FOStering Growth and Development (role of FOS in growth and development)

Infancy signifies the most pronounced period of growth after birth.

Prebiotics like Fructooligosaccharides (FOS) provide advantages for infant's gastrointestinal system as well as help in growth and development. FOS are non-digestible, bifidogenic, prebiotic, oligosaccharides called by various names such as fructans or oligofructose, which are present in large amounts in Jerusalem artichoke, garlic, and chicory root and in smaller amounts in wheat, bananas and tomatoes.[1]

The gut microbial activity promoted by FOS appears to be orchestrating the advantageous effects both in gut health and growth.[1,2]

FOS-Role in Growth and Development

Healthy Gut Microbiota

Infant gut health is closely related to growth. A disturbed gut microbiome may impair the normal production of growth hormones and metabolism of key nutrients, including essential amino acids, thereby preventing normal growth.[3]

FOS fosters the growth of beneficial bacterial strains namely Lactobacilli and Bifidobacteria. Abundance of these bacteria denotes good gut health.[4,5]

Improves Immunity

Beneficial bacteria like Bifidobacterium and Lactobacillus turn on the innate immunity and are known to inhibit pathogenic activity.[1]

Reduces Diarrhoea

Clinical studies have shown beneficial effects of FOS on alleviating diarrhoea, along with a decrease in putrefactive substances and a decrease in pH of stools. Lesser diarrhoeal episodes leads to improved nutritional status of the infant, thus aiding growth.[1]

Improves Bone building Mineral Absorption

The growth of the beneficial bacteria and its metabolites (SCFAs) due to FOS fermentation are mainly responsible for imparting positive effects like absorption of minerals like calcium, magnesium, iron.[1,5]

Due to the bifidogenic impact of FOS and production of SCFAs, various health benefits are observed in terms of infant's gut health and mineral absorption which promote growth and development of the infant.

References:

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