

# Abstract

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## Higher zinc intake buffers the impact of stress on depressive symptoms in pregnancy.

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**OBJECTIVE:** Prenatal depression is a public health concern. This study's objectives are to model associations involving dietary zinc intake, psychosocial stress, and sociodemographic factors as they interrelate in the development of depressive symptoms in a cohort of pregnant women from London, Ontario (Prenatal Health Project). We hypothesized that (1) psychosocial stress is intermediate in the causal pathway between sociodemographic factors and zinc intake and that (2) zinc intake serves as a partial mediator between sociodemographic factors, psychosocial stress, and the development of depressive symptoms.

**METHODS:** Depressive symptoms were measured using the Center for Epidemiologic Studies Depression Scale (CES-D). Psychosocial stress was measured by validated scales and summarized into a composite score. Zinc intake was quantified from food frequency questionnaire and nutrient supplement data. Regression methods were used. The Baron and Kenny method was applied to test mediation hypotheses. Stress-zinc interaction terms were added to the regression model predicting CES-D score to test a possible moderating role for zinc.

**RESULTS:** Our analyses showed that social disadvantage, higher stress, and lower zinc intake were associated with higher CES-D score. Every 1-point increase in stress score was associated with a 1-point increase in CES-D score. Being in the lowest quintile of zinc intake was associated with a 1-point increase in CES-D score; although not clinically meaningful, the association was robust.

**CONCLUSIONS:** Evidence was not in favor of the mediation hypotheses, but showed instead that zinc intake moderated the association between stress and depressive symptoms; being in the highest zinc quintile appeared to buffer the impact of stress.

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