What do we know about C-section?

When medically necessary, a caesarean section is an effective mean to prevent maternal and newborn mortality.

WHO recommends, C-section should not exceed 10-15% of all births.[1]

3 in 10 babies are now born by C-section in the EU[1].

Infants born by C-section birth might have an **increased risk of childhood infections** and **non-communicable diseases**[2-4], like asthma[5], obesity[6-7] and type 2 diabetes later in life.[8]

Infants born by C-section have a **delayed gut microbiota colonization**, especially by *Bifidobacterium* and *Bacteroides*, compared to healthy vaginally born infants.[9-15]

Bifidobacteria is the most abundant bacteria species in the gut of healthy breastfed infants.[20]

This delayed colonization, resulting in a compromised microbiota, can last **several weeks after birth, up to 1 to 2 years of age**.[11-12]

Bifidobacterium and *Bacteroides* are keystone colonizers that have the **capability to metabolize Human Milk Oligosaccharides** (HMOs) and play a pivotal role in **immune function**.[17-19]

Nutritional strategies offer a great opportunity to **rebalance the compromised microbiota in early life**.

Bifidobacteria levels in C-section born babies

Bifidobacteria delay is statistically significant in the first 3 months of life[11]

However, it can take several months before the gap is closed completely[12]

Breast milk is the ideal food for infants. WHO recommends exclusive breastfeeding for the first 6 months of life, continuing up to 2 years and beyond with gradual introduction of safe and suitable complementary feeding.

C-section surgery remain essential medical treatments saving millions of lives each year.

Synbiotics support immunity in C-section born babies

Definition

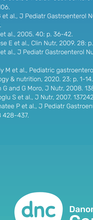
Synbiotics are defined as "*a mixture comprising live microorganisms and substrate(s) selectively utilized by host microorganisms that confers a health benefit on the host*".[21]

Synbiotic for C-section born babies

The combination of Bifidobacteria breve M-16V and scGOS/lcFOS (9:1) has been shown to restore delayed colonization by Bifidobacteria in babies born by C-section[22]

Probiotic Bifidobacterium breve M-16V (*B. breve M-16V*)[23]

Bifidobacterium breve is a species commonly isolated from the gut of healthy breastfed infants and from human milk. The specific strain *B. breve M-16V* was selected, because of its well-established clinical data on safety and efficacy in positively modulating the gut microbiome of infants.



Prebiotic scGOS/lcFOS (9:1)

The prebiotic mixture of scGOS/lcFOS (9:1) is designed to closely reflect the quantity, diversity and functionality of HMOs* in breast milk. In more than 40 clinical studies (>90 publications), scGOS/lcFOS has been shown to support a healthy gut and immune system development by:

- Stimulating growth of beneficial bacteria[24-25]
- Suppressing growth of pathogens[26-27]
- Modulation of the gut microbiome and the immune system[24,28,29]
- Stool softening and frequency closer to that of healthy breast-fed infants[24,29]
- Reducing the risk of infections[26,30]

Synbiotics in action The Julius study[22]

Randomised, Double-Blind, Multicentre Study
(N=153 Infants Born by C-Section)

Results:

Restored bifidobacterial gap closer to vaginally born healthy infants

Reduced skin symptoms (AE)

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