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Madison Olson

Chapman University, olson171@mail.chapman.edu

Laura M. Glynn

Chapman University, lglynn@chapman.edu

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Mode of Delivery and Infant Cognitive Development

Madison Olson & Laura M. Glynn
Chapman University

Background

- Birth via cesarean delivery when medically indicated has clear benefits for both the mother and child. However, there has been a rise in the rate of nonindicated cesarean deliveries in the United States and worldwide.
- Despite the rising rates of cesarean births, the long-term effects on the child are still not well understood. Data from an Australian cohort indicates a negative relationship between cesarean delivery and cognitive outcomes in children ages 4 to 9 years old (Polidano et al., 2017).
- This prospective longitudinal study further addresses the current gap in literature by examining the link between mode of delivery and cognitive development in infants ages 6 to 24 months.

Methods

- 229 pregnant women and their infants were recruited for this study.
- Prenatal medical risk and birth outcomes were determined through medical chart review by a research obstetric nurse.
- Infants were administered Bayley Scales of Infant Development at 6, 12, and 24 months.
- Differences in Bayley scores between vaginal and cesarean delivery were tested with ANOVA and third variable explanations were tested with ANCOVA.



Figure 1. Infant and mother during Bayley Scales of Infant Development.

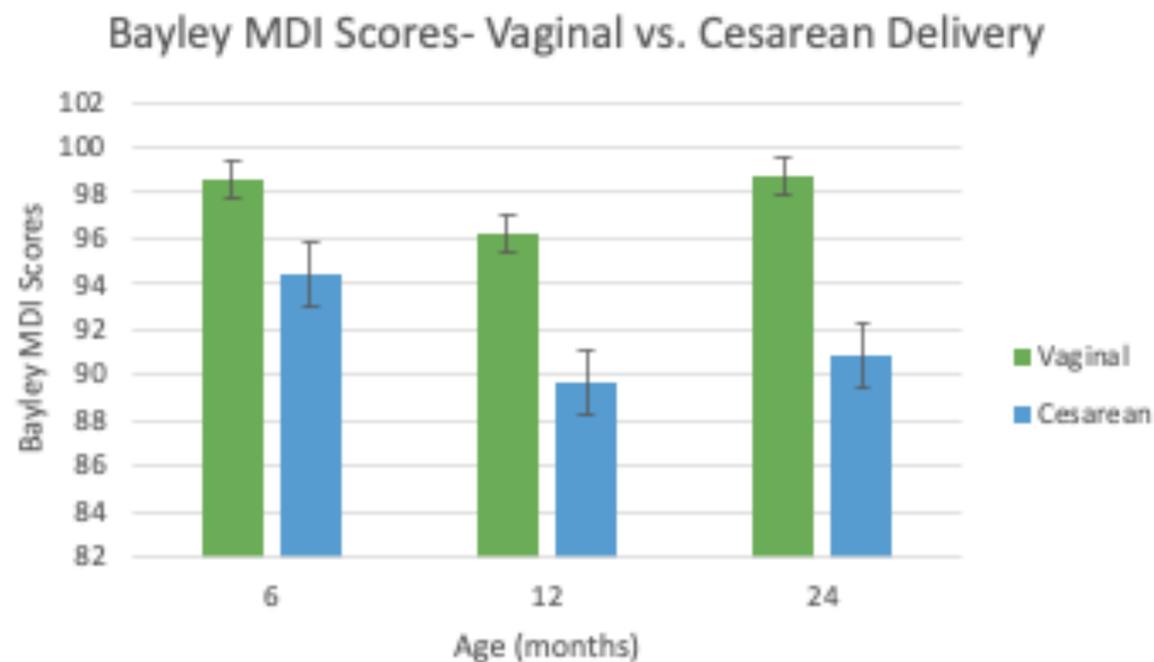


Figure 2. Bayley Mental Development Index scores are significantly higher for vaginally delivered infants at 6, 12, and 24 months compared to infants born via cesarean delivery.

Results

- Infants delivered vaginally (n= 163) scored higher on Bayley mental development index at 6, 12, and 24 months (M= 98.56, 96.20, and 98.79 respectively) than those delivered via cesarean delivery (n =66 ; M= 94.38, 89.64, 90.83 respectively; all F's > 7.97 and all p's < .005) (Figure 2).
- These differences persisted after considering whether the birth was spontaneous or induced, length of gestation, and demographic factors such as socioeconomic status, postpartum depressive symptoms, and maternal age.

Discussion

- These results are consistent with previous studies that found a negative association between cesarean delivery and cognitive development (Polidano et al., 2017).
- It is important for practitioners to be aware of the short and long-term consequences of cesarean delivery in order to provide the best level of care for both mother and infant.
- Medical practitioners should consider advocating for vaginal delivery when there are no health risks present.

Acknowledgements

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