

Adverse pregnancy outcomes and maternal urban or rural residence at birth

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Background and Aims: Adverse birth outcomes such as low birth weight, preterm birth, and congenital birth defects are important risk factors for infant mortality and are a major public health issue in rural areas. This study aimed to explore the distribution of selected adverse birth outcomes in newborns according to rural/urban status of maternal residence at birth in a Brazilian municipality.

Methods: Information about all live births occurred between 2004 and 2006 in the Municipality of Nova Friburgo, Brazil, was retrieved from the Live Birth Information System. Liveborns were classified as rural or urban, according to their mother's residence address. Prevalence ratios were then calculated, along with their respective confidence interval (CI95%). Analyses were stratified by education level, age, number of examinations, type of gestation (single or multiple), and type of delivery (natural or c-section) and by using Poisson regression we did adjust prevalence ratios.

Results: Among C-section births, we observed in pregnant women from rural zone an increased risk of malformation (PR: 2.14; CI95%: 1.06-4.33). Pregnant women from rural areas were also more likely to give birth to very low weighted babies (PR: 5.19; CI95%: 1.72-15.17) in twin pregnancies, when compared to pregnant women from urban areas. Adjustment prevalence ratio showed a greater risk of very low birth weight (PR: 1.25; CI95%: 0.80-1.95), and low APGAR score in the 5th minute (PR: 1.61; CI95%: 0.78-3.33) and an increased risk of malformation detectable at birth (PR: 1.73; CI95%: 0.89- 3.38).

Conclusions: Our results indicate that women residing in rural areas were at higher risk to give birth to an infant with very low birth weight, low Apgar index at the 5th minute and malformations detectable at birth, regardless of socioeconomic and gestational conditions.