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Short Communication

Interracial couples and breastfeeding initiation in the United States

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ABSTRACT

In the past decade, the prevalence of interracial couples has steadily increased. Recent reports state that nearly one in five marriages are between spouses of different races. Interracial couples receive less social support and are more likely to separate. As a result, children born to these couples may be at an increased risk of poor health outcomes. This study aims to investigate the relationship between interracial couples and breastfeeding initiation. Data from the 2014 Vital Statistics Natality Birth database were analyzed. Data were restricted to singleton births and infants with no congenital malformations. Racial composition of parents was categorized as non-Hispanic (NH) white, NH black; Hispanic; NH white/NH black; NH white/Hispanic; and NH black/Hispanic. Breastfeeding initiation (yes; no) was categorized according to information from the child's birth certificate file. Multiple logistic regression was used to generate crude and adjusted odds ratios and 99% confidence intervals. After adjusting for confounders, all interracial couples with at least one Hispanic parent had increased odds of breastfeeding initiation. Interracial white and black parents had 18% lower odds of breastfeeding initiation. The lowest odds of breastfeeding initiation were observed among intraracial black parents, who had 43% lower odds of breastfeeding initiation compared to intraracial white parents. Breastfeeding non-initiation continues to pose the greatest risk for infants with at least one black parent. Nurses, midwives, physicians, and other medical staff should discuss potential barriers that may be unique to interracial couples and provide additional breastfeeding education and support.

1. Introduction

In the past decade, interracial couples (i.e. partners from different racial/ethnic groups) have steadily increased in the United States (U.S.). Findings from the Pew Research Center showed that approximately 17% of marriages in 2015 were between spouses of different races, compared to 1% in 1970 (Livingston and Brown, 2017). In a similar trend, one in ten infants live with an interracial couple (Livingston, 2015). Despite research demonstrating that interracial couples receive less social support and are more likely to separate, few studies have investigated health outcomes of children born to these couples (Srinivasjois et al., 2012). Of the limited studies, findings showed that interracial couples have higher adverse birth outcomes including low birth weight and preterm birth — which are risk factors for breastfeeding non-initiation (Gartner et al., 2005; Getahun et al., 2005; Srinivasjois et al., 2012).

Breastfeeding remains the best source of nutrition for infants worldwide and is a significant predictor of health outcomes in children. Breastmilk has been shown to reduce the incidence of respiratory tract infections, gastrointestinal diseases, otitis media, sudden infant death syndrome (SIDS), necrotizing enterocolitis, and both type 1 and type 2 diabetes mellitus (Gartner et al., 2005). Not breastfeeding has also been shown to increase the risk of hypertension, hyperlipidemia, and breast and ovarian cancer in mothers (Gartner et al., 2005). Despite its benefits, the overall prevalence of breastfeeding initiation is estimated to be 81.1%, with studies showing large racial disparities (Control CfD, Prevention, 2013; Control CfD, Prevention, 2016; McKinney et al., 2016). Estimates from the Centers of Disease Control and Prevention showed that African American mothers have the lowest rates of breastfeeding initiation (58.9%) compared to white (75.2%) and Hispanic (80.0%) mothers (Control CfD, Prevention, 2013).

Given the increase in interracial couples and low rates of breastfeeding initiation among minority groups in the U.S., it is important to evaluate if an interracial relationship among parents is associated with lower breastfeeding rates. To this end, the current study aims to determine the association between interracial couples and breastfeeding initiation.

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2. Methods

Data from the 2014 Vital Statistics Natality Birth database were analyzed. The Vital Statistics Natality Birth data is collected by the National Center for Health Statistics and includes information on all resident births registered in the U.S. (N = 3,998,175). Data provide information on parental demographics, relevant health and behavioral factors and birth outcomes. More information on the Vital Statistics Natality Birth data can be found elsewhere (McKinney et al., 2016).

Data were restricted to singleton births, born to primiparous mothers (n = 1,520,359; 38.0% of all registered births). Births with congenital malformations (n = 5218; 0.4%) and those admitted to Neonatal Intensive Care Units (NICU) (n = 124,186; 8.5%) were excluded. Congenital anomalies of the newborn included anencephaly, meningomyelocele/spina bifida, cyanotic congenital heart disease, congenital diaphragmatic hernia, omphalocele, gastroschisis, limb reduction defect, cleft lip with or without cleft palate, cleft palate alone, down syndrome, and suspected chromosomal disorders. Further, information of breastfeeding initiation (n = 280,814; 18.5%) and race/ethnicity (n = 446,039; 29.3%) was not available for a total of 726,853 parents. The majority of missing data for race/ethnicity resulted from the father (n = 277,770; 18.3%). Further, Asian/Pacific Islanders and self-identified multiple race parents were not included in the study. Therefore, the final dataset for this analysis included 840,887 births.

Information on maternal and paternal race was used to create the primary independent variable, racial composition of parents (non-Hispanic (NH) white; NH black; Hispanic; NH white/NH black; NH white/Hispanic; and NH black/Hispanic). A secondary variable was then created to divide the racial composition by mother-father dyads (i.e. NH white mother/NH black father, NH black mother/NH white father). Intraracial (i.e. partners from the same racial/ethnic group) non-Hispanic white parents were used as the reference group. Breastfeeding initiation (yes; no) was categorized according to information from the child's birth certificate file, which is recorded anytime from delivery until hospital discharge. The following sources are used to ascertain information regarding breastfeeding initiation: the labor and delivery summary, maternal progress note, newborn flow record, or the lactation consultant note.

Previous literature was consulted to determine potential confounding factors (Gilbert et al., 2014; Wallenborn et al., 2017; Wallenborn et al., 2018). These included maternal factors such as age (15–19 years; 20–24 years; 25–29 years; 30–34 years; 35–39 years; 40–54 years), marital status (married; unmarried), education (less than high school; high school; some college; bachelor's degree or higher), birthplace (US; other), self-reported pre-pregnancy body mass index (BMI) (underweight (< 18.5 kg/m^2); normal (18.5–24.9 kg/m^2); overweight (25.0–29.9 kg/m^2); obese (30.0 + kg/m^2)), smoking during the third trimester (yes; no), Women, Infants, and Children (WIC) recipient (yes; no), and maternal morbidity (yes; no). Maternal morbidity was defined as pre-pregnancy or gestational hypertension. Birth factors included timing of first prenatal care visit (no visit; 1st trimester; 2nd trimester; 3rd trimester), delivery method (vaginal; Cesarean section), birth attendant (doctor; midwife; other), and insurance provider (private; Medicaid; self-pay; other).

Descriptive statistics were generated for the overall sample and by breastfeeding initiation status. Differences in confounders by breastfeeding initiation were analyzed using chi-square tests. Marital status was a significant effect modifier; however, the a priori hypothesis did not include the interaction. Therefore, a stratified analysis was not conducted. All analyses used a significance level of 0.01 to account for the large sample size. Logistic regression was used to generate crude and adjusted odds ratios (AOR) and 99% confidence interval (CI). The final model included covariates if they changed the crude estimate of the parental race and breastfeeding relationship by > 10% (Rothman et al., 2008). All analyses were performed using SAS software (SAS, Version 9.4; SAS Institute Inc., Cary, NC).

3. Results

The majority of mothers (86.8%) initiated breastfeeding prior to discharge from the hospital. The most common interracial partnership were white and Hispanic couples (7.0%). Over half of births occurred to mothers who were between 25 and 34 years of age, privately insured, and had a pre-pregnancy BMI in the normal range. All demographic, behavioral, and birth factors significantly differed by breastfeeding initiation status.

The parsimonious model investigating the relationship between the racial composition of parents and breastfeeding initiation adjusted for the following confounders: age, education, birthplace, delivery payment method, WIC participation, smoking during the third trimester, timing of the first prenatal care visit, and pre-pregnancy BMI. Interracial white and Hispanic parents had 52% higher odds of breastfeeding initiation compared to intraracial white parents. Similarly, interracial black and Hispanic parents had 39% higher odds of breastfeeding initiation. Conversely, interracial white and black parents had 18% lower odds of breastfeeding initiation compared to intraracial white parents. The lowest odds of breastfeeding initiation was found among intraracial black parents, who had 43% lower odds of breastfeeding initiation compared to families with intraracial white parents. In contrast, intraracial Hispanic parents had 92% higher odds of breastfeeding initiation (Table 1).

The parsimonious model investigating the racial composition of parents by mother-father dyads adjusted for maternal age, education, nativity, payment method at delivery, WIC participation, and smoking during the third trimester. All race/ethnicity mother-father dyads showed a statistically significant relationship with breastfeeding initiation, except parents with a black mother and Hispanic father. Interracial parents with a white mother and black father had 20% lower odds of breastfeeding initiation compared to intraracial white couples; however, estimates for interracial couples with a black mother and white father only had 15% lower odds of breastfeeding initiation. All interracial couples with at least one Hispanic mother or father had increased odds of breastfeeding initiation compared to intraracial white parents (Table 2).

4. Discussion

This study demonstrated that the racial composition of parents is significantly associated with breastfeeding initiation. Findings from this study support existing racial and ethnic trends in breastfeeding, in which Hispanic mothers tend to have the highest rates of breastfeeding initiation and black mothers significantly lower rates (McKinney et al., 2016).

Interracial couples with at least one Hispanic parent showed increased odds of breastfeeding initiation, especially when the mother was Hispanic. Previous literature suggests that the increased likelihood of breastfeeding initiation among Hispanic women may be a result of

Table 1
Association between racial composition of parents and breastfeeding initiation.

Racial composition	Breastfed COR (99% CI)	Breastfed AOR[a] (99% CI)
White	1.00	1.00
Black	0.42 (0.41–0.43)	0.57 (0.55–0.58)
Hispanic	1.34 (1.31–1.37)	1.92 (1.85–1.98)
White and Black	0.59 (0.57–0.61)	0.82 (0.78–0.86)
White and Hispanic	1.31 (1.27–1.35)	1.52 (1.46–1.58)
Black and Hispanic	0.89 (0.85–0.94)	1.39 (1.28–1.50)

COR = crude odds ratio; CI = confidence interval; AOR = adjusted odds ratio.
[a] Adjusted for maternal age, education, nativity, payment method at delivery, WIC participation, smoking status, prenatal care visits, and pre-pregnancy body mass index.

Table 2
Association between racial composition of parents by mother-father dyads and breastfeeding initiation.

Race/Ethnicity		COR (99% CI)	AOR[a] (99% CI)
Mother	Father		
White	White	1.00	1.00
White	Black	0.55 (0.53–0.57)	0.80 (0.75–0.84)
White	Hispanic	1.15 (1.11–1.19)	1.45 (1.38–1.52)
Black	White	0.74 (0.69–0.80)	0.85 (0.77–0.94)
Black	Hispanic	0.77 (0.70–0.85)	1.13 (1.00–1.29)
Hispanic	White	1.56 (1.49–1.63)	1.57 (1.48–1.67)
Hispanic	Black	0.96 (0.90–1.03)	1.45 (1.32–1.60)

COR = crude odds ratio; AOR = adjusted odds ratio; CI = confidence interval.
[a] Adjusted for maternal age, education, nativity, payment method at delivery, WIC participation, smoking status, prenatal care visits, and pre-pregnancy body mass index.

intergenerational support for breastfeeding, finding that women are more likely to initiate breastfeeding if a family member breastfed (McKinney et al., 2016; Singh et al., 2007). Access to a familial network in which other women are more likely to have initiated breastfeeding can provide social support and encouragement for new mothers. Additionally, studies have found that acculturation status in Hispanic women is associated with breastfeeding initiation (Ahluwalia et al., 2012; Gibson et al., 2005). Specifically, research has shown that cultural norms are a protective factor for Hispanic mothers breastfeeding practices compared to mothers who identify as more culturally American, as measured by language preference and generation (Gibson et al., 2005; Rassin et al., 1994).

This study also found that interracial white and black parents and intraracial black parents have the lowest odds of breastfeeding initiation. This may be explained by interracial couples' experience of reduced support from family and peers, who may explicitly or implicitly disapprove of interracial relationships and childbearing (Sassler, 2010). Pregnancy and childbirth may be an especially difficult time for interracial couples who may be challenged with navigating differing cultural beliefs about childrearing and discipline (Herman and Campbell, 2012; Pinderhughes et al., 2000). These cultural strains may increase maternal stress and reduce lactogenesis — a contributing factor to perceived insufficient milk supply and a major barrier of breastfeeding (Bratter and King, 2008; Galipeau et al., 2012; Zhu et al., 2013). Furthermore, previous literature suggests that black women are less likely than their white peers to receive information about breastfeeding practices during prenatal visits (Jones et al., 2015), indicating that breastfeeding disparities may also persist at the provider level.

It is also important to highlight paternal influence on breastfeeding initiation. Odds of breastfeeding initiation varied depending on the mother-father race/ethnicity dyad. Our findings are consistent with studies that have demonstrated the importance of paternal support for breastfeeding initiation (Hunter, 2014; Kessler et al., 1995). It is possible that black fathers are less supportive of breastfeeding as a result of the higher use of formula and lower prevalence of breastfeeding in black communities, potentially reducing black fathers' exposure to breastfeeding within their own family of origin (Furman et al., 2016). While research on the association between paternal support for breastfeeding and maternal breastfeeding practices is growing, there remains a gap examining how paternal attitudes towards breastfeeding are formed, an important aspect that could shape breastfeeding interventions seeking to increase paternal support.

This study is the first to investigate the association of interracial coupling on breastfeeding initiation. Use of the National Vital Statistics Systems offers extensive data on all recorded births in the U.S. While using birth certificate data provides a large and standardized dataset, issues with reliability and validity of birth certificates should be noted — especially for information about risk behavior such as smoking during pregnancy (Northam and Knapp, 2006). Vital Statistics data also does not provide information about contraindications to breastfeeding such as maternal HIV, hospital breastfeeding policies (i.e. baby friendly hospitals), and father specific information other than race; which could have provided insight into confounding factors for breastfeeding initiation such as paternal education, support, and socioeconomic status.

Breastfeeding non-initiation continues to pose the greatest risk for infants with at least one black parent. Providers should be aware of the potential barriers interracial couples face when breastfeeding, such as diminished social support and increased stress (Srinivasjois et al., 2012). Examining how couples cope with stress and family networks may increase our understanding of disparities in breastfeeding non-initiation for interracial couples. Further investigation of how interracial couples experience hospital-based breastfeeding counseling as compared to same-race couples may provide insight into barriers of breastfeeding initiation for interracial couples.

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None.

Conflicts of interest

None.

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