Abstract

Objectives This study was carried out in response to health authorities’ concerns regarding what they considered to be a "high proportion" of birth defects (BD) in a rural Venezuelan state as the preliminary step towards subsequent health assessment regarding exposure to pesticides and possible association with registered BD. Methods This was a cross-sectional descriptive study. Generalised linear modelling (GLM) was used for relating BD with county of origin and the date of the events. Pesticide use reports were used for assessing exposure to pesticides. Infants’ medical records for 1999-2002 were obtained from the state hospital. The study group consisted of 108 BD cases from 8 municipalities. Results The cardiovascular system had the highest frequency (20.4 %) of BD, followed by the gastro-intestinal (18.5 %) and urogenital systems (10.2 %). Anilides were the most frequently used group of liquid pesticides (39.8 %), followed by phosphonomethyl- glycine (19.6 %). The most commonly used solid pesticides were organophosphates (54.4 %). GLM revealed some significant results; the number of BD increased exponentially throughout the years being studied. Conclusions A causal association between BD and potential pesticide exposure could not be demonstrated due to data limitations. A more in-depth exposure assessment and epidemiological studies are still needed for characterising the risk of exposure to pesticides in terms of birth outcomes in the area being studied.

Keywords
Congenital malformation, pesticide, exposure, Venezuela (source: MeSH, NLM).