Happy Hearts: Associations of Maternal Depressive Symptomatology on Child Profiles of C-Reactive Protein

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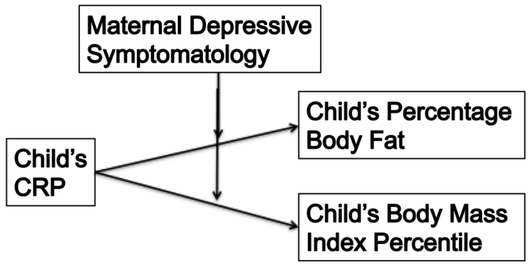
INTRODUCTION

- Mexicans are disproportionally affected by obesity, cardiovascular disease, and mental health issues.
- Inflammatory markers in the bloodstream, such as C-reactive protein (CRP), have been shown to predict the future development of obesity, coronary artery disease, and cardiovascular disease.
- Elevated CRP levels have been found in infants born to mothers with maternal depression.
- Little is known, about the influence of maternal depression on children's CRP levels beyond infancy and the corresponding intergenerational obesity and cardiovascular health risks.

AIM

- To examine the below model within a sample of a low-income population in central Mexico.

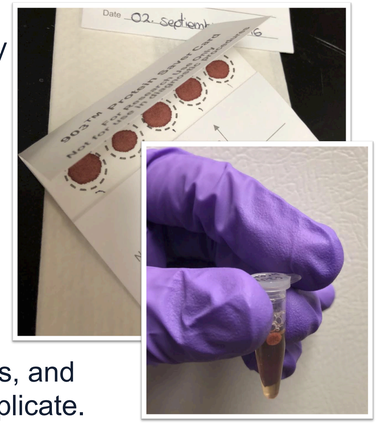


METHODS

- Cross-sectional data and bloodspot samples collected from mother/child dyads from central Mexico as part of the Family-based Intergenerational Evaluation of Salivary Telomeres and Acculturation study (FIESTA) were used.
- Fasting measurements of body composition and body fat were obtained with a bioimpedance analyzer.

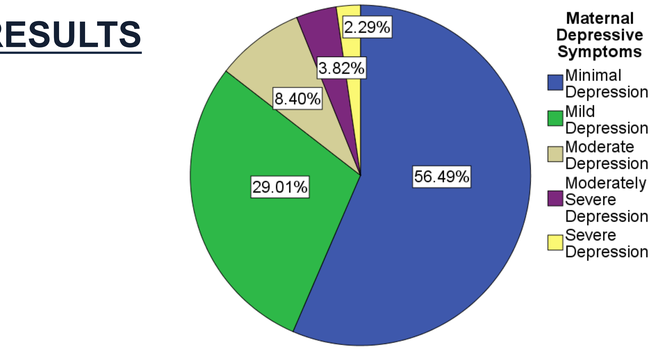
METHODS

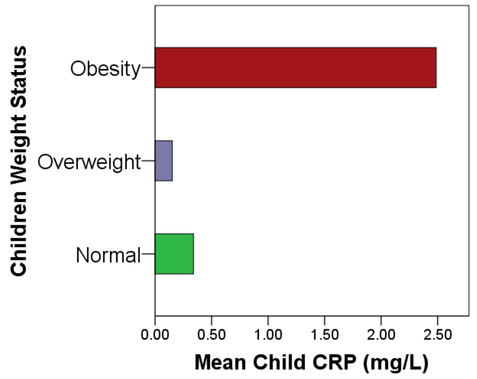
- Mothers completed the Patient Health Questionnaire (PHQ-9) that examines depressive symptomatology.
  - Scores range from 0-27 with higher scores indicating greater depressive symptoms.
- An enzyme-linked immunosorbent assay (ELISA) was performed on the bloodspot samples using a commercial kit with wells coated with antibodies specific for human CRP.



- All samples, standards, and blanks were run in duplicate.
- Multiple regression models were used to test associations.

RESULTS





Children with the highest weight status showed the highest mean CRP.

RESULTS

Table 1. Children's coefficients for percentage body fat

	β	*p*	95% Confidence Interval	
Model 2	Adjusted R^2= .498			
Mom blood serum CRP (mg/L)	-0.03	0.87	-0.93	0.80
Child blood serum CRP (mg/L)	0.77	0.00	1.48	5.29
Maternal Depression	0.13	0.53	-0.53	0.97
Model 3	Adjusted R^2= .453			
Mom blood serum CRP (mg/L)	-0.02	0.93	-0.98	0.90
Child blood serum CRP (mg/L)	1.11	0.38	-7.05	16.89
Maternal Depression x Child CRP	-0.35	0.78	-4.21	3.24

*p<.05

CONCLUSIONS

- In this study, maternal depression is not associated with preschool-aged children's CRP.
- Contrary to our hypothesis, children's CRP was associated with children's adiposity (percentage of body fat), but this relationship was not moderated by maternal depressive symptomatology.
- Future studies of this model should be done using a larger sample size.

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