

Dietary management of breastfed children with food allergy

Hilary Allen¹ | Robert J. Boyle^{1,2} 

¹National Heart and Lung Institute, Imperial College London, London, UK

²Centre of Evidence Based Dermatology, University of Nottingham, Nottingham, UK

Correspondence

Robert J. Boyle, National Heart and Lung Institute, Imperial College London, Norfolk Place, Wright Fleming Building, London W2 1PG, England.

Email: r.boyle@imperial.ac.uk

1 | INTRODUCTION

Scientific publications from the early 20th century onwards have reported maternal ingestion of specific foods triggering acute allergic reactions such as rashes and vomiting in breastfed, food allergic infants.¹ Early reports focussed on vegetables, milk, egg, codfish and chocolate; and while opinions varied at the time, these particular foods were thought to trigger allergies.¹ In some cases, vegetables and fish were also considered to cause non-allergic symptoms in the infant through breastmilk.¹

The role of maternal dietary restriction in managing food allergy continues to be the subject of debate in the 21st century. In this Clinical Question article, we will discuss the evidence for maternal dietary proteins triggering allergic reactions in breastfed, food allergic children and suggest an approach for the practical management of these children, taking account of the potential risks and benefits of maternal exclusion diets.

Case history: A 6-month-old, breastfed child with mild eczema has an acute reaction to her first direct exposure to cow's milk and a strongly positive skin prick test to commercial milk extract. Should mother be advised to exclude milk from her diet?

In order to address this question, we need to understand first whether maternal dietary restriction is likely to be effective, that is, whether maternal food allergen ingestion is likely to trigger symptoms in this child with probable cow's milk allergy. Second, we need to understand whether advice by healthcare practitioners to restrict the maternal diet is likely to be safe.

2 | CAN MATERNAL FOOD ALLERGEN INGESTION TRIGGER ACUTE OR CHRONIC SYMPTOMS IN BREASTFED CHILDREN WITH FOOD ALLERGIES?

In clinical practice, lactating mothers commonly report observations of a relationship between their own ingestion of specific foods and symptoms of crying, gastrointestinal disturbance or eczema in their child. For healthcare practitioners, differentiating between a causal association and normal infant behaviour in a breastfed child with food allergies poses a diagnostic challenge.² Controlled studies have suggested that infants do have behavioural responses to specific maternal dietary exposures through flavour sensing.³ A number of case reports and case series document acute or delayed reactions to breastmilk in food allergic infants, but blinded challenge studies suggest that the prevalence of such reactions associated with documented allergy to a relevant food in mother's diet is low.⁴ Mechanistic studies show that food allergens ingested by lactating women often become detectable in breastmilk.² However, detectable food allergen levels in breastmilk are in the range of nanograms per ml, meaning that infant ingestion of typical threshold doses for triggering acute reactions is almost impossible.² This leaves some uncertainty about whether maternal dietary restriction should be advised for preventing food allergic children from reacting to maternal dietary exposures. Acute or delayed allergic reactions in an exclusively breastfed infant are rare, and although proctocolitis can occur in breastfed infants, this is not always caused by a specific,

identifiable food allergy.⁴ Similarly, the evidence that eczema can be managed via maternal dietary restriction is not strong.⁵

One of the few double-blind clinical trials in this field evaluated 37 infants, and an improvement in eczema was identified in 6 infants when mothers excluded egg and cow's milk, which relapsed on re-introduction, while dietary manipulation was not helpful for most participants.⁶ Studies in this field have often failed to identify a significant association between specific food allergy in the child and apparent response to maternal exclusion of the same food. So, the evidence for advising maternal dietary restriction when their child has a diagnosed food allergy is low-level evidence, relying largely on case reports and small case series.⁴

3 | CAN HEALTHCARE PRACTITIONERS SAFELY ADVISE MATERNAL DIETARY EXCLUSION OF FOOD ALLERGENS WHEN A CHILD IS DIAGNOSED WITH FOOD ALLERGY?

Guidelines widely recommend this practice, but the advice is controversial, with some reporting that maternal dietary restrictions can undermine breastfeeding.^{2,7} In the absence of stronger evidence, healthcare practitioners need to carefully consider the risks and benefits of advising maternal dietary restrictions (Figure 1).

Possible reasons to advise dietary exclusions include safeguarding against accidental, direct exposure of the child to the food allergen when the mother or family members continue to consume

Key Messages

- Breastfeeding women's diet can influence their child, usually through non-allergic mechanisms such as flavour sensing.
- Children with food allergies do not usually react to maternal allergen ingestion during breastfeeding.
- When healthcare practitioners advise maternal dietary restriction, this can harm mother and undermine breastfeeding.

the food. Anecdotal evidence suggests benefit of maternal dietary restriction for some children with chronic symptoms associated with food allergy, such as eczema.⁴ Eczema is the most burdensome skin condition worldwide, with a high prevalence during the first 2 years of life⁸ and limited non-pharmacological options for management. Some families may feel that maternal dietary restriction is safer than using medical products such as skin creams, wash products and topical anti-inflammatories. Offering a solution by restricting the maternal diet may empower families, giving them a sense of control and potentially increasing confidence that they can safely breastfeed their child.

However, exclusion diets can be difficult to adhere to, symptoms may persist leading to ever more restrictive diets and families advised to use maternal dietary exclusion may suffer adverse nutritional, emotional and economic outcomes. Women using dietary

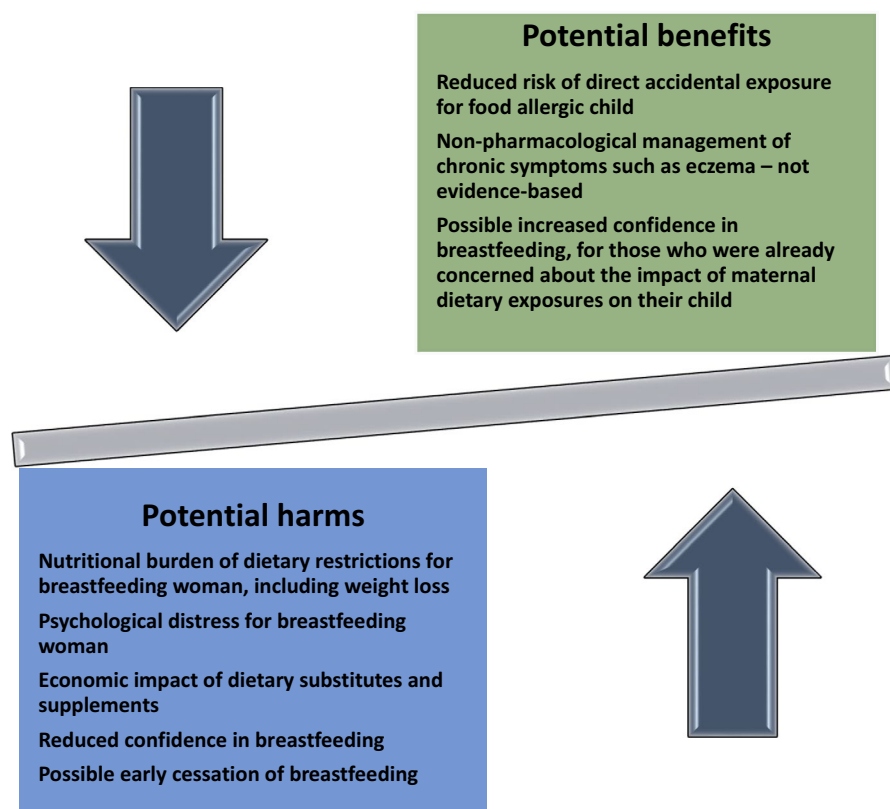


FIGURE 1 Potential benefits and harms of healthcare professional advice for a woman breastfeeding a food allergic children to restrict her diet

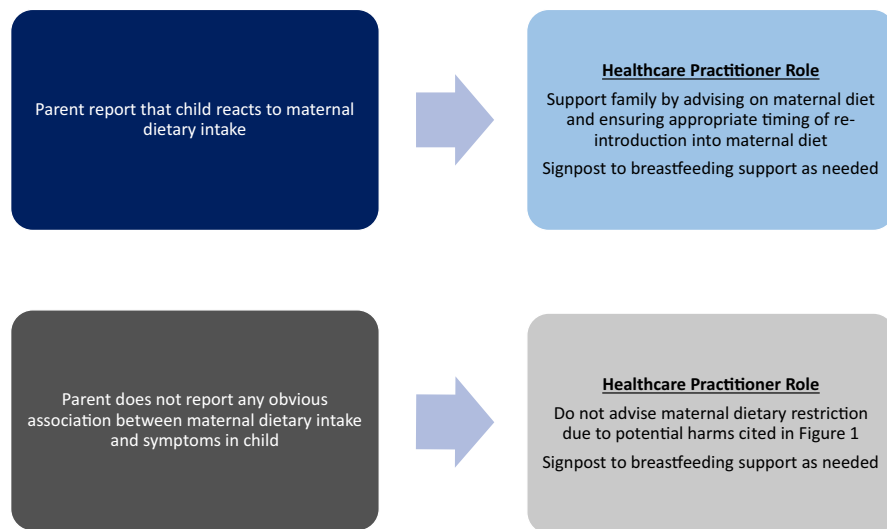


FIGURE 2 Proposed approach for safely supporting women breastfeeding a food allergic child

exclusions to manage food allergy in their child were reported in one study to have increased depression and anxiety symptoms, and over three-quarters of mothers reported weight loss and two-thirds a reduction in breastmilk supply.⁹ Larger and more representative studies are needed to better understand the impact of dietary exclusions on breastfeeding women; however, these preliminary findings of adverse effects are supported by anecdotal reports of such diets undermining confidence in breastfeeding.⁷

4 | PROPOSAL FOR AN APPROACH WHICH MINIMIZES RISK OF HARMING MOTHER AND CHILD WHILE SUPPORTING MATERNAL AUTONOMY IN DECISION-MAKING

The potential harms of advising maternal dietary restriction are magnified when the child's diagnosis of food allergy is uncertain. Maternal dietary restrictions may also be used to manage symptoms which are not food allergy, although the science underpinning this practice is largely derived from case reports and case series. A possible solution to minimize the risks in this area is to view the role of the healthcare practitioner as one of offering support to mothers who notice an issue in their child, ensuring that any elimination diet is done safely, minimizing risk of harming both mother and child and ensuring maternal autonomy in decision-making (Figure 2). The risks of environmental or accidental exposure to the child when family members continue eating the food allergen should be discussed, facilitating a risk assessment and helping family members to make an informed decision on the best approach for their personal circumstances, particularly when there may be other children in the household who would benefit from eating the relevant food allergen. Supporting, rather than actively advising, maternal dietary exclusion may be a more appropriate approach unless there is objective

evidence that a child reacts to maternally ingested allergens, as described in previous case reports and series.⁴

Case Resolution: The healthcare practitioner should be careful not to promote maternal dietary restriction as a solution to this child's eczema, if mother has not already noticed a relationship between her diet and her child's eczema. However, if mother has noticed a clear relationship between her own dietary intake and her child's eczema and wishes to restrict her diet, the healthcare practitioner's role is to support her and minimize the risk of adverse nutritional consequences for her or her child.

5 | CONCLUSION

Breastfed children respond to maternal dietary intake of specific foods, but most of this is not allergy. Studies suggest that reproducible allergic reactions to food antigens in breastmilk are rare, and the evidence that maternal dietary restrictions benefit associated symptoms such as eczema is weak. We therefore suggest that the best person to decide on dietary elimination is the mother herself based on her knowledge and observations of her child, and the role of healthcare practitioners is to support women's decisions. When healthcare practitioners promote the concept that maternal dietary restrictions are an important part of food allergy management, this risks causing harmful adverse effects without benefitting the allergic child.

ORCID

Robert J. Boyle  <https://orcid.org/0000-0002-4913-7580>

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