Barriers to Exclusive Breastfeeding Among Women With Gestational Diabetes Mellitus in the United States

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ABSTRACT

Objective: To identify differences in breastfeeding-related knowledge, attitudes, beliefs, and experiences between women with gestational diabetes mellitus (GDM) and women without GDM.

Design: Cross-sectional and prospective cohort study.

Setting: Secondary analysis of data from the U.S. Infant Feeding Practices Study II.

Participants: Pregnant women with GDM (n = 195) and pregnant women without GDM (n = 2,815) were included in cross-sectional analyses. For prospective analyses, complete data were available at the postpartum time point for 107 women with and 1,626 women without GDM.

Methods: We compared women with and without GDM for breastfeeding knowledge, attitudes, and beliefs during pregnancy and hospital experiences and problems with breastfeeding after birth. We used multivariate logistic regression to estimate associations between GDM and dependent variables.

Results: Women with GDM were less likely to say that breastfeeding is the best way to feed an infant (adjusted odds ratio [aOR] = 0.62, 95% confidence interval [CI] [0.46, 0.85]), more likely to say that the fathers of their infants prefer formula feeding (aOR = 1.74, 95% CI [1.02, 2.97]) or mixed feeding (aOR = 1.78, 95% CI [1.21, 2.61]), and more likely to say their physicians prefer formula (aOR = 2.82, 95% CI [1.17, 6.79]). Women with GDM were less likely to report feeling comfortable breastfeeding in front of female friends (aOR = 0.70, 95% CI [0.50, 0.98]). Newborns of women with GDM were less likely to stay in their mothers’ hospital rooms (aOR = 0.55, 95% CI [0.36, 0.85]).

Conclusion: We identified differences in breastfeeding-related knowledge, attitudes, beliefs, and experiences between women with GDM and women without GDM that could be targets for further research and intervention.


Accepted February 2018
Women with GDM compared with those without may breastfeed less, but little is known about the knowledge, attitudes, beliefs, or early breastfeeding experiences that influence this disparity.

Despite the established benefits of breastfeeding for all women and infants and the possible benefits for women with GDM and their children in particular, there is evidence that rates of breastfeeding initiation, duration, and exclusivity may be lower among women with GDM (Finkelstein et al., 2013; Kachoria & Oza-Frank, 2014; Oza-Frank, Chertok, & Bartley, 2015; Oza-Frank, Moreland, McNamara, Geraghty, & Keim, 2016). In a recent, prospective study, Oza-Frank et al. (2016) found that women with GDM were more than three times as likely to report the introduction of formula in the first 2 days of life. Haile, Oza-Frank, Azulay Chertok, and Passen (2015) recently showed that women with GDM in the U.S. Infant Feeding Practices Study II (IFPS II) cohort were approximately 40% less likely to exclusively breastfeed at hospital discharge than their counterparts without GDM (adjusted odds ratio [aOR] = 0.59, 95% confidence interval [CI] [0.39, 0.92]). However, in another study of the IFPS II cohort, investigators found that differences in formula supplementation between these groups were primarily driven by differences in intentions to breastfeed exclusively (Loewenberg Weisband, Rausch, Kachoria, Gunderson, & Oza-Frank, 2017). Women with GDM may have less favorable breastfeeding outcomes because of a greater prevalence of delayed onset of lactation (De Bortoli & Amir, 2015; Matias, Dewey, Quesenberry, & Gunderson, 2014), cesarean birth (Koning et al., 2016), neonatal hypoglycemia in their infants (Ramos et al., 2012), breastfeeding problems at home, or inadequate breastfeeding support (Morrison, Collins, Lowe, & Giglia, 2015).

Knowledge, attitudes, and beliefs are likely to contribute to breastfeeding outcomes (Bai, Middelstadt, Peng, & Fly, 2010; Scott et al., 2015; Stuebe & Bonuck, 2011). These include maternal attitudes toward human milk and formula, breastfeeding in public (Scott et al., 2015), and breastfeeding in front of friends (Stuebe & Bonuck, 2011); knowledge about the benefits of breastfeeding (Stuebe & Bonuck, 2011); and the opinions of others about infant feeding (Bai et al., 2010). Although several investigators examined breastfeeding behaviors in women with GDM (Finkelstein et al., 2013; Kachoria & Oza-Frank, 2014; Oza-Frank et al., 2015; Oza-Frank et al., 2016), few have investigated knowledge, attitudes, and beliefs or early postpartum experiences (Oza-Frank & Gunderson, 2017) that might contribute to reduced breastfeeding in this population. Our objectives were to estimate associations between GDM and breastfeeding knowledge, attitudes, and beliefs during pregnancy and hospital experiences and breastfeeding problems in the first 2 weeks postpartum.

Methods

Design

We conducted a secondary data analysis using IFPS II cohort data (Fein et al., 2008). The IFPS II was conducted jointly by the U.S. Food and Drug Administration and the Centers for Disease Control and Prevention. The longitudinal study followed mother-infant dyads drawn from a consumer opinion panel of more than 500,000 U.S. households from late pregnancy to infants’ first birthdays. Data were collected between May 2005 and June 2007 with a series of mailed questionnaires, one administered prenatally and 10 administered at approximately monthly intervals after birth. A brief phone interview was conducted around the time of the infant’s expected birth to confirm eligibility. For this study, we used data from the prenatal and neonatal questionnaires and the phone interview. We conducted a cross-sectional analysis to assess relationships between GDM diagnosis and knowledge, attitudes, and beliefs about breastfeeding because these variables were all measured at the prenatal time point. A prospective analysis was also performed to assess relationships between GDM and postpartum experiences.

Sample

Women in their third trimesters of pregnancy were eligible to be included in the IFPS II cohort. Exclusion criteria included multiple gestation, gestational age at birth less than 35 weeks, neonatal birth weight less than 2.3 kg, NICU stay longer than 3 days, and any medical condition that would affect feeding. Details of the study’s methods were described elsewhere (Fein et al., 2008). A total of 4,902 pregnant women enrolled, and 3,033 completed the first postnatal questionnaire. Cross-sectional analyses of prenatal variables included 3,010 observations with complete data for all variables of interest. Our postpartum sample included 1,733 mother–infant
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