

Infant Formula 4-1-1
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Participant Goals

After this session, you will be able to:

- 1- State the potential benefits of various components added to infant formula
- 2- Educate peers and clients on the basic functions of pre and probiotics
- 3- Accurately compare the components found in human milk and those added to infant formula (PUFAs, prebiotics, etc)
- 4- Identify the differences and appropriate uses of various special infant formula products available through the Missouri WIC Program

Special Infant Formulas

- Casein-hydrolysates: Nutramigen, Pregestimil, Alimentum
- Amino-acid based formulas: Neocate Infant, Elecare, NutramigenAA
- Premature Infant Follow-up Formulas: Enficare and Neosure

Soy Formula

- Not intended for use with preterm infants less than 1800gm
- Powder, soy is the preferred formula for infants with galactosemia
- Differing opinions on its use for infants with intolerance/allergy

Formulas containing Medium Chain Triglycerides

Enfaport, Pregestimil, Alimentum, Elecare, Neosure, Enficare, Neocate

Components in Human Milk of special interest:

Polyunsaturated fatty acids (DHA and ARA)
Nucleotides
Prebiotics (human milk oligosaccharides)

Definition of a prebiotic- a non-digestible food ingredients that create specific changes in the growth or activity of the bacterial species already in the colon that offer benefits to the health of the host.

Example of the function of Oligosaccharides in Human Milk:

- Act to increase bifidobacteria (bifidogenic effect)
- Inhibit the intestinal attachment of pathogenic bacteria

Examples of prebiotics found in infant formula:

- galactooligosaccharides (GOS)
- fructooligosaccharides (FOS)

GOS and FOS differ from Human Milk Oligosaccharides. GOS and FOS are polymers of galactose and fructose, respectively. Fructose is not naturally found in human milk.

Oligosaccharides are the 3rd most abundant component in mature human milk. More than 130 different human milk oligosaccharide structures have been identified.

Probiotics are defined as nonpathogenic, LIVE, organisms in the food supply that are able to provide a health benefit to the host through modification of the microflora of the GI tract.

The “ideal” probiotic meets the following criteria:

- its benefits are proven
- the strain is of human origin and safe for human use
- non-pathogenic
- stable to acids and bile salts
- adheres to the intestinal mucosa
- sensitive to usual antibiotics and no development of resistance
- non pro-inflammatory

The most commonly used genera meeting these criteria are: Bifidobacterium and Lactobacillus

Example of a probiotic found in infant formula:

-Lactobacillus rhamnosus GG

References:

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