



HISAS 4

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SYNBIOTICS IN INFANT FORMULA

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ABSTRACT: World Health Organization (WHO) recommends breastfeeding exclusively for the first 6 months of life and to continue partial breastfeeding until the age of 2 years. The survey in Indonesia showed about 22-52% of infants received infant formula within the first 7 days. In urban poor Jakarta-Indonesia, at about 7% of infants stop breastfeeding totally before 5 months old due to several reasons such as mother did not produce breast milk, mother is sick, mother is pregnant, mother works or child does not want to. So far, it was widely agreed that breast milk is the best food for infants. Breast milk contain various kinds of nutrients which infants need including 130 different of oligosaccharides that have been suggested as major sources for stimulating the growth and/or the activities of beneficial microbiota in infant gastrointestinal tracts. It was reported that breast milk-fed infants have higher population of beneficial bacteria such as bifidobacteria than those ordinary formula-fed infants. To this matter, the supplementation of prebiotic oligosaccharides should be considered in infant formula development. Clinical study reported that the profile of intestinal microbiota in infants received prebiotic (a mixture of GOS/FOS) is more like breast milk-fed infants. In addition, probiotics as live microorganisms supplement could be applied in infant formula to maintain the balance of intestinal microbiota, to decrease diarrhea, and to reduce risks of allergy. Since probiotic bacterial strains require suitable nutrients, the combination of probiotic and prebiotic, or well known as 'synbiotic' could be considered to obtain more efficacious results. The idea of synbiotic application in infant formula will be discussed in this paper.

KEYWORDS: Synbiotic, infant formula, microbiota, gastrointestinal tract