

Environmental Factors Increasing the Risk for Neural Tube Defects in the Population of Delhi (India)

A.K. Kalla, R. Deb, V. Chandna, R. Choudhary, K. Schlaefer and F. Vogel

KEYWORDS Spina bifida. Pregnancy Complications. Nutrition. Social Factors. Consanguinity

ABSTRACT Maternal factors possibly influencing incidence of neural tube defects (NTD) were studied in 85 mothers from Delhi who had given birth to a NTD child in comparison with 85 mothers matched for age group and caste who had no NTD children. Mothers of NTD children had been affected significantly more often with disease – especially infections with fever – during pregnancy. They were married slightly (not significantly) more often to a close relative, age at marriage was significantly higher among mothers of NTD children, and total number of conceptions and live births was also significantly higher. Maternal age of these NTD mothers at birth of the NTD child was somewhat increased, as well; this was due to a higher frequency of mothers in the highest age group (28 – 39 years). There was no influence of variable related to nutrition such as family income, dietary habits or anthropological measurements. The hypothesis derived from studies in Western populations that certain dietary deficiencies may increase the risk of women to give birth to NTD children was not confirmed, and the often reported negative influence of obesity of the mother (enhanced body mass index) was not observed, since maternal obesity is very rare in the population studied. In an urban Indian population, diseases during pregnancy, - especially infections with fever - appear to be the most important environmental risk factors.