

Birth Outcomes of Pregnant Women Exposed to Mercury and Non-Chemical Stressors in Suriname

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BACKGROUND

- Mercury is abundantly used for gold extraction in Suriname's interior
- Mercury exposure during pregnancy may negatively influence birth outcomes and paediatric neurodevelopment
- Aim: to evaluate the association between mercury exposure and non-chemical stressors in Surinamese pregnant women and birth outcomes

METHODS

- Data from 763 pregnant women were analyzed for total hair mercury (cut-off USEPA action level $\geq 1.1 \mu\text{g/g}$)
- Questionnaires of the Cohen Perceived Stress Scale (cut off ≥ 20 for high stress) and the Edinburg Postnatal Depression Scale (EPDS cut off ≥ 12 for probable depression) that were completed during early pregnancy
- Data were associated with birth outcomes using Pearson chi-squared test
- Adverse birth outcomes included preterm birth (PTB, <37 weeks), low birth weight (LBW, $<2500\text{g}$) and low APGAR score (AS <7 at 5 minutes)

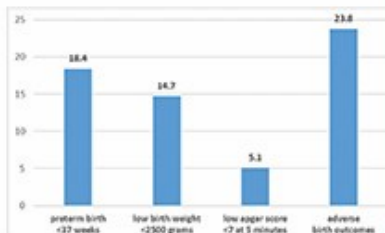
RESULTS

- 27.3% of the women had elevated total Hg hair levels that exceeded the USEPA action level

Hair mercury levels in pregnant women (n=763)



- 23.8% had adverse birth outcomes

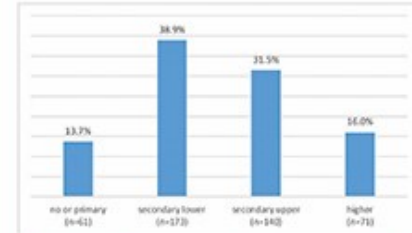


Over a quarter of pregnant women in Suriname have elevated hair mercury levels



One out of four women have adverse birth outcomes

- Women with no or primary education had more adverse birth outcomes compared to women with secondary education and up (39.0 vs. 22.5%; $p=0.018$).



- A borderline association was found between perceived stress and adverse birth outcomes ($p=0.058$; 30.1 vs. 21.3%)
- There was no association between adverse birth outcomes and hair mercury level or depression

CONCLUSION

- more than a quarter of pregnant women in Suriname had elevated hair mercury levels
- Nearly one out of four women had adverse birth outcomes of which preterm birth and low birth weight were the most common
- Lower educated women were more vulnerable
- Neurodevelopmental assessment of these children is currently being done

AFFILIATIONS

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