

The Association between Antimony exposure and risk of Gestational Diabetes Mellitus: a systematic review and meta-analysis

INPLASY202570090
doi: 10.37766/inplasy2025.7.0090
Received: 23 July 2025
Published: 23 July 2025

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ADMINISTRATIVE INFORMATION

Support - The authors received no funding to perform this study.
Review Stage at time of this submission - Completed but not published.
Conflicts of interest - None declared.
INPLASY registration number: INPLASY202570090
Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 23 July 2025 and was last updated on 23 July 2025.

INTRODUCTION

Review question / Objective Systematic review of the Association between Antimony (Sb) exposure and gestational diabetes mellitus (GDM).

Condition being studied Antimony (Sb) exposure have been suggested to be involved in the pathogenesis of gestational diabetes mellitus (GDM). However, the Association between Sb exposure and GDM in pregnant women remains undetermined. Therefore, we conducted a meta-analysis of antimony exposure and GDM.

METHODS

Participant or population Gestational diabetes.

Intervention High SB level.

Comparator Low SB level.

Study designs to be included Observational study design.

Eligibility criteria Observational studies were identified to assess the association between GDM and Sb exposure, excluding studies that did not measure SB levels in control subjects and only reported Sb concentrations in case group tissues.

Information sources Observational studies were identified to assess the association between GDM and Sb exposure, excluding studies that did not measure SB levels in control subjects and only reported Sb concentrations in case group tissues.

Main outcome(s) A total of 8 studies with 8986 pregnant women were included, including 2044 cases. The Sb levels were significantly higher in women with GDM than those without GDM (SMD: 0.28, 95% CI: 0.09~0.47). Comparing the highest vs. lowest categories of Sb exposure, Sb levels were associated with GDM (OR=1.77, 95% CI: 1.50-2.09).

Quality assessment / Risk of bias analysis Using homemade data extraction table to extract data, extract the content mainly includes: (1) included in the basic information of the study, including the first author, published time, study area, etc.; (2) Baseline characteristics and specimen sources of the subjects; (3) Outcome indicators and outcome measurement data of interest.

Strategy of data synthesis The standardized mean difference (SMD) or the odds ratios (OR) and 95% confidence intervals (95%CI) were calculated to explore the association between GDM and Sb levels.

Subgroup analysis No.

Sensitivity analysis Begg's test.

Country(ies) involved China.

Keywords Antimony exposure· GDM· Pregnant women· Meta-analysis.

Contributions of each author

Author 1 - Chen Bangwu.

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Author 3 - Li Juan.