

# EPIDEMIOLOGY

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- 625 **Potential Impact of Maternal Nighttime Light Exposure and Its Interaction With Sociodemographic Characteristics on the Risk of Various Congenital Heart Diseases**

**DOI** Shanikeshwar Thiruvanan, Yang Qiu, Philip K. Hopfe, Kai Zhang, Ying Liu, Shao Liu, Huiqiao Gu, Ximeng Wang, Sam S. S. Lau, Xian Liu, Xiangmin Guo, Yong Wu, Xindi Zhou, Ziqiang Liu, Man Zhang, Yongping Sun, Xiaoping Liu, Jimei Chen, and Wenguan Zhang

## INFECTIOUS DISEASES

- 636 **Early Detection of Dengue Outbreaks: Transmission Model Analysis of a Dengue Outbreak in a Remote Setting in Ecuador**

**DOI** Hannah Van Wyk, Andrew F. Brauer, Guanyah O. Lee, Sally Mungu, Paulina Andrade, Edward L. Insley, Josefina Coloma, and Joseph N. S. Eisenberg

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# **An Ecosystem Health Approach and Children's Health Living in the Vicinity of Banana Plantations**

**van Wendel de Joode B; Barraza, D; Mora, A M; Gutiérrez, M; Córdoba, L; de la Cruz, E**

Epidemiology. 18:p S185-S186, September 2007.

doi: 10.1097/01.ede.0000276908.14878.56

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## **Objective:**

To study children's pesticide exposure, its health effects and social consequences in agricultural communities.

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## **Materials and Methods:**

The study population included 3 communities nearby banana (multinational) and plantain (small-scale peasants) plantations with extensive pesticide use, and 2 with low pesticide use (cattle and organic farmers). Pesticide exposure pathways in children were studied both qualitatively and quantitatively within a social, cultural, and gender context. To study perceptions of

pesticide risks, focus groups were held in parents and semistructured interviews were performed in key-actors. Exposure was assessed quantitatively by measuring pesticides metabolites in urine in 55 exposed and 12 low-exposed 7- and 8-year-old children. In 14 of these children dermal exposure was assessed, and dust samples were taken from their homes. In addition, environmental samples were taken (air, surface and drinking water, soil). To study children's development and health, a neurobehavioral test-battery was performed in all 7- and 8-year-old children of the 5 communities.

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## **Results:**

Pesticide exposure pathways and patterns differed for children living in banana communities as compared to small-scale plantain communities. Male and female small-scale farmers take their children to the field as a cultural habit, resulting in incidentally high exposures. Yet, in the banana communities children are constantly being exposed due to living very nearby the plantations. For example, weekly aerial spraying of fungicides results in a drift of small droplets directly entering school and the most nearby houses. Perceptions of pesticide risks differed between communities, and between fathers and mothers, but principally between working parents (emphasizing utility) and housewives (emphasizing risks). Quantitative exposure pathways and the relation between exposure and health effects in the children are currently being analyzed.

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## **Conclusions:**

Our results identify environmental pesticide exposure and children's health; agricultural, social, and cultural practices; and gender-dependent variables influencing in both exposure and health.

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