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

S.J. Chas1; M. Kalk; L. Konwert; L. Meißler; and D. Limaye
1Hochschule Hannover, Hannover, Germany; and 2Institute 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 group 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**