Author's response to reviews

Title: Prevalence of birth defects and risk-factor analysis from a population-based study in Inner Mongolia

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Abstract

**Background:** Birth Defects are a series of diseases that seriously affect children’s health. Birth defects are generally caused by several interrelated factors. The aims of the article is to estimate the prevalence and types of birth defects in Inner Mongolia of China, compare their characteristics and differences, and analyze the association between risk factors and birth defects.

**Methods:** Data from baseline research of the Inner Mongolia Birth Defects Program in China, a population-based survey, were used for the present study. The survey, via cluster sampling, spread over 12 cities of Inner Mongolia and the surrounding areas.

**Results:** The prevalence of birth defects was 156.1 per 10000 births (95%CI: 146.3-165.8). The highest prevalence of neural tube defect(20.1 per 10000 births) including anencephaly(6.9 per 10000), spina bifida(10.6 per 10000), and encephalocele(2.7 per 10000) was obtained, followed by Congenital heart disease(17.1 per 10000). The adjusted odds ratio for a maternal age <20 was 6.39(95%CI: 4.29, 9.53). The risk was lower among ethnic Mongols than ethnic Han (adjusted odds ratio: 0.72, 95%CI: 0.61 to 0.84). Compared with first pregnancy, the odds ratio of third pregnancy was 5.51(95%CI: 4.23, 7.17).

**Conclusion:** The prevalence of part birth defects is high in Inner Mongolia. In this study, the younger maternal age<20, alcohol, familiar inheritance, lower maternal education level, multi-pregnancies and life in rural areas may increase the risk of birth defects.