To provide a framework to evaluate products and assist clinicians in selecting most appropriate formula	Framework provided to simplify decision making and decrease patient cost
Anderson K et al	1984	To quantify and analyse bacterial contamination of formulas	Use of sterile nonmanipulated formulas in a closed administration set is recommended, along with routine, periodic bacteriologic surveillance of enteral feeding programs.
Shils M et al	1977	To analyse the nutritional content of a range of commercial formulas	More comparative studies regarding effecacy of various formulas are required
Brown S	2014	To describe how information was gathered and risk assessments developed to enable BD in hospice setting	Hospice was able to replicate care and support in the home thus enabling continued BD in the hospice environment
Zettel S	2016	To describe approaches to planning a blended diet	BD can be a viable option for some but need nutritional guidance
Amaral Felisio B et al	2012	To evaluate nutritional value and make propals to improve qualitative and quantitative aspects of BD in a hospital setting	Found significant lossesses of nutrients during processing and preparation and daily energy intake was insufficient
Machado de Sousa L et al	2014	To evaluate the quality of homemade BD analysing stability, viscosity, flow, pH, chemical and nutritional composition.	Diets were inadequate in terms of macronutrients, but adequate for physical chemical aspects. Recommend using mixed formula and BD to meet nutritional requirements and psychosocial value
Martin, K. and Gardner, G	2017	To review current parctice in HEN with regard to current and future practice and hihghlight gaps in research	Due to trend towards BD, clinicians need to be informed about BD
Armstrong J et al	2017	To explore paediatric dietitians' perceptions and experiences of BD use.	Dietitians experienced significantly fewer issues with the use of BD in clinical practice compared with their self- reported apprehensions in the survey.
Coad, J. et al.	2016	Review evidnece around BD	May be benefits to BD but concerns still remain
Boullata, J et al	2017	Provide recommendations for safe practice around enteral nutrition	Registered dietitians should be involved in development of the BD composition for patients
Escurro A and Hummell A	2016	Evaluate different enteral formulas	Careful evaluation of formulas required in conjunction with available scientific and research studies prior to routine use in clinical practice.
Gunter P and Lyman B	2016	To examine benefits and challenges for Enfit	Need open dialogue between manufacturers, clinicians and patients for success
Thiyagesh V and Hill H	2016	Single case study to describe impact of BD	Improved tolerance and reduction in reflux and increase weight gain
Thomas S	2016	To develop a protocol around administering BD in schools	Package of care and protocol developed