NUTRICIA | ALLERGY

This information is intended for healthcare professional use.

The evidence supporting synbiotics in the dietary management of CMA: **Eliminating the allergen, modulating the microbiota**

2-5% of infants are affected by CMA[1-5]

Compared with healthy breastfed infants, the gut microbiota of infants with CMA is often out of balance[6-10]

This imbalance (dysbiosis) is typically characterised by:

- Lower levels of beneficial Bifidobacteria[7,8]
- Higher levels of adult-like bacteria such as Clostridia and Eubacteria[6,7,9]

A balanced gut microbiota is important for the development of the immune system[11-13]

Breastmilk is the best source of nutrition for infants with CMA[14,15]

It contains prebiotic oligosaccharides and beneficial bacteria that support the development of a balanced gut microbiota[15,17]

Synbiotics are a combination of prebiotics and beneficial bacteria (probiotics) that work synergistically together[18]

Prebiotics
e.g. short and long-chain galacto- and/or fructo-oligosaccharides

+

Probiotics
e.g. *Bifidobacterium breve* M-16V

→

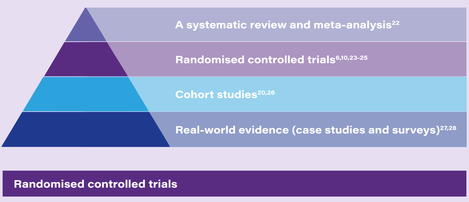
Synbiotics

For formula-fed infants with CMA, over 10 years of research with allergic infants has shown the benefits of supplementing hypoallergenic formula with synbiotics*[6,10,19-26]

- ☑ Well-tolerated[10,19,20]
- ☑ Rebalance the gut microbiota[6,10,21-24]
- ☑ Support normal growth[10,19-22]
- ☑ Improved clinical outcomes vs non-synbiotic formulas[20,22,24-26]

*Synbiotic blend: *Bifidobacterium breve* M-16V (probiotic) & short and long-chain galacto- and/or fructo-oligosaccharides (prebiotic).

The body of evidence supporting their use includes:



Randomised controlled trials

van der Aa 2010[24]

12-week RCT of infants with AD (n=90)

Compared to an EHF without synbiotics, those in the synbiotic EHF group showed:

- A gut microbiota closer to that of healthy breastfed infants
- Reduced constipation (p=0.01) and dry stools (p=0.001)
- Reduced AD severity* (p=0.04)

van der Aa 2011[25]

Follow-up from 12-week RCT of infants with AD (n=76)

Compared to an EHF without synbiotics, those in the synbiotic EHF group showed:

- A significantly lower prevalence of asthma-like symptoms at one-year follow-up (p=0.04)
- Significantly less asthma medication use at one-year follow-up (p=0.02)

Cohort studies

Sorensen 2021[26]

Retrospective matched cohort study of infants with CMA using data from the THIN GP database (n=148)

Compared to an AAF without synbiotics, a synbiotic AAF was associated with:

- Fewer GI, skin and/or respiratory symptoms* (p<0.001)
- A lower rate of dietitian contacts (p=0.014)
- Lower rates of infections (p<0.001) and medication prescriptions (p<0.001)
- A shorter clinical journey† (p<0.001)
- Potential healthcare cost savings

Hubbard 2022[20]

Single-arm, prospective study of infants with non-IgE CMA (n=29)

Compared to EHFs without synbiotics*, a synbiotic EHF supported:

- Reduced incidence and severity of constipation, abdominal discomfort and wind (p<0.05)
- Reduced rhinitis severity and itchy eyes (p<0.05)
- Reduced AD severity† (p=0.03)
- A lower mean number of hospital visits and medication prescriptions in the 6 months after initiation‡ (p<0.05)
- Improved caregiver quality of life scores# (p=0.004)

Systematic review

Sorensen 2021[22]

Meta-analysis of four RCTs of infants with CMA (n=410)

Compared to an AAF without synbiotics, a synbiotic AAF supported:

- A gut microbiota closer to that of a healthy breastfed infant
- Fewer infants with infections (p=0.001)
- Lower overall medication use
- Fewer hospital admissions due to infections (p=0.036)
- Potential healthcare cost savings

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Learn more about synbiotics by registering to our free, personalised, digital learning platform for HCPs

Learn more here

AAF: Amino Acid-based Formula; AD: atopic dermatitis; CMA: Cow's Milk Allergy; EHF: Extensively Hydrolysed Formula; FAQL-PB: Food Allergy Quality of Life-Parental Burden; GI: gastrointestinal; HCP: healthcare professional; PO-SCORAD: Patient-Orientated SCORing AD; RCT: Randomised Controlled Trial; THIN: The Health Improvement Network

van der Aa 2010[24]: *Subgroup of n=48 infants with IgE associated AD.

Sorensen 2021[26]: *Diarrhoea, constipation, flatulence, vomiting, reflux, bloody stools, mucus in stools, colic, eczema & urticaria. †Clinical journey endpoint measured as being asymptomatic and not requiring a hypoallergenic formula prescription for at least 3 months.

Hubbard 2022[20]: *Baseline non-synbiotic formula (n=27 out of n=29 well-established on a non-synbiotic EHF). †Significant reduction in PO-SCORAD in subgroup of n=6 infants with more severe AD at baseline. ‡Follow-up arm of study n=13. #Assessed via FAQL-PB questionnaire.

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