Examining the Effects of Maternal Depressive Symptoms on Child Language Performance at 48 Months

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SIP STUDY Stress In Pregnancy

Abstract

Aim: Investigate the effects of maternal depression on child language performance at a 48 month assessment.

Methods: Presence of maternal depressive symptoms was assessed using the Mini International Neuropsychiatric Interview (MINI), whereas child language performance was measured at 48 months by the Verbal Comprehension scale (Information and Similarities subtests) of the Wechsler Preschool and Primary Scale of Intelligence (WPPSI-IV).

Results: Maternal depression was correlated with lower Verbal Comprehension scores overall more so in females than males. Presence of depressive symptoms had a stronger effect on the Information subtest as opposed to the subtest of Similarities.

Conclusion: Further research is needed to analyze the relationship between maternal depression and childhood language performance.

Background

Background: Previous studies have shown that the presence of maternal depressive symptoms can have an impact on the overall neurocognitive development of a child, including language development.

Sample Population: A cohort of 119 women and their children (50% boys, n= 60) participating in a longitudinal study of pregnancy (SIP Study, PI Yoko Nomura). Participants were recruited at the OB/GYN clinics of New York Presbyterian Queens and Mount Sinai Hospital, and followed through pregnancy and as their children develop, with annual follow-up visits at Queens College.

Measures & Data Analysis

Measures:

1) Maternal depression was evaluated using the Mini International Neuropsychiatric Interview (MINI) according to DSM-IV criteria.
2) Childhood language performance was evaluated using the Wechsler Preschool and Primary Scale of Intelligence (WPPSI-IV), specifically the Information and Similarities subtests of the Verbal Comprehension scale.

Data Analysis:

Using correlation and regression modeling, we measured effects of maternal depressive symptoms on child Verbal Comprehension scores between genders.

Results

Results: Correlation analyses showed that increased maternal depressive symptoms were associated with lower Verbal Comprehension scores (*p*=.008) (figure 1), shown more so in the Information subtest (*p*=.003) than the Similarities subtest (*p*=.185). Regression analysis showed that higher maternal depression remained a significant predictor for lower scores on the Information subtest (*p*=.050), while the Similarities subtest was controlled for. When further controlling for gender, the findings showed to be more prevalent in girls than boys (figure 2).

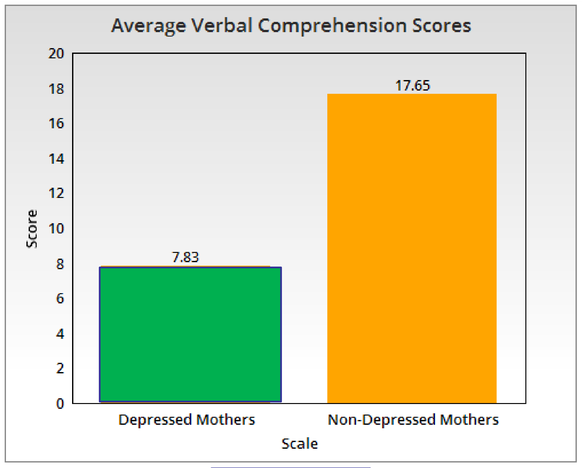

Figure 1

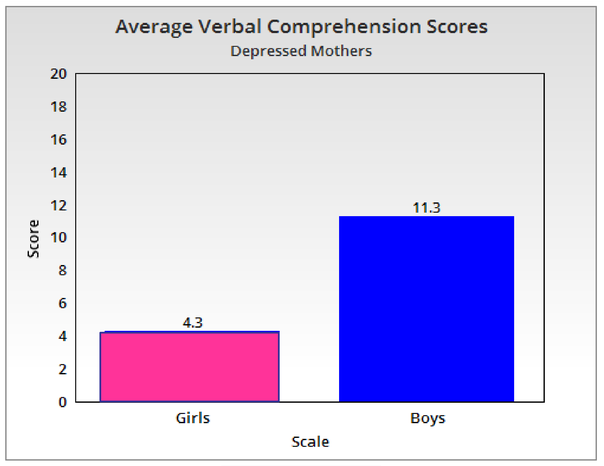

Figure 2

Discussion

- Investigating the impact of maternal depression on child neurodevelopment is especially urgent, as depression is one of the most common psychological disorders in the U.S. (6.7% of all U.S. adults).
- Our results show that maternal depression was associated with poorer child language performance.
- Children of depressed mothers scored lower on Information subtest but not Similarities subtest, suggesting maternal depression lowers verbal comprehension related to tasks of verbal reasoning, but not concept formation.
- Gender differences found in the effects of maternal depression on language performance suggests the decrease in bonding between mother and daughter affects communication, thereby hindering the acquisition of general knowledge.
- Greater awareness of the commonality and severity of these risks may aid in informing early intervention for high risk children.

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Acknowledgements

This work was supported in part by grants K01-080062; R01MH102729 from the NIMH (P.I. Yoko Nomura) and SMA Grant #1659607 from the NSF (P.I. Isabelle Barriere/Jonathan Nissenbaum). Thank you to the families that participated in the study, without whom, none of this would have been possible. Thank you to all the research assistants for their hard work in the data collection process.