Infant Sleep Location and Breastfeeding Practices in the United States, 2011–2014

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ABSTRACT

OBJECTIVE: To describe the prevalence of breastfeeding and sleep location practices among US mothers and the factors associated with these behaviors, including advice received regarding these practices.

METHODS: A nationally representative sample of 3218 mothers who spoke English or Spanish were enrolled at a sample of 32 US birth hospitals between January 2011 and March 2014.

RESULTS: Exclusive breastfeeding was reported by 30.5% of mothers, while an additional 29.5% reported partial breastfeeding. The majority of mothers, 65.5%, reported usually room sharing without bed sharing, while 20.7% reported bed sharing. Compared to mothers who room shared without bed sharing, mothers who bed shared were more likely to report exclusive breastfeeding (adjusted odds ratio 2.46, 95% confidence interval 1.76, 3.45) or partial breastfeeding (adjusted odds ratio 1.75, 95% confidence interval 1.33, 2.31). The majority of mothers reported usually room sharing without bed sharing regardless of feeding practices, including 58.2% of exclusively breastfeeding mothers and 70.0% of nonbreastfeeding mothers. Receiving advice regarding sleep location or breastfeeding increased adherence to recommendations in a dose response manner (the adjusted odds of room sharing without bed sharing and exclusive breastfeeding increased as the relevant advice score increased); however, receiving advice regarding sleep location did not affect feeding practices.

CONCLUSIONS: Many mothers have not adopted the recommended infant sleep location or feeding practices. Receiving advice from multiple sources appears to promote adherence in a dose response manner. Many women are able to both breastfeed and room share without bed sharing, and advice to adhere to both of these recommendations did not decrease breastfeeding rates.

KEYWORDS: AAP safe sleep recommendations; breastfeeding; SIDS; sleep location

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WHAT'S NEW

Many mothers have not adopted recommended infant sleep location or feeding practices. This study suggests that receiving advice from multiple sources promotes adherence to these practices and that providing advice on infant sleep recommendations did not negatively affect breastfeeding rates.

INFANT SLEEP LOCATION (eg, bed sharing and sleeping in a separate room) has been associated with sudden infant death syndrome (SIDS) and unintentional infant sleep-related death, leading the American Academy of Pediatrics (AAP) to strongly recommend that infants sleep in the parents' room but in a separate sleep space.[1] Increasing exclusive breastfeeding rates is also an important public health initiative, given the well-established beneficial health outcomes for both mothers and infants.[2–5] Breastfeeding has been shown to be protective against SIDS as well as against certain infections that can increase the risk of SIDS.[6] Promoting breastfeeding is a priority, and exclusive breastfeeding is recommended until the infant is 6 months old.[2–5]

Clinicians, researchers, and public health leaders debate whether bed sharing is only a risk among drug- or alcohol-impaired parents and whether advice to avoid bed sharing inadvertently interferes with breastfeeding.[7–18] Parents may receive conflicting advice, resulting in confusion and possibly the adoption of even riskier behaviors, such as unplanned sleeping with infants on sofas, chairs, or recliners.[7,12,16,19]

The Study of Attitudes and Factors Effecting Infant Care Practices (SAFE) is a nationally representative survey of

mothers that examines advice received and behavior reported for a variety of infant care practices, including infant sleep location and breastfeeding. This report assesses the prevalence of breastfeeding and sleep location the factors that are associated with these behaviors, including advice received regarding these practices.

METHODS

The SAFE Study used a stratified, 2-stage, clustered design to obtain a nationally representative sample of mothers of infants, while oversampling Hispanic and non-Hispanic black mothers. In the first stage, beginning in March 2010, we recruited 32 intrapartum hospitals with at least 100 births per year based on American Hospital Association data. Institutional review board approval was obtained at all participating hospitals. In the second stage, January 2011 to March 2014, hospitals were assigned targets for sampling and enrollment of Hispanic, non-Hispanic black, and non-Hispanic nonblack (all other) race mothers. Recruitment periods were organized into 3 cycles in which each hospital obtained approximately one-third of its targeted enrollment, resulting in at least 250 completed surveys per cycle each from Hispanic and non-Hispanic black mothers, for a total of 750 completed surveys for each racial/ethnic group.

Mothers were eligible if they spoke English or Spanish, lived in the United States, and would be caring for their infant by 2 to 4 months after delivery. Mothers not expected to be caring for their baby at this age, such as due to infant's prolonged hospitalization or social service placement, were excluded. Of 6508 sampled mothers, 6011 (92.4%) were eligible for the study. Of those eligible, 5354 (89.1%) were approached during their postpartum stay, and of these, 3983 (74.4%) agreed to participate and provided written informed consent. Mothers were asked to complete the follow-up survey, either online or by telephone, once their infant was at least 60 days old. The survey was completed by 3297 mothers, of whom 3218 responded to the questions required for the study analyses (80.9 % of those enrolled). The survey development included extensive pilot testing and assessment of test–retest reliability.

MEASURES FROM FOLLOW-UP SURVEY

To assess infant care practices the relevant questions were as follows: 1) "Breast milk or formula feeding: Over the *last* 2 weeks, what has your baby been drinking?" Responses were organized into 3 categories: only breastfeeding (only breast milk, whether by breast or bottle), partial breastfeeding (included mostly breast milk, equally breast milk and formula, and mostly formula), or no breastfeeding. 2) "Sleep location: Over the *last* 2 weeks, where has your baby *usually* slept?" Responses were organized into 3 categories: the parents' room but in his or her own bed, designated as room sharing; separate room; or bed sharing whole or part of the night. 3) "Sleep surface: Please *check all* the places your baby has slept, over the last 2 weeks." Possible responses were: crib, bassinet, cradle, carry cot, pack and play, adult bed or mattress, sofa, car or infant seat, cosleeper, or other.

ADVICE RECEIVED

To assess the advice received for both feeding and sleep location, mothers were asked if they received advice from each of the following 4 sources: my family, my baby's doctor, the nurses at the hospital where my baby was born, and the media.

For sleep location, in order to evaluate the agreement with current AAP recommendations, only if the mother said she had received advice was she then asked, "[Source of advice] thinks my baby should sleep in a parent's (or other adult's) room in his/her own bed," and answered using a Likert scale from 1, "strongly disagree," to 7, "strongly agree." Responses of 5 to 7 were classified as the mother reporting the source advises room sharing without bed sharing, responses of 1 to 3 were classified as the mother reporting the source advises against room sharing without bed sharing, and responses of 4 were classified as neutral. Respondents were asked about all potential sleep locations, but for this analysis, we focused on room sharing without bed sharing.

For breastfeeding, if the answer was yes, the mother was asked, "[Source of advice] thinks I should breastfeed my baby" and answered using a Likert scale from 1, "strongly disagree," to 7, "strongly agree." Responses of 5 to 7 were classified as the mother reporting that the source thinks she should breastfeed, responses of 1 to 3 were classified as the mother reporting that the source does not think she should breastfeed, and responses of 4 was classified as neutral.

An advice score for each infant care practice was calculated to sum advice received from all sources. For sleep location, each source the mother reported as advising room sharing without bed sharing received a $+1$, each source reported as disagreeing received a -1, and each source reported as neutral or offering no advice received a 0. Therefore, the advice score could range from $+4$ (mother reports all 4 sources advise room sharing) to -4 (mother reports all 4 sources advise against room sharing). Similarly, for breastfeeding, the advice score could range from $+4$ (mother reports all 4 sources think she should breastfeed) to -4 (mother reports all 4 sources do not think she should breastfeed). Because we had so few negative scores (7.2% of mothers for sleep location and 7.5% for breastfeeding advice), all negative scores were pooled into a single category.

STATISTICAL ANALYSIS

All analyses accounted for the stratified 2-stage cluster sample design for parameter estimates and standard errors using SAS procedures for complex survey designs (SAS Institute, Cary, NC). Data were weighted to account for sampling probabilities and dropout, and to reflect the national joint distribution of maternal age and race/ethnicity. Generalized logit models were used to calculate adjusted odds ratios (aORs) and 95% confidence intervals (CIs) for associations between demographic factors (Table 1), infant care practices (Table 2), and advice received