

Low-level arsenic exposure during pregnancy and its association with postpartum depression: A cohort study of women from Arica, Chile

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Resumen

Background. - While the relationship between inorganic arsenic exposure and psychological impairment has been studied previously, the association between low-level arsenic exposure during pregnancy and postpartum depression has not yet been examined. The objective is to estimate the association between low-level arsenic exposure during pregnancy and the Edinburgh score.

Methods. - A sample of 223 women was collected from five public health services in Arica, Chile. Participation was voluntary and written consent was mandatory. Sociodemographic data related to arsenic exposure and urine samples for total inorganic arsenic assessments were collected during the second trimester. Postpartum depression symptoms were estimated by the Edinburgh Postpartum Depression scale. We examined descriptive statistics and ran multiple linear regressions. The modifying effect of age and depression history was evaluated separately.

Results. - The median for total urinary inorganic arsenic was 14.6 $\mu\text{g/L}$ (range: 2-69.2 $\mu\text{g/L}$), the median for postpartum depression score was 8 points (range: 0-27 points) and 20.6% of women were considered as postpartum depressed. For women older than 25 years old without depression history, the adjusted coefficient for the total urinary natural logarithm of inorganic arsenic in multiple linear regressions was 2.51 (95% CI: -4.54, -0.48; P-value = 0.02). For women older than 25 years old with a depression history, this value was 2.09 (95% CI: -0.90, 5.08; P-value = 0.16).

Conclusions. - In this cohort, the number of children, physical perception, depression history, stressful maternity, and age were associated with postpartum depression score. The

Edinburgh score was associated with inorganic arsenic in women older than 25 years without depression history. (C) 2017 Elsevier Masson SAS. All rights reserved.

Palabras clave

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