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Programme:

Friday, Feb.11, 2011
Time: 19:15 – 19:45

Speaker:

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Lecture:

Optimizing Protein Quality and
Quantity in Infant Feeding
Closer to the Reference

OPTIMIZING PROTEIN QUALITY AND QUANTITY IN INFANT FEEDING CLOSER TO THE REFERENCE

The protein requirement of the normal-term infant, as determined by two independent methods, is highest during the first 1-2 months of life. Thereafter, it declines rapidly until it reaches, around 6 months of age, a more or less steady level of about 1 g/kg/day (1.0 g/100 kcal). The protein intake of the breast-fed infant approximately meets the protein requirement of the infant at all times. On the other hand, the protein intake of the formula-fed infant exceeds the needs of the infant most of the time. This is so because the protein content of formulas is designed to meet protein needs when they are at their highest, i.e. in the first 1-2 months of life. Most formulas also provide more protein than human milk because protein quantity must make up for protein quality. Thereafter, formulas provide more protein than the infant needs. Advances in dairy technology have made it possible to prepare blends of bovine milk proteins whose

protein quality approaches that of mother's milk. This has made it possible to reduce the protein concentration of formulas to where it is right at the requirement level. This minimizes the excess protein the infant receives in the first 2 months. Thereafter, the infant still receives more protein than he/she needs and more than the breast-fed infant receives. Later, in the first year of life, many infants begin to receive cow's milk, which results in even higher protein intake than provided by formula. Epidemiologic evidence suggests that high protein intake during late infancy is associated with increased risk of adiposity during childhood. This possibility has received experimental support from the European Childhood Obesity Project. In that study, infants who received formula with a high protein content during the first year of life showed significantly higher weight, but not length, at 1 year of age, indicating greater adiposity. This difference persisted in diminished form at 2 years of age. In conclusion, the possibility that high protein intakes during infancy might lead to obesity later in life would suggest that efforts should be made to lower protein intakes.