

Disparities in Breastfeeding Practices by Child's Health Needs in the United States

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Background

Breastfeeding is well accepted as the best possible feeding for infants, protecting against many health conditions.^{1,2} In fact, there would be an estimated savings of \$13 billion annually in direct medical expenses and indirect cost of premature death if 90% of American children were exclusively breastfed for 6 months.³ Health organizations such as the American Academy of Pediatrics, the American Public Health Association and the world health organization recommend that infants are breastfed for at least 12 months and exclusively breastfed for the first 6 months of life.⁴ Despite federal policies working to protect, promote and support breastfeeding since 1984 and its extensive health benefits, breastfeeding rates remain well below national goals. For babies born in 2007, fewer than 80% of mothers initiated breastfeeding and only 43% did so for 6 months.¹ Previously identified barriers include social norms, inadequate support, infant admission into the intensive care unit (ICU), separation of infant and mother in the hospital, and infant becoming sick and unable to breastfeed.^{1,5}

Objectives

In addition to determining what factors are associated with breastfeeding initiation and 6 month continuation, we were interested in the association between child's health needs and breastfeeding practices, specifically in answering the following two questions:

- 1) Are children with increased health needs less likely to have ever been breastfed?
- 2) Among children who were ever breastfed, are children with increased health needs less likely to be breastfed for at least 6 months?

Methods

Data Source

Data for this study were drawn from the 2007 NSCH public use data files prepared by the Data Resource Center for Child and Adolescent Health. The 2007 National Survey of Children's Health (NSCH) was conducted between April 2007 and July 2008 with at least 1700 parents of children 0-17 years old from each state.^{6,7} This study only includes children who were 5 years old or younger at the time of the survey (n=27,374). The NSCH is directed and funded by the MCHB and conducted by the National Center for Health Statistics. Public use data files were prepared by the Data Resource Center for Child & Adolescent Health, a project of the Child & Adolescent Health Measurement Initiative.⁷

Defining children with increased health needs (SHCN/DBSD)

1) He or she is identified as a child with special health care needs (CSHCN) by the CSHCN Screener - AND/OR -

2) He or she is identified as being at high risk of developmental, behavioral or social delays by parent's evaluation of developmental status (PEDS)

See Box 1 for more information about CSHCN, the CSHCN Screener and PEDS.

Primary dependent variables of interest

1) Ever breastfed or fed breast milk

- Based on the question, "Was [child] ever breastfed or fed breast milk?" (yes OR no)

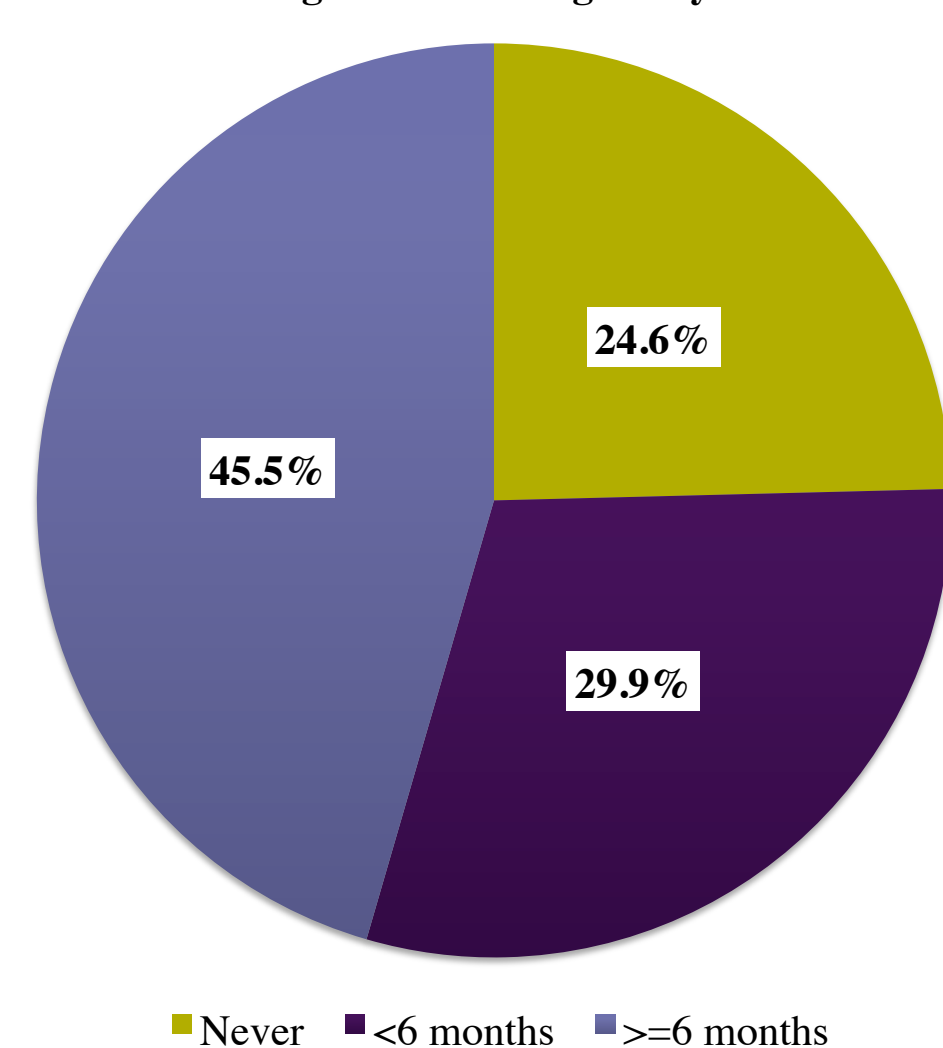
2) Still breastfeeding or being fed breast milk at six months of age

- Based on the question, "How old was [he/she] when [he/she] completely stopped breastfeeding or being fed breast milk?" (Stopped before child 6 six months/180 days old OR continued until child was at least six months/180 days old (or child was less than 6 months old and still being breastfed or fed breast milk)) *In entire study, the sample for this variable is only children who were ever breastfed.*

Analytical Methods

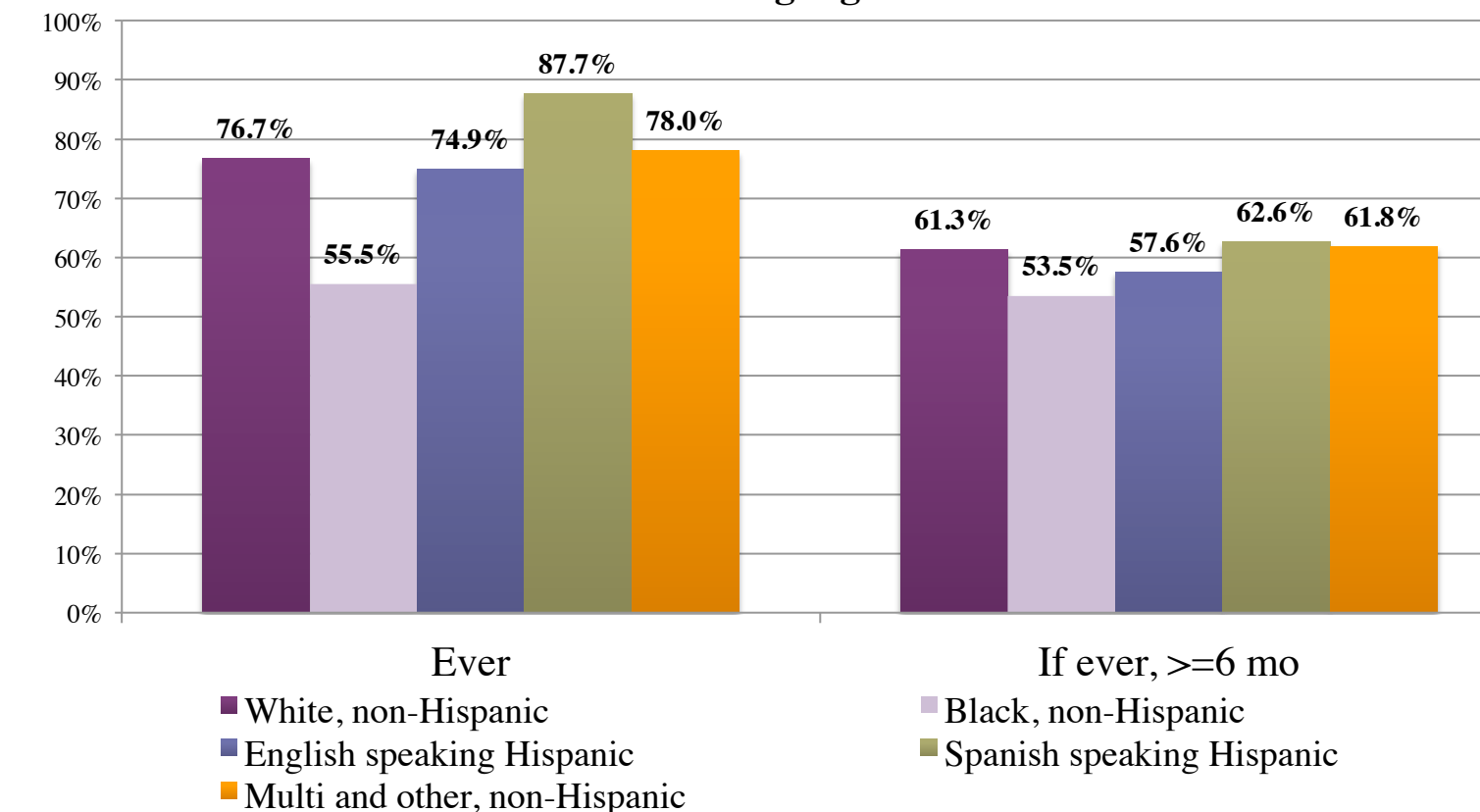
All analysis was done using SPSS 18.0 and its complex samples add-on. Sample characteristics were determined using unweighted counts, weighted proportions and weighted 95% confidence intervals. Cross tabs were used to determine associations between SHCN/DBSD status and other independent variables. Pearson's chi-squared test of independence for weighted data was used to identify demographic differences between SHCN/DBSD and other children. Simple logistic regression was used to determine crude associations between each independent variable and each breastfeeding indicator, independently. Multivariate logistic regression was used to calculate adjusted odds ratios (AORs), which account for child's age, child's race and language, household (HH) income, birth position of child relative to other children in the HH, family structure, HH tobacco use, mother's mental and physical health status, mother's education and geographic location.

Figure 1. Prevalence of ever and 6 month breastfeeding among all children age 0-5 years



Results

Figure 2. Breastfeeding Initiation and Continuation by Race and Language

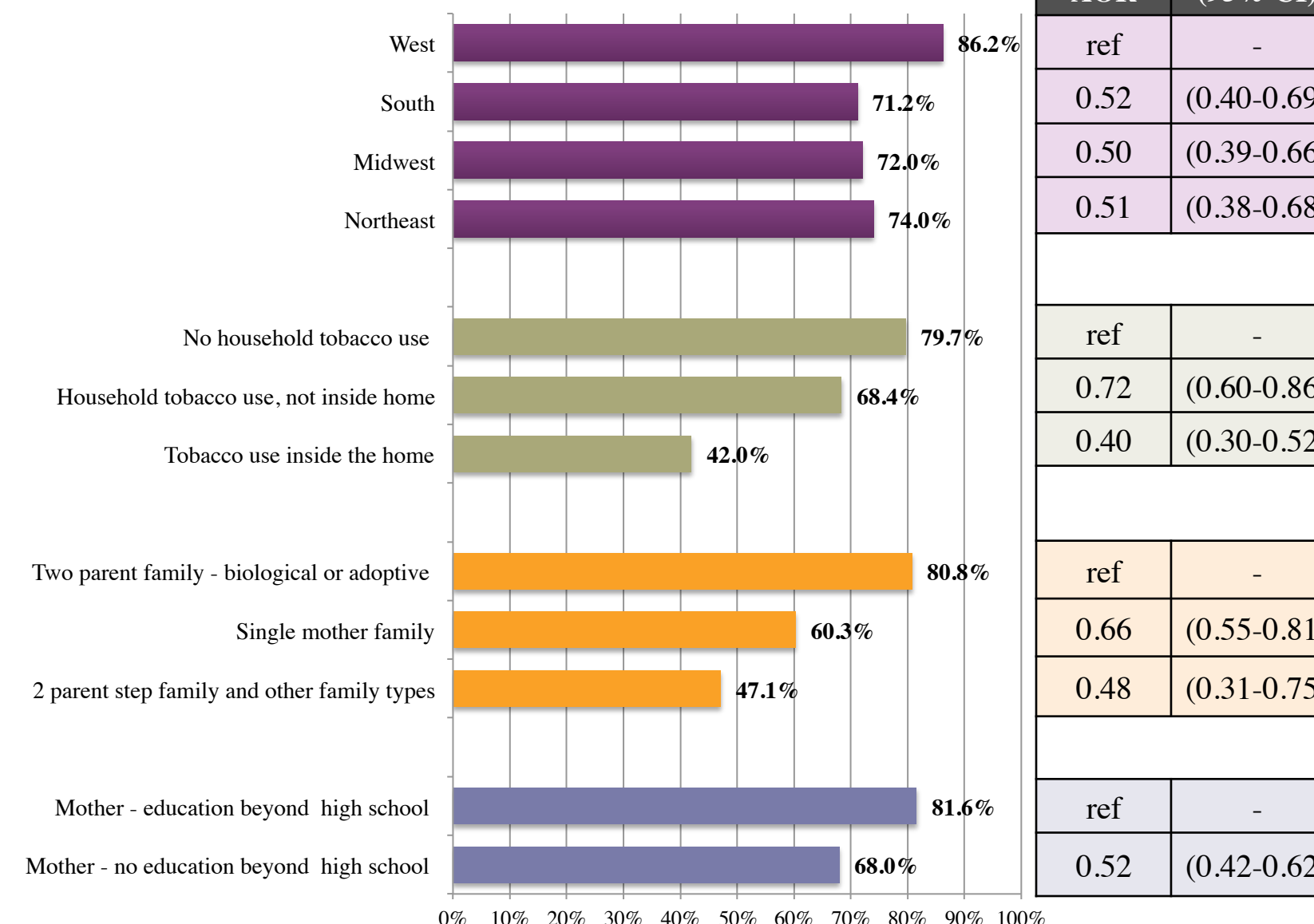


As shown above, breastfeeding initiation varies more by race/language than continuation. Compared to white, non-Hispanic children:

- Black, non-Hispanic children are less likely to ever breastfeed (AOR 0.65, 95% CI 0.52-0.79) but they are not less likely to continue for 6 or more months (AOR 0.97, 95% CI 0.75-1.24)
- Spanish speaking Hispanic children are much more likely to ever breastfeed (AOR 3.63, 95% CI 2.57-5.13) but only slightly more likely to continue (AOR 1.45, 95% CI 1.06-1.99)

No other AORs for race/language are significant.

Figure 3. Prevalence of Ever Breastfeeding by Geographic Region, Household Tobacco Use, Family Structure and Maternal Education

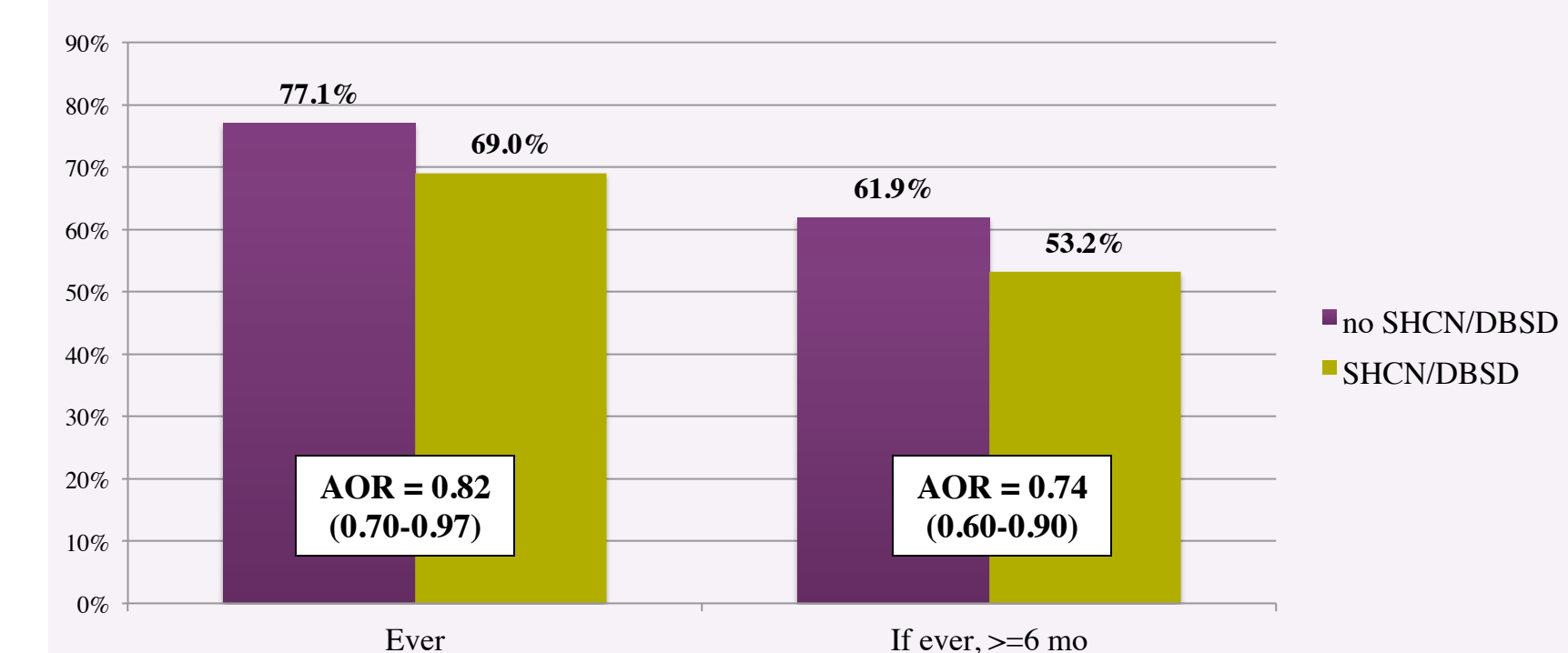


As shown above, geographic region, household tobacco use, family structure and maternal education are significantly associated with breastfeeding initiation. For children who were ever breastfed, similar significant AORs are seen for each of the above associations with 6 months duration of breastfeeding. The only exception to this is 2 parent step family and other family types, which are not significantly different from two parent families for breastfeeding duration (AOR 0.62, 95% CI 0.38-1.36). Although the data is not shown, child's age, household income and birth position are also significantly associated with initiation and child's age, birth position and mother's health are also significantly associated with continuation.

Main Results (shown below):

- The odds that a child with special health care needs or with a high risk of delays was breastfed are estimated to be 18% lower than the odds for other children
 - An estimated 1,426,750 children age 0-5 years in the US with a special health care need or high risk of delays were never breastfed
- Once a child has initiated breastfeeding, the odds of stopping before he or she is six months old for children with increased health needs are estimated to be 24% higher than the odds for other children

Figure 4. Prevalence of Breastfeeding Initiation and 6 Month Continuation for Children with and without SHCN/DBSD



Discussion

This study has limitations; it is based on cross-sectional data and thus we are unable to determine causation and temporality. In this case, the association found is likely to be bi-directional (infants with increased health needs less likely to breastfeed and children who were not breastfed are more likely to develop increased health needs). We did not have data about some factors associated with breastfeeding such as mother's age, mother's employment status, family attitudes towards breastfeeding, type of delivery, but these factors were unlikely to have influenced our findings since several of the covariates for which we adjusted had miniscule affect on AORs. However, this study provides evidence that children with increased health needs are less likely to be breastfed than other children and after starting they are also more likely to stop prematurely. It is also important to consider these findings in the broader context of the child's life. The following groups of children have lower (even if not statistically significant) performance on at least one measure of breastfeeding: those living in poverty, those with mothers with lower educational attainment, those living in households with tobacco use, those with single mothers and those who are black. Successful interventions should simultaneously address multiple risk factors for not breastfeeding and decrease health vulnerabilities across multiple domains of the child's life. There is a need to improve cultural attitudes and societal infrastructures that support the entire range of positive health behaviors, including optimal breastfeeding.

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