Author's response to reviews

Title: Low birth weight and presence of fine particulate matter and carbon monoxide in the Brazilian Amazon: a population-based case-control

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Author's response to reviews: see over
Dear Dr. Peter O'Donovan, BioMed Central
Executive Editor of BMC Pregnancy and Childbirth

Please find attached our manuscript for to be considered for publication in BMC Pregnancy and Childbirth. This work is a case-control study; we assessed the impact of exposure to particulate matter and carbon monoxide from biomass burning in the Amazon and cerrado biomes on live birth weight in cities of Mato Grosso State, Brazil, with high deforestation rates in 2004 and 2005, a period of intense biomass burning in the region. Data about birth were obtained from the Information System on Live Birth of the Ministry of Health and the exposure variables were used historical series of average daily concentrations of PM$_{2.5}$ and CO provided by the Center for Weather Forecasts and Studies Climate of the National Institute for Space (CATT - BRAMS model). Maternal exposure was estimated through the medium of pollutants for each trimester and for the entire period of gestation. Data were analyzed by logistic regression and multivariate method and the adjusted odds ratios were calculated for exposure variables associated with low birth weight (LBW). The results suggest that the maternal exposure to higher interquartile ranges of PM$_{2.5}$ and CO from burn-clearings were positively associated with the occurrence of LBW in all periods analyzed. This was statistically significant in the second trimester for both pollutants and in the third trimester for PM$_{2.5}$ exposures only. The same results may be expected to occur in other regions with significant biomass burning, including cities whose borders are close to the Amazon biome, characterizing a serious public health issue.

Sincerely,

Ageo Mario Cândido da Silva

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