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Body Mass Index, Nutrition and Parental Migration: From Birth to Adolescence

AKADEMISK AVHANDLING

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SUMMARY

Childhood overweight and obesity is a major public health problem of the recent century. The aim of this thesis was to investigate the impact of parental migration background on childhood overweight and obesity and lifestyle in relation to socioeconomic position, and the possible role of factors such as perinatal characteristics and breastfeeding in BMI development among offspring of immigrant parents.

The relation between parental migration background and risk of childhood overweight and obesity was studied among 2 589 children of a Swedish birth cohort (BAMSE) where 22 %

(n = 561) had at least one foreign-born parent (Study I). At age 8 years, 20 % of children with native Swedish parents and 26 % of children with at least one foreign-born parent were overweight or obese. In a multivariate logistic model, adjusting for parental education, physical activity and compliance with nutritional recommendation, children of immigrant parents had 33 % higher odds of overweight and obesity compared with Swedish peers. When both parents were immigrants, the number increased to 70 %. Offspring of parents from Latin America and Asia had significantly higher odds of overweight and obesity than Swedish peers.

In the same population, we studied the association between parental migration background and risk of low physical activity among offspring (Study I). Controlling for parental education, overweight and compliance with nutritional recommendations, offspring of immigrant parents had 30 % higher odds of low physical activity than Swedish peers. The odds increased to 67 % when both parents were immigrants. Moreover, low parental education was associated with low levels of physical activity, regardless of parental migration background.

The relation between parental migration background and compliance with nutritional recommendations was also studied in Study I. The compliance with nutritional recommendations was assessed using a scoring model which estimated the average fulfillment of nutritional recommendations. Compliance with nutritional recommendations among offspring of immigrant parents was better than among Swedish peers. In subgroups, only children with an immigrant father showed better compliance. Higher consumption of fruit and vegetables and unprocessed meats were healthy aspects of diet among children of immigrant parents, opposed by unhealthy aspects such as low consumption of milk and dairy and high consumption of sweets. Furthermore, high parental education was associated with a high dietary score, regardless of parental migration background.

The relation between maternal migration background, perinatal characteristics, and BMI development was studied in a longitudinal follow-up from birth to age 12 years in Study II. There were no significant differences in pregnancy outcome with regard to birth weight and weight for gestational age between offspring of immigrant vs. Swedish mothers. However, BMI development was different in the two groups adjusting for maternal and perinatal characteristics. Children of immigrant mothers had a slower BMI development than Swedish peers up to age 5 years, followed by a steeper pattern afterward.

The relation between maternal migration background and duration of breastfeeding, and BMI development was evaluated in a longitudinal study from age 2 to 16 years (Study III). Comparing children breastfed for short periods or not at all with exclusively breastfed ones, a steeper BMI development was observed among offspring of Swedish mothers but the opposite was observed among offspring of immigrant mothers. The observed variations in BMI development patterns were compatible with ages at adiposity rebound.

In conclusion the results of this thesis underline the risk gradient for childhood overweight and obesity, and adverse lifestyles among Swedish born children with immigrant parents. This thesis also demonstrates diverse patterns in BMI development by parental migration background which starts at early childhood. However, the diversities in risk of overweight and obesity, and also BMI development was not fully explained by parental education as indicator of socioeconomic position, perinatal characteristics and duration of breastfeeding. More studies are needed to explore underlying driving forces and their possible interaction with regards to parental lifestyles, cultural background, and different indicators of socioeconomic position, psychosocial environment and acculturation.