

The effects of adverse environmental exposures on risk for congenital Chagas transmission and adverse birth outcomes in Santa Cruz, Bolivia.

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REFERENCES

1. Tustin AW, Bowman NM, 2016. Chagas Disease. *Pediatr Rev* 37: 177-8.
2. mondiale de la Santé O, Organization WH, 2015. Chagas disease in Latin America: an epidemiological update based on 2010 estimates. *Weekly Epidemiological Record= Relevé épidémiologique hebdomadaire* 90: 33-44.
3. Howard EJ, ..., Buekens P, 2014. Frequency of the congenital transmission of *Trypanosoma cruzi*: a systematic review and meta-analysis. *BJOG* 121: 22-33.
4. CDC, Parasites - American Trypanosomiasis (also known as Chagas Disease). Available at: https://www.cdc.gov/parasites/chagas/gen_info/detailed.html#intro.
5. Triquell MF, ..., Fretes RE, 2018. Nitric oxide synthase and oxidative-nitrosative stress play a key role in placental infection by *Trypanosoma cruzi*. *American Journal of Reproductive Immunology* 80: e12852.
6. Rios L, ..., Garg NJ, 2020. Epidemiology and pathogenesis of maternal-fetal transmission of *Trypanosoma cruzi* and a case for vaccine development against congenital Chagas disease. *Biochim Biophys Acta Mol Basis Dis* 1866: 165591.
7. Kaur K, ..., Chen J, 2022. PM 2.5 exposure during pregnancy is associated with altered placental expression of lipid metabolic genes in a US birth cohort. *Environ Res* 211: 113066.
8. Thangavel P, Park D, Lee YC, 2022. Recent Insights into Particulate Matter (PM). *Int J Environ Res Public Health* 19.
9. Chersich MF, ..., Hajat S, 2020. Associations between high temperatures in pregnancy and risk of preterm birth, low birth weight, and stillbirths: systematic review and meta-analysis. *BMJ* 371: m3811.
10. Klein MD, ..., Gilman RH, Bowman NM, 2021. Risk Factors for Maternal Chagas Disease and Vertical Transmission in a Bolivian Hospital. *Clin Infect Dis* 73: e2450-e2456.
11. Kaplinski M, ..., Gilman RH, Bern C. 2015. Sustained Domestic Vector Exposure Is Associated With Increased Chagas Cardiomyopathy Risk but Decreased Parasitemia and Congenital Transmission Risk Among Young Women in Bolivia. *Clin Infect Dis* 61: 918-26.
12. AirNow, Air Quality Index (AQI) Basics. Available at: <https://www.airnow.gov/aqi/aqi-basics/>. Accessed 2023.
13. Gennings C, ..., Austin C, 2020. Lagged WQS regression for mixtures with many components. *Environ Res* 186: 109529.