

Supplementary Table

Author	Country	Population	Type of diet	Setting	Conditions	Overall aim	Results	Outcomes	Conclusion
Borghi et al 2013 <sup>1</sup>	Brazil	General	Randomly collected from 14 hospitals (although only 5 were utilized).	Hospital	Various	To analyse the costs and composition of blended diets	Macronutrient content was viable in blended diets with a higher risk of contamination, increased instability and high osmolality and viscosity.	Risks/contamination, stability, costs, nutritional content.	Blended diets are nutritionally deficient and should therefore be supported by chemically complete prescription formula. The authors note that a blended diet requires careful assessment.
Campbell 2006 <sup>2</sup>	US	General	All enteral tube feeding considered	Not specific	Various	To provide an anthology of advances in enteral tube feeding formulations.	No specific results to report.	None.	Blended diets are nutritionally unsatisfactory and cause problems due to high viscosity.
Daveluy et al 2004 <sup>3</sup>	France	Children aged 0.1-17.8 years.	Comparison between: Paediatric industrial diets (36%), homemade 'adult type' diets (35%), Infant formulas (29%)	Home	Digestive disorders (35%), Neurological and muscular disorders (35%), Malignancy	To explore experiences with home enteral nutrition	The study had 416 participants aged 0.1-17.8 years. The majority had either digestive disorders or neurological and muscular disorders. The participants received enteral feedings either by	Problems with blended diets: Sterility, contamination. When to use blended diets: intestinal	Commercially made formula is better and the goal should be to strive to develop better formula.

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					(11%), Failure to thrive (8%), Misc ailments (9%).		nasogastric tube (53%) or gastronomy (41%).  The outcomes can be seen as long term as the mean duration of treatment was 595 ± 719.	tract.	
Hebuterne et al 2003 <sup>4</sup>	European (including Belgium, Denmark, France, Germany, Italy, Poland, Spain and the United Kingdom.	Not specific	All enteral tube feeding considered	Home	Various	To present a picture of current home enteral nutrition practices across Europe.	1397 participants, 163 patients on HEN (Home-enteral feeding) out of 1 million. Ages: 7.5%, 16-40 years; 37.1%, 41-65 years; 34.5%, 66-80 years and 20.9% over 80 years. Most common underlying disease was neurological disorder (49.1%), or head and neck cancer (26.5%). HEN was used due to: dysphagia (84.6%). Throughout most of Europe HEN is funded. However in Belgium,	Utilization (for what conditions), types of feeds, mode of administration, funding.	Tube-feeding is used with dysphagic patients with neurological disorders or cancer. There are important differences across countries which make it difficult to generalise. The study confirms that 'home-brewed' diets are no longer used in Europe and have been replaced by commercial formula.

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							Denmark and Poland patients have to pay part or all of the costs.  The study was conducted over a period of 12 months.		
Jalali et al 2009 <sup>5</sup>	Iran	Not specified	All enteral feeds	Hospital	Not specified	To measure bacterial contamination of hospital-prepared enteral feeds.	Out of a sample of 76: 70% had coliform contamination 90% had Staphylococcus aureus contamination 97% had Standard plate contamination.  Samples were collected over a period of 11 months.	Standard Plate count, coliform count, Staphylococcus aureus count.	None made
Johnson 2013 <sup>6</sup>	US	Case Study: 5 year old boy	Pureed foods	Home	Nissen Fundoplication	To review the literature on blended diets and present a case study	The case study presented suggests that replacing commercial formula with 'blenderized' tube feeding leads to a	Health benefits (gagging, retching, diarrhoea).	There is a lack of evidence surrounding the use of blended diets. The diet does offer potential benefits.

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							<p>reduction in retching, vomiting, constipation, and oral food refusal.</p> <p>The observations were made over a period of 3 years.</p>		
Keighley et al 1982 <sup>7</sup>	UK	Not known	Comparison between commercial feed and 'home brew' (based on milk albumaid hydrolysate, Caloreen, and Prosparol)	Hospital	Malnourished patients	To compare commercially prepared formula with blended diet. The study focussed upon the negative effects.	<p>Commercial feed (Isocal): Severe diarrhoea (2), Pelvic abscess (1), Antibiotic associated colitis (1), no other complaints identified.</p> <p>'Home brew': Severe diarrhoea (7), Pelvic abscess (2), Infected solution (4), No cause identified (1), Obstructed fine bore tube (6).</p> <p>The length of the study is unclear, although it had to be prematurely</p>	Severe diarrhoea, (due to: pelvic abscess, antibiotic, colitis, infected solution, no cause identified) obstructed fine bore tube.	The study had to be discontinued because the nurses found the thicker tubes required for blended food unpleasant for patients. Food could not be administered at a good rate and there were serious infection risks. The authors conclude that formula is safer and easier to handle.

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							concluded.		
Klek et al 2011 <sup>8</sup>	Poland	The observational study: Adults (164) and young people (39)	Comparison between a blended diet and commercial formula.	Home	Neuromuscular swallowing disorders (n = 163), cancer-related dysphagia (n = 29), cystic fibrosis (n = 9), and other causes (n = 2). The latter group included 1 case of chronic pancreatitis and 1 GI motility disorder.	To explore the benefits of using commercial formula over blended diets in the home.	Hospitalization was significantly reduced. Specialized feeding leads to decrease in pneumonia (24.1% vs 14.2%), respiratory failure (7.3% vs 1.9%), urinary tract infection (11.3% vs 4.9%), and anaemia (3.9% vs 0%) requiring hospitalization.  The study was 2 years in duration including 203 patients who received a blended diet for at least 12 months, followed by a commercial enteral formula for 12 months.	Hospitalization, cases of pneumonia, respiratory failure, urinary tract infection, anaemia, cost.	A specialised commercial program leads to better health outcomes. Improving home enteral tube feeding will lead to a reduction in hospital admissions.
Kolacek	Croatia	Infancy: All	Homemade Modular	Hospital	Chronic	To examine the	Diarrhoea was shorter	Duration of	A homemade modular diet

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et al. 1996 <sup>9</sup>		below one year, only three more than six months.	diet: Boiled chicken meat, sunflower oil emulsion, sugar and cornflour.		diarrhoea	potential benefits of using a modular diet over a formula, to reduce chronic diarrhoea.	(3 as compared to 7 days), nutritional recovery was quicker (5 'vs' 9). Weight gain was also improved (100g per week v 171g per week).  Outcomes appear to have been measured over a 4-week period.	diarrhoea, feed tolerance, anthropometry (weight gain) and biochemistry.	was more beneficial to the outcomes than the Semi-elemental formula.
Mundi et al <sup>10</sup>	USA	NA	Jevity 1 cal (a fiber formula), Salmon, Oats and Squash (real food blend), Liquid Hope (commercial blended formula), Homemade blend (a recipe currently used in a clinic)	Laboratory	NA	To measure the amount of pressure required to push blended diets through the new ENFit adapter.	The force needed to compress the syringe was lowest with the 1-kcal/mL fiber formula, and a decline in force was detected with the ENFit as compared with the current connector (8.61 ± 0.27 N vs 9.62 ± 0.23 N,	The force required to push the blend through the tube.	Additional testing is required the force required to push the blended food has high enough to stop the food from moving.

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							<p>P &lt; .001... The commercial complete blend required slightly higher force with the ENFit than the current connector (16.82 ± 1.23 N vs 14.5 ± 0.03 N, P &lt; .001). The commercial blended food (real food blend) and the homemade blend required significantly more pressure with the ENFit than the current tube (34.12 ± 0.95 N vs 22.91 ± 0.06 N, P &lt; .001; 34.95 ± 0.06 N vs 27.72 ± 0.07 N, P &lt; .001, respectively). (2)</p>		
Pentui et al 2011 <sup>11</sup>	US	Children (mean age	A pureed by gastroonomy tube	Hospital /	Fundoplication	To examine the improvements in	The study included 33 children with average	Weight gain, reduction in	A blended diet is an effective alternative for

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		34.2 months)	diet	Medical centre		gagging and retching of children with fundoplication when moved to a blended diet.	<p>age of 34.2 months. Average weight gain was 6.2 g/d. The authors state that: 'Seventeen children (52%) were reported to have a 76%–100% reduction in gagging and retching. Twenty-four children (73%) were reported to have a ≥50% decrease in symptoms. No child had worsened symptoms on the PBGT diet. Nineteen children (57%) were reported to have an increase in oral intake on the PBGT diet.' (375)</p> <p>The trial used follow-ups to measure final weight gain. Follow ups were at different points for different patients,</p>	gagging and retching, decrease in symptoms, oral intake.	children with feeding disorders.



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							ranging from 2 months (3 patients) to 24 months (one patient). Only three patients were followed up on 11 months or more (11, 12 and 24 months).		
Mokhalat ai et al 2004 <sup>12</sup>	Saudi Arabia	Not specific	Blended Diets tend to contain: milk, eggs, meat, soft fruits, and vegetables that are pureed in a food blender or mixer.	Hospital	Not specific	To assess the nutritional content of commercial and hospital prepared feedings.	Nutritional content was variable with nutrient concentration differences of up to twice as much. The blended food had higher levels of viscosity and osmolality than commercial formula. One site reported 100% contamination of blended diet.  Samples from three different hospitals were collected over a 3 month period.	Nutritional content, microbial quality (aerobic plate counts, coliform counts, microorganism growth) and physical characteristics (viscosity, osmolality).	Blended diets are very variable in terms of nutritional content. They also carry higher risk of infection and contamination. Commercial formula should replace blended diets.

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Mortensen 2006 <sup>13</sup>	US	Not specific	'Blenderized' food.	Home	Not specific. Although oral aversion, severe reflux and allergies are noted.	To provide a clinical overview of homemade tube feeding.	No specific results due to the nature of the article.	Choice, risks.	No firm conclusions offered although it is noted that families may chose blended diets because it is in line with a a varied diet.
Novak et al 2009 <sup>14</sup>	US	Children. Specific age not given.	Blenderized diet-pureed table food.	Mainly home, but the article considers outside the home (school)	Not specific. The authors note that the child should be stable and have a good gastronomy site.	To provide a general overview of blenderized tube feedings.	No specific results due to the nature of the article.	Suitability for blended diets, best/worst candidates, risks and complications, equipment use,	Blended diet can be better tolerated than formula and is potentially more nutritious.
Pearce & Duncan 2002 <sup>15</sup>	UK	General	All enteral feeding	Not specific	Not specific	To provide an overview of the types of enteral feeding available.	No specific results due to the nature of the article.	Types of feed, routes of access and	The authors dismiss blended diets early in the article. It is stated that the risk of feed contamination

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								problems/risks.	is high.
Schuijtema 2009 <sup>16</sup>	Holland	Not specific	Homemade diets	Home	Not specific	To discuss the basic sources of nutrients which can be used for preparation of homemade enteral nutrition and to be familiar with rules of preparation of homemade enteral nutrition	No specific results due to the nature of the article.	Article is an educational paper with a focus on what can be used to make a blended diet.	When blenderised liquid food is prepared it is crucial that safety guidelines are adhered to. Very useful and relevant recommendations are made in the article and a comprehensive table of nutrients relating to different sources of food which can be used in blended diets is provided.
Sullivan et al 2001 <sup>17</sup>	Philippines	Not specific	Blended Diets	Hospital	Not specific	To analyse bacterial contamination of blended diets and commercial formulas.	'At the time of preparation, mean coliform and standard plate counts for all samples were 10.3 most probable number per gram (MPN/g) and 7.4 x 10 <sup>4</sup> colony-forming units per gram (cfu/g), respectively. Nine of	Coliform counts, standard plate counts. Recipes of blended diets are also provided.	Bacteria were present in both blended diets and formula. There needs to be improvement in handling and the storage of feeds.

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							<p>24 samples (38%) had coliform counts greater than 10 MPN/g, and 22/24 (92%) samples had standard plate counts greater than 10<sup>3</sup> cfu/g. There were significant increases in mean coliform and standard plate counts over 4h (P&lt;0.0005 and P&lt;0.008, respectively). At 4 h after preparation, the mean coliform and standard plate counts were 18.2MPN/g and 2.1 x 10<sup>5</sup> cfu/g, respectively. At this time, 18/24 (75%) samples had coliform counts greater than 10MPN/g and 20/24 (83%) samples had standard plate counts greater than 10<sup>5</sup> cfu/g.'</p>		

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							(268)  The samples were taken from two feedings prepared on three separate days at each of the hospitals.		
Sullivan et al 2004 <sup>18</sup>	Philippines	Not specific	Blended Diets	Hospital	Not specific	To analyse the nutritional quality and viscosity of blended diets.	The authors reported a high degree of variability in terms of calories: (66-123 kcal/100g), Protein (1.5-4.0%), Carbohydrate (8.6-21.4%) and fat (0.27-3.40%).  Vitamins: vitamin A, 625-8850 IU/kg; riboflavin, 0.40-5.00 mg/kg; and pyridoxine, 0.14-3.00 mg/kg.  Minerals: calcium, 64-524 mg/kg; sodium, 148-886 mg/kg; iron, 3.0-13.7 mg/kg; and zinc, 1.8- 11.5 mg/kg	Calories, proteins, carbohydrate , fat, vitamins, micro/macro nutrients, viscosity.	Hospital prepared blended diets are unpredictable in their nutritional content. Diets are often too viscose to be suitable for tubes.

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							Samples of two different blends were taken on three different occasions.		

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