



An evidence analysis in the use of blended diet for children and young people

Professor Jane Coad & Dr Alex Toft
Children and Families Research, Coventry University

Dr Joseph Manning, Emma Aspinall, Sarah Durnan, Julie Hammonds, Dr Emily Harrop, Dr Mark Hunter, Dr Huw Jenkins, Ailsa Kennedy, Dr Susie Lapwood, Dr Sarah Mitchell, Professor Simon Murch, Clare Sadlier, David Widdas

Aims

Overall, the aim of our work has been to explore the benefits and risks/concerns of using a blended diet with children who are tube fed and the impact on their nutritional status.

- Share the results of two comprehensive literature reviews aiming to pull together the previous published evidence on using blended diet as an alternative to commercial feeds.
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- Discuss the findings of a series of exploratory survey projects with key stakeholders in the Midlands, UK to explore the benefits/ risks/ concerns of using a blended diet.

Re-cap our work so far!



TWO literature reviews (+
extensive documentary analysis).

Coad, J et al. 2016. Blended foods
for tube-fed children: a safe and
realistic option? A rapid review of the
evidence. *Archives of Disease in
Childhood*(2016): archdischild-2016

Scoping work with
stakeholders and
families in
Nottingham, West
Midlands and
Oxfordshire

South Warwickshire
Foundation Trust-
Best Practice Project:
Scoping and
Evaluation

PhD Student
Nottingham
University Hospital

1) Search and Exploring

- Primary research - a blended diet.
- The main focus had to be the blended diet (not commercial formula).
- **Blended Diet** terms - called a number of things including: **Blenderized Enteral Tube Feeding**
Homemade Tube Feeding
- Mixed / Exclusive feeds
- Although the focus was on under 18 years, if adult-focused studies were applicable they were included.

17
articles
found and
reviewed

4
documents
to date
reviewed

Range of Conditions

Neurological and
muscular disorders
(Daveluy et al 2004)

Rare diseases

Cancer and related
dysphagia

Cystic fibrosis (Klek et al
2001)

Children after
Fundoplication surgery
(Pentuik et al 2011)

Digestive disorders and
chronic diarrhea (Kolacek
et al 1996)

Nutritional value?



- Older studies (Gallagher-Allred (1983, Tanchoco et al 1990) highlighted inaccuracy of the calorie count and nutritional values for blended food
- Blended diets need to be more carefully monitored because they have more volume yet often less protein or fluid (Novak 2009)

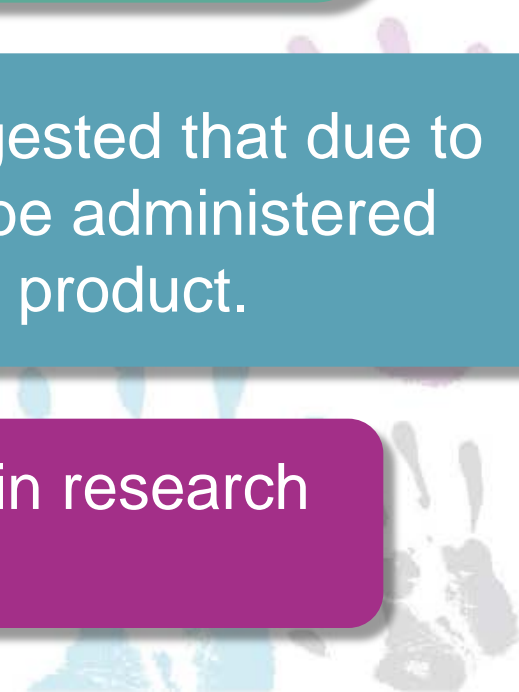


Safety?

Studies (US and Philippines) found that blended diets in hospitals did not meet required microbial safety standards. Bacterial contamination was felt to be an increased risk at home, particularly when there are multiple carers (Novak 2009).

A French study (Daveluy et al 2005) suggested that due to safety issues a blended diet should only be administered when there is no comparable commercial product.

Maintaining a clear tube has been highlighted in research (Schuitema, 2009)



Benefits?



- Research suggests that home feeding is preferable to hospital feeding (Daveluy et al, 2005).
- Reduction in reflux and constipation (Novak 2009).
- Improvements in gagging and retching in children with fundoplication (Pentiuk et al 2011)
- For children with feeding disorders, a blended diet is a valid alternative as it increased oral intake (Pentiuk et al 2011)

Other Information

- Research not focused on specific ages (children = under 18 years)
- No studies explored combining blended and formula diets
- Risk assessments not fully explored in literature reviews although studies did conduct nutritional risk screening. UK documentary analysis centred on risk assessments.
- BDA Practice Toolkit: Liquidised Food via Gastrostomy Tube:
<https://www.bda.uk.com/professional/practice/liquidisedtoolkit>



Conclusion of the review...

- Research data is limited, particularly in the UK but in US, Philippines, South Africa blended diet offered and used.
- Previous research has not been high quality (two RCTs, two QEDs)
- **No reviews included user views**

2) Stakeholder & Users Views

**Professional
Focus
Groups/
Interviews**
(n = 14)

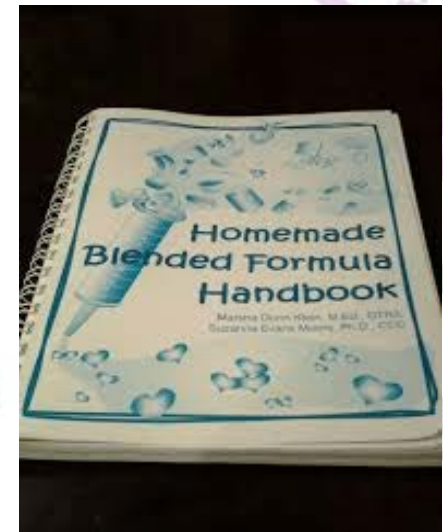
Children and family views

- Stakeholder focus groups (n= 4)
- User Blog analysis from 2014 to 2015 (n=857)
- One to one in-depth interviews (n= 3)

Choice

- Some families have chosen to use blended diets (some overtly within care packages; some covertly; some exclusively; some ad hoc/combined)
- Families have started to question the use of commercial feeds and their ability to provide all the required nutrients. This has included national petitions; blogs and recipes.

The idea that I could make food for my son and choose what went into his stomach, despite him being tube fed...it resonated deeply in the maternal instinct part of me ..I hadn't realised just how sad I was that I hadn't been able to do this.



Social Impact

- Report of strengthening the relationship between the child and their family members
- Family normality and empowerment is reported as high (*'Table Diet'*)

'She can come to the table and eat what we eat .. She can even have some ice cream now at parties!'

'Well.....culturally it just feels right'



Physical Impact

- Reports of less seizures and less retching
- Reported change in medication use
- Reports of improved complexion, hair and general well-being
- Reports of improved cognition



'Her skin and hair is so much better and family that don't see her say she is brighter and more alert... oh yes I think she is too!'

'He is still sick about once a week – but not like before and its easier to manage cos its food ... best say no more on that!'

Safety Issues?

Families will and are going ahead

Professionals have shared how they 'navigate' ways of supporting children and families

Suzanne Brown (2014) Blended food for enteral feeding via a gastrostomy. Nursing Children and Young People, 26(9):16-20

Close monitoring / different way of working for professional team

No accounts of tube blocking

No accounts of infection increased

Anecdotal accounts (our blog data) claim Vitamix 5000 blender is required but no evidence

Overall Conclusion

- Evidence synthesis (review and scoping) found that robust evidence is limited, particularly UK.
- Previous research has not been high quality (two RCTs)
- Choice agenda and social aspects are important but have not been fully researched
- Nutrition, safety, management and care issues remain for professionals and families in the UK
- **Families are going ahead!** If professionals do not support a blended diet there is the potential to cause harm as families reported they were doing this unsupported and were left to experiment with procedures they had not received any formal training in.



Finally

Where do we go from here?



KEEP
CALM

it's only

FOOD

Blended Diet UK

