

Second child birthweight: How home visiting dose and first child birthweight interact

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Introduction & Background

- Home visiting often targets first-time mothers
- Birth outcomes have limited evidence of improvement with home visiting
- Birthweight
 - Associated with a variety of later risk for the child
 - Previously found reduced risk of low birthweight with home visiting -- only for those who had a first child with low birthweight*

*Holland ML, Groth SW, Smith JA, Meng Y, Kitzman H. (2018) Low birthweight in second children after nurse home visiting. *Journal of Perinatology*. 38:1610–1619.

Objectives & Aims

1. Determine if the number of visits contributed to birthweight for second children
2. Determine if there was an interaction between number of visits and having a previous low birthweight child

Study Rationale

- Visit dose impacts
 - Engagement in the program
 - Opportunities to gain knowledge and support
- Visit dose impacted by
 - By various factors: client, HV, site
- High risk clients may have greatest benefit from home visiting
 - If previous low birthweight child, may have elevated risk for second low birthweight child

Methods - data

- Secondary data analysis
- Memphis New Mother's Study
 - One of the trials that led to Nurse-Family Partnership
 - Recruited primiparous pregnant women at clinic serving Medicaid women
- 512 mothers had a second child within 18 years
- Variables
 - Birthweights obtained from birth certificates (dichotomized: $< 2500\text{ g}$ vs \geq)
 - Covariates that were unequal ($p < .3$) between home visited & control groups were included

Methods - analysis

- Logistic regression
- Dependent variable
 - Low birthweight of second child
- Key independent variables
 - Number of visits: total or during pregnancy
 - Low birthweight of first child
 - Number of visits * Low birthweight of first child

Results

- Sample description
 - 94% African-American
 - Mean age = 17.7 years (range 12 to 29) at intake
 - Mean discretionary income = \$967/year at intake
- Average number of visits
 - 7.8 during pregnancy (75% of recommended)
 - 38 total (67% of recommended)
- Low birthweight
 - First children: 11.7%
 - Second children: 12.8%

Results

Additional results withheld because a manuscript is being prepared for publication

Conclusions

- After a first LBW child, more home visits may reduce the likelihood of a subsequent LBW child
- # of visits during 1st pregnancy decreases likelihood of LBW in the future
- Possible reasons for interaction
 - Mothers with first LBW child may be more concerned about repeating the experience
 - Risk factors for second LBW may have been identified and home visitor helped address them

Implications

- Consider targeted interventions for mothers with LBW first children
- Interaction with dose suggests a ceiling effect
 - more visits did not yield additional benefits (for this outcome)
- Next steps
 - Examine in other settings & programs
 - Consider roles of content, relationship, other possible active ingredients during these important visits

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