Satellite Symposium

Child and Adolescent Health

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17:30 - 19:00 | Room 219/220

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Chairperson:

Prof. Ferdinand Haschke | Switzerland
Head of Nestlé Nutrition Institute

Speakers:

Early Nutrition, Growth and Health Outcome
Prof. Ferdinand Haschke | Switzerland

Dual Burden of Malnutrition: What Role for Paediatricians
Prof. Ricardo Uauy | Chile

Adolescent Nutrition & Risk Factors: a Growing Agenda
Prof. Zulfiqar Bhutta | Pakistan
Term infants both in developing and developed countries benefit from exclusive breastfeeding. A large dataset of surveys from 20 developing countries in Asia, Africa, and Latin America (168,000 infants and small children from the Demographic Health Survey, United States Agency for International Development) includes information on feeding type, growth, and health outcome. 32%, 65%, and 3% of the infants are exclusively breastfed, receive breast milk and weaning foods, and receive no breast milk between 0-6 months, respectively. Compared to other feeding patterns, exclusive breastfeeding until 6 months is associated with significantly higher weight, length, and lower probability of stunting and infections. Nine out of 10 infants still receive breast milk between 6 and 12 months and probability of infections tends to be lower if breastfeeding is continued during that age range. Between 12 and 24 months, 7 out of 10 infants still receive breast milk. Stunting und wasting rates are high but no associations of feeding patterns exist with growth and disease outcome. Only 1 out of 10 infants is exposed to formula during the first 2 years. Prevalence of allergic diseases and obesity is increasing in most countries. Follow-up until 10 years in a developed country (GINI study) now indicates that an infant population at risk for allergic diseases benefits both from exclusive breastfeeding and, if the breastfeeding period is short from use of hypoallergenic formula during the first 4 months of life. When compared to cow’s milk-based formula: both the cumulative incidences of atopic disease and all allergic diseases are significantly lower. Infants from obese mothers gain less weight if breastfeeding continues beyond 6 months when compared to infants fed formulas as defined by the Codex Alimentarius. Feeding infants from obese mothers a formula with low protein content (1.65g/100 kcal; 3-12 months) results in weight gain which is similar to breastfed infants. Exclusive breastfeeding is associated with lower morbidity. Clinical trials now proof the preventive effect on allergy and early childhood obesity.

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As malnutrition and infections retreat, progressive inactivity due to changes in the nature of physical work related to productive activities and rural-urban migration serve to reduce energy expenditure both during work and leisure time. International agencies, NGOs and academics dealing with malnutrition were initially reluctant to acknowledge that developing countries were facing a "double burden of disease". However, the extent of NCD epidemic and a better understanding of causes and consequences has led to a present consensus that malnutrition has to be addressed considering the consequences of both deficit and excess energy. Our aim is to continue efforts to lower under nutrition without increasing obesity and the associated NCDs. Childhood obesity has increased significantly over the past decades in virtually all countries; presently it constitutes an "epidemic" in both high and low income countries alike. The rise in obesity in less developed countries has been faster over the past decade than ever before, especially among children living in urban areas, probably due to a greater exposure to what has been termed the "obesogenic environment". The pattern of rise in obesity prevalence in developing countries is characterized by a rise in higher income groups, however as income increases, obesity progressively shifts to lower income children. Critical periods have been described in the development and persistence of overweight in children; these are the prenatal period, pregnancy, infancy and adolescence. In the prenatal period, pre-pregnancy weight, gestational weight gain, birth weight, smoking during pregnancy and maternal diabetes appear to be the most important risk factors, while after birth post-natal infant feeding practices, rapid weight gain, first born child and sleeping patterns are the most important ones. Recent estimates indicate that over a billion individuals are overweight or obese, and a slightly lower number are underweight. However, the distribution is age selective, more obesity in former adults in developed countries and more malnutrition in children in the poorest developing countries. Generating a common agenda and policies to address the double burden is particularly important in those nations and regions in which one sees appreciable lost DALYs from both conditions, such as northern Africa and the Middle East, most of South, Southeast and East Asia, Central America and the Andean region.
There is growing interest in adolescent health and nutrition to improve the maternal, newborn and child health, as an estimated 10 million girls younger than 18 years are married each year resulting in 16 million babies born to adolescent girls between the ages of 15 and 19 years, almost all in low- middle-income countries (LMIC), accounting for over 10% of the total births each year. Furthermore, an estimated three million unsafe abortions occur globally every year among adolescent girls that contribute substantially to lasting health problems.

Adolescent and repeated young age pregnancy are important factors related to maternal, fetal and neonatal outcomes. Being young at first pregnancy is crucial because girls are not physically mature, and may enter pregnancy with depleted nutrition reserves and anemia. A study showed that the risk of low birth weight infants was significantly greater with moderate preconception anemia (OR 6.5; 95% CI: 1.6-26.7) and fetal growth restriction (OR 4.6; 95% CI: 1.5-13.5). Adolescent pregnancy is also associated with 50% increased risk of stillbirths and neonatal deaths, as well as preterm birth, low birth weight and asphyxia. Furthermore, adolescents are prone to complications of labor and delivery, such as obstructed and prolonged labor, vesico-vaginal fistulae, infectious morbidity, preterm birth and low birth weight. Adolescent depression is also found to be associated with an increased risk of miscarriages (OR 2.25; 95% CI: 1.12-4.50).

Maternal nutritional status is affected by numerous factors during adolescence and childhood, but may be amended by interventions in the more immediate preconception period. There is incontrovertible data to support the routine use of vitamins, especially folic acid, by women of reproductive age, to improve their own health as well as their potential mother and child outcomes. The effect estimates for folic acid supplementation to prevent neural tube defects were similar to those of a recent Cochrane review by Lumley 2009. Folic acid significantly reduced the risk of recurrent NTDs (RR 0.31, 95% CI: 0.14-0.66) when the analysis was restricted to randomized double-blind placebo-controlled studies. Likewise, for recurrent NTDs folic acid supplementation had a strong protective effect (RR 0.47; 95% CI: 0.34-0.61). Although multivitamin supplementation also protected against NTDs (recurrent NTDs RR 0.38, recurrent NTDs 0.51), it was difficult to attribute this effect to other vitamins since most of the studies included in this pooled analysis used multivitamins which contained folate. Not much has been done with regards to iron, vitamin A, iodine and other micronutrient supplementation during preconception. However, a single study on iodine supplementation showed that if iodine was given before conception the nervous form of endemic cretinism was prevented.

Various community based adolescent pregnancy prevention interventions have also been evaluated. Programs for teen mothers may decreases repeat adolescent pregnancies by 37% (12-51%) when they teach parenting skills through home visitation and provide teen mothers with education and vocational or job support. Connecting teen mothers with comprehensive services to meet their social, economic, health and educational needs can potentially improve long-term outcomes for both mothers and their offspring. School sex education and pregnancy prevention programs targeted at youngsters have shown to improve sexual knowledge and sexual behaviour.

Evidence of successful programs should be implemented at scale to prevent adolescent pregnancies and interventions to improve wellbeing of adolescent girls should be integrated within the existing health services. Partnerships with governments and enforcement of existing legislations are vital to sustainable and scalable programs.

References: