

## The 9<sup>th</sup> International Conference on Nutrition and Growth

### About the Conference

The 9<sup>th</sup> International Conference on Nutrition and Growth (N&G 2022) has brought together pediatricians, nutritionists, neonatologists, child development experts, and other professionals all over the world to explore and discuss the latest trends in nutrition and growth in pediatric group. The conference covered a variety of hot topics:

- Can early nutrition influence obesity risk?
- Human milk: processing and fortification
- How to diagnose malnutrition
- Effects of nutrition on puberty timing and growth
- Nutrition and functional gastrointestinal disorders (FGID)
- What makes children grow: the impact of nutrition and society, economics, politics and emotions (SEPE)



- Safety of growth hormone treatment in children
- Inflammation and linear growth
- Development of food preferences: determinants and interventions

### Conference Highlight

#### Breastfeeding and Maternal Body Composition

**Prof. Donna Geddes** from The University of Western Australia highlighted the possible outcomes of maternal obesity on breastfeeding, as well as the hypothesized mechanisms that would result in obesity. Key messages in brief:

##### 1. Hypothesized mechanisms of obesity<sup>1</sup>

- **Fuel-mediated *in utero* hypothesis:** caused by fetal overnutrition
- **Mismatch hypothesis:** caused by fetal undernutrition and postnatal overnutrition
- **Accelerated postnatal growth hypothesis:** caused by postnatal overnutrition

##### 2. Breastfeeding has positive effects on mothers' body composition<sup>2</sup>

- Maternal adiposity reduced across lactation period

##### 3. Kent *et al.* revealed that the volume of human milk intake was one of the factors that impact infant growth in the first 6 months of life<sup>3</sup>

4. Kugananthan *et al.* demonstrated that maternal fat mass could positively relate to concentrations of proteins in human milk, as well as concentrations of leptin<sup>4</sup>

#### References:

1.Koletzko B *et al.* Early Nutrition Project. Early nutrition programming of long-term health. *Proc Nutr Soc.* 2012;71(5):371-8. 2.Grideva Z *et al.* Relationships between breastfeeding patterns and maternal and infant body composition over the first 12 months of lactation. *Nutrients.* 2018;10(1):45. 3.Kent JC *et al.* Breast volume and milk production during extended lactation in women. *Exp Physiol.* 1999;84(2):435-447. 4.Kugananthan S *et al.* Associations between Maternal Body Composition and Appetite Hormones and Macronutrients in Human Milk. *Nutrients.* 2017;9(5):252.

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## Conference Highlight (cont'd)

### Nutrition and Growth in Cystic Fibrosis (CF)

**Dr. Dimitri Declercq** from CF Center at the Ghent University Hospital discussed the pathogenesis of malnutrition in CF, factors associated with growth failure in CF and management possibilities of optimizing growth in CF. To summarize the sharing in brief:

#### a) Pathogenesis of malnutrition in CF<sup>2</sup>

- Decreased nutrient intake due to gastrointestinal symptoms such as anorexia vomiting etc.<sup>1</sup>
- Increased energy needs as a result of deteriorating pulmonary functions<sup>2</sup>
- Inadequate nutrient intake due to Exocrine Pancreatic Insufficiency (EPI)<sup>2</sup>
  - EPI occurs in 85–90% CF patients<sup>3</sup>, which refers to the inability to digest food properly because of reduced pancreatic enzyme activity

#### b) A French study ALIMUDE<sup>4</sup>

- Followed up a cohort of infants who were diagnosed by a Newborn Screening Program for 24 months
- A large number of diagnosed infants had low sodium output and low vitamin D level



#### c) Powers and his colleagues demonstrated that<sup>5</sup>

- By optimizing calorie and fat intake, a behavioral intervention (including nutrition counseling and child behavioral management training to parents) helped toddlers and preschoolers with CF meet energy intake recommendations for CF and maintain the gain up to 1 year after treatment
- They also had weight and height velocities from pretreatment to 1-year follow-up consistent with the goal of normal growth

#### References:

1.Pencharz PB, Durie PR. Pathogenesis of malnutrition in cystic fibrosis, and its treatment. *Clin Nutr.* 2000;19(6):387-394. 2.Turk D et al. ESPEN-ESPGHAN-ECFS guidelines on nutrition care for infants, children, and adults with cystic fibrosis. *Clin Nutr.* 2016;35(3):557-577. 3.Walkowiak J et al. The changing face of the exocrine pancreas in cystic fibrosis: pancreatic sufficiency, pancreatitis and genotype. *Eur J Gastroenterol Hepatol.* 2008;20(3):157-160. 4.Munck A et al. Nutritional status in the first 2 years of life in cystic fibrosis diagnosed by newborn screening. *J Pediatr Gastroenterol Nutr.* 2018;67(1):125-130. 5.Powers SW et al. Randomized clinical trial of behavioral and nutrition treatment to improve energy intake and growth in toddlers and preschoolers with cystic fibrosis. *Pediatrics.* 2005;116(6):1442-1450.

## WNSC Global Symposium



### Nutrients for Brain Myelination: Clinical Trial Results

**Dr Nora Schneider**

*Department Manager, Brain Science  
Nestlé Institute of Health Sciences  
Nestlé Research  
Switzerland*

**Wyeth Nutrition Science Center (WNSC)** participated at N&G 2022 with our symposium.

Proudly present to you our new, never seen before data. Learn how early nutrition impacts brain architecture, which is crucial for later cognitive and learning outcomes. Discover latest evidence that supports a critical window for influencing brain development.

#### Learning objectives

- Learn about the critical window for brain development
- Understand how early nutrition can impact brain structure
- Discover how myelination can support cognitive and learning development

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