

INFLUENCE OF SOCIOECONOMIC FACTORS ON NUTRITION DURING CHILDHOOD IN GERMANY AND INDIA

S.J. Chas¹; M. Kale²; S. Konwert¹; L. Meißler¹; and D. Limaye¹

¹*Hochschule Hannover, Hannover, Germany; and* ²*Institute of Chemical Technology, Mumbai, India*

Background: Malnutrition, nutritional deficiency, or undernutrition is an imbalanced nutritional status resulting from insufficient intake of nutrients to meet normal physiologic requirements.¹ Malnutrition in childhood has both short-term consequences and long-term consequences on mental and physical health as well as the overall health development of children.² Of all regions in the world, the Asia and the Pacific region has achieved the fastest rate of economic growth.³ There is no evidence that this rapid economic growth translates into a decline in malnutrition of children in Asian countries such as India.⁴ It has long been recognized that socioeconomic factors, such as income, education, and occupation of parents, are important determinants of health outcomes in children.⁵

Objectives: The present study explored the possible relation between parental socioeconomic parameters and nutritional status of children in India and Germany.

Methods: This prospective cross-sectional study was conducted at the Institute of Chemical Technology, Mumbai, India, and Faculty III, The University of Applied Science and Arts, Hannover, Germany. Students were contacted by a trained study team member, and the study outline was explained in brief. The study was conducted with a paper-based questionnaire on family socioeconomic parameters and their own childhood nutritional status with 104 students (50 Mumbai and 54 Hannover) in the age group of 18 to 30 years.

Results: The average (SD) age was 20.8 (1.8) years and 23.2 (3.1) years for the Mumbai and Hannover cohorts, respectively. All respondents from Mumbai had parents with a graduate degree; for Hannover respondents, 25 (46%) and 15 (28%) respondents had father and mother with a graduate degree, respectively. Thirty-eight (76%) and 10 (20%) Mumbai respondent's father and mother had a full-time job; in the Hannover respondents, it was 39 (72%) and 22 (41%) for the father and mother. All respondents from Mumbai belonged to high-income class⁶ group of >100,000 Indian rupees/month. Nineteen (76%) respondents from Hannover belonged to the middle-class income group⁷ of 2100 to 7000 euros/month, while 6 (24%) belonged to the lower income group⁷ of <2100 euros/month. Twenty-one (42%) and 3 (6%) respondents from Mumbai and Hannover reported to have very balanced diet during childhood. Seven (13%) and 4 (7%) respondents from Mumbai and Hannover had suffered from nutritional deficiency in their childhood that was either an iron or vitamin deficiency. Four (8%) respondents from Mumbai reported to be frequently ill during their childhood had shared a single room with >3 people during their childhood. Two (4%) respondents from Hannover reported to be frequently ill during their childhood.

Conclusions: The Mumbai cohort belonged to high family income group and both parents with graduate degree education. The majority (76%) of the Hannover respondents belonged to middle family income group, and >40% of parents (72% father and 41% mother) had a full-time job. These socioeconomic conditions may have supported good nutrition and better child development, resulting in a minor percentage of Mumbai and Hannover respondents with nutritional problems during their childhood.

Key words: childhood, Germany, India, malnutrition, socioeconomic demographic determinants.

References

1. NCBI MeSH terms. Year introduced 2004. <http://www.ncbi.nlm.nih.gov/mesh?term=Malnutrition>.
 2. Early childhood development. 2016. www.unicef.org/dprk/ecd.pdf.
 3. Regional Overview of Food Insecurity Asia and the Pacific. 2015. www.fao.org/3/a-i4624e.pdf.
 4. Vollmer S. et al. Association between economic growth and early childhood undernutrition: evidence from 121 Demographic and Health Surveys from 36 low-income and middle-income countries. *The Lancet Global Health*. 2014;2(4): e225–e234.
 5. Kamiya Y. Socioeconomic Determinants of Nutritional Status of Children in Lao PDR: Effects of Household and Community Factors. *J Health Popul Nutr*. 2011;29(4):339–348.
 6. Ablette J. et al. The bird of gold. The rise of India's consumer market. 2007. McKinsey Global Institute. <http://www.mckinsey.com/global-themes/asia-pacific/the-bird-of-gold>.
 7. Henning D. Germany's middle class shrinks. The International Committee of the Fourth International (ICFI). 2015. <https://www.wsws.org/en/articles/2015/09/04/midd-s04.html>.
-