

Mother–Infant Sleep Locations and Nighttime Feeding Behavior

U.S. Data from the Survey of Mothers’ Sleep and Fatigue

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Kathleen Kendall–Tackett, Ph.D., IBCLC, RLC¹
Zhen Cong, Ph.D.²
Thomas W. Hale, Ph.D.¹

The controversy around mother–infant bedsharing continues to grow. In order to make sound policy recommendations, policy makers need current data on where infants sleep and how families handle nighttime feedings. The present study is a survey of 4,789 mothers of infants 0–12 months of age in the U.S. The findings indicate that almost 60% of mothers bedshare and that this occurs throughout the first year. These findings also indicate that 25% of mothers are falling asleep with their infants in dangerous sleep locations, such as chairs, sofas or recliners. Recommendations for promoting safe infant sleep are made.

Keywords: SIDS, bedsharing, infant sleep location, nighttime feedings, safe sleep

In 2005, the American Academy of Pediatrics (AAP) Task Force on SIDS³ issued a statement on safe sleeping practices for infants, recommending that infants “should not bedshare during sleep” (p. 1252). Subsequent to the AAP Statement, some local municipalities have attempted to make this point more strongly by telling parents to never bedshare, with public–service advertising designed to shock parents into compliance (see Figure 1).

In an attempt to present a simple “single message” to parents, these campaigns have, unfortunately, mischaracterized research findings regarding SIDS and infant sleep by indicating that “safe” sleep occurs in a crib and “unsafe” sleep occurs anywhere else. But the

SIDS studies themselves indicate risk factors for infant death are not quite so simple. For example, a study of 325 SIDS cases from the UK found *no excess risk* of SIDS for term infants (>2,500 g at birth) who bedshared with non–smoking parents (Blair et al., 2006a). In a study of 238 SIDS cases in New Jersey, only 39% (N=93) were “bedsharing.” Of these, only 21 were breastfeeding, and most of these had other SIDS risk factors, such as non–supine position; pillows or fluffy blankets in the

¹ Department of Pediatrics, Texas Tech University School of Medicine, Amarillo

² Department of Human Development and Family Studies, Texas Tech University, Lubbock

³ While SUID (sudden unexplained infant death) may be a more accurate term, all of the studies cited used the term SIDS. We have chosen to use the term SIDS for consistency.

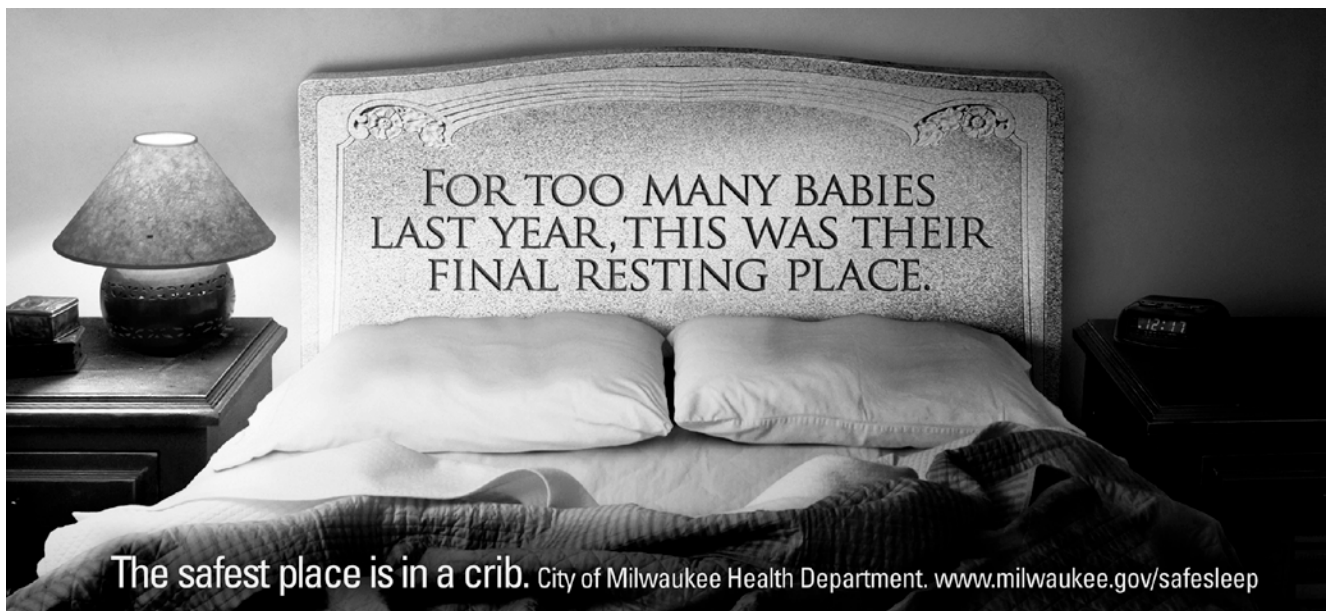


Figure 1. Public service warning to new parents about the dangers of bedsharing. [\[Learn more about this campaign\]](http://www.milwaukee.gov/safesleep)

sleep area; substance abuse; couch/recliner sharing; or maternal smoking (Ostfeld et al., 2006). In 78% of these cases, families had anywhere from two to seven risk factors (Ostfeld et al., 2010).

One problematic aspect of this debate is confusion of terminology, such as including sofa or recliner sharing in definitions of “bedsharing.” These behaviors are not equivalent in terms of risk. For example, in a Scottish sample of 123 SIDS cases, the odds ratio of SIDS for couch/chair sharing was 66.9 (95% CI=2.8, 1597), compared to 1.07 for bedsharing infants 11 weeks or older (95% CI=0.32, 3.56). Of the 123 cases in this sample, 46 were bedsharing and 77 were not (Tappin et al., 2005). As dangerous as sofa-sharing is, it appears to be on the rise. In a 20-year population-based study in the UK, Blair and colleagues (2006b) found that while the number of SIDS cases dropped substantially as a result of the Back-to-Sleep campaign, there was an increase in “cosleeping” deaths due to “an increase in the number of deaths in infants sleeping with their parents on a sofa” (p. 314). They strongly recommended that parents avoid this dangerous sleep environment.

Many anti-bedsharing campaigns are launched in response to local infant deaths. While understandable, policies formed under these circumstances can be problematic. For example, the rate of SIDS deaths in the U.S. is 0.56 per 1,000, or 0.0006% of infants. Of these, roughly 40% occur outside of cribs (0.00024%), including many unsafe sleep surfaces. It is not sound to make recommendations for all infants based on what happens to a very small percentage.

So how are average parents handling babies’ nighttime needs? Lahr and colleagues (2007), in a sample of 1,867 mothers from Oregon, found that 76% of mother bedshare at least some of the time. These findings were based on PRAMS⁴ data collected in 1998–1999, before the current controversy or policy recommendations. Policy makers need more current data on what parents are actually doing. How are mothers handling nighttime feedings? Are parents complying with “never bedshare” policies? Are there any groups of parents more or less likely to bedshare?

The present study was designed to answer these questions. We conducted a large online survey of mothers with

infants ages 0–12 months, in an effort to answer several key questions with regard to infant sleep.

- Where are infants sleeping throughout the night?
- Are mothers sleeping with infants in unsafe settings, such as couches and recliners?
- What are mothers’ reasons for using their sleep practices?
- Are mothers telling others, including health care providers, about where their infants sleep?

Methods

Study Participants

The data included in this analysis were from the U.S. mothers (N=4,789) who participated in the Survey of Mothers’ Sleep and Fatigue in 2008–2009. The total sample from this study was 6,410, representing 59 countries. The demographic characteristics of the U.S. sample are listed on Table 1 [\[click here\]](#). Although this sample was comprised of primarily of breastfeeding mothers, they were evenly divided in their beliefs about where babies *should* sleep: 35% in the parent’s bed, 34% in a crib in another room, and 31% in the parents’ room.

Sample Recruitment

The sample was recruited via announcements and flyers distributed to WIC Breastfeeding Coordinators, U.S. State Breastfeeding Coalition Coordinators, U.S. Lactation Consultants and La Leche League Leaders. The investigators described the study and asked for assistance in recruiting mothers. Flyers and cards were distributed electronically and via hard copy, with a Web link for the survey. This survey was open to all mothers with babies 0–12 months of age who had access to the Internet.

Survey Development

The research questions were taken from the 253-item Survey of Mothers’ Sleep and Fatigue. The questions were predominantly close-ended in format and were developed for this study via open-ended interviews with mothers and feedback from mothers and health care professionals.

Data Collection

Data were collected via an online survey that was available on the Texas Tech University Department of Pediatrics website. A screening question asked for the baby’s age.

⁴ Pregnancy Risk Assessment Monitoring System

If the response was 12 months or less, the mother was allowed to continue the survey. The survey and data collection procedure was reviewed and approved by the Texas Tech University School of Medicine Institutional Review Board.

Results & Discussion

Bedsharing Rates

The results of this survey suggest that bedsharing is common in the U.S., despite campaigns against it. The percentages of bedsharing families varied considerably

depending on how the question was worded. When asked, “where does your baby sleep, that is where does your baby spend most of the night?,” 44% mothers indicated that their babies were in their beds (see Figure 2). When asked where their babies *start* the night, only 31% were bedsharing (see Figure 3). When asked where babies *end* the night, 59% of infants were bedsharing. Our findings indicate that bedsharing rates persist throughout the first year, and were as high as 62% (Figure 4). These figures also indicate that infant sleep locations are fluid and change over the course of the night.

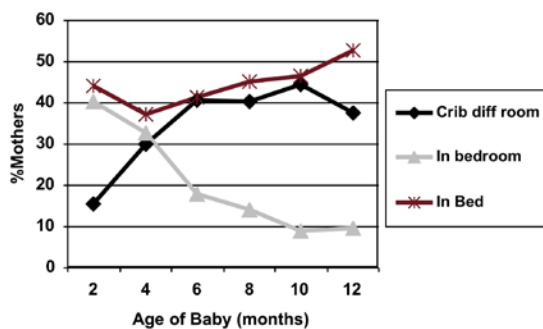


Figure 2. Where does your baby sleep? That is, where does your baby spend most of the night? U.S. Sample (N=4434), $\chi^2(10)=440.425$, $p<.0001$

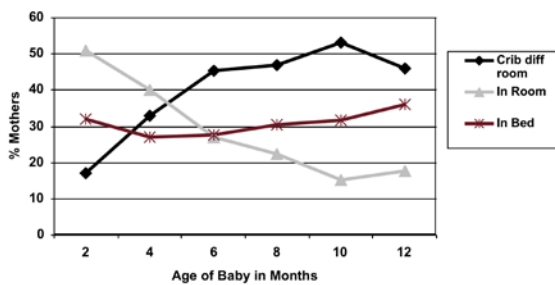


Figure 3. Where does your baby start the night? U.S. Sample (N=4336), $\chi^2(10)=415.023$, $p<.0001$ ⁵

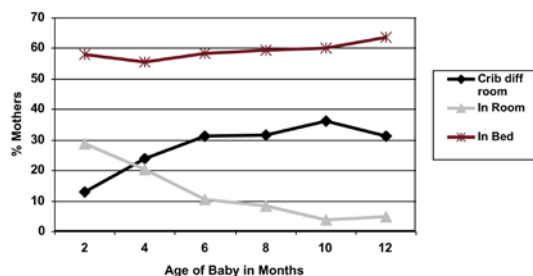


Figure 4. Where does your baby end the night? U.S. Sample (N=4399), $\chi^2(10)=365.36$, $p<.0001$

Although bedsharing is common across demographic categories, it is significantly more common in single, divorced or separated women, and in African American, American Indian and Caucasian women. Bedsharing was more common among lower-income families, but still occurred in slightly less than half of affluent families. A similar pattern emerged based on education. While more educated mothers were slightly less likely to bedshare, over half of highly educated mothers still did so. Bedsharing was significantly more common when mothers were exclusively breastfeeding. [\[For more information, see Table 2.\]](#)

Location of Nighttime Feedings

Of mothers in our sample, approximately half (N=2,103) were still feeding their babies at night. Nighttime feedings took place either in bed (44%) or on a chair, recliner or sofa (55%). When asked if they sometimes fall asleep in this location, not surprisingly, 72% of mothers who feed in bed indicated that they fall asleep. More alarming is that 44% of mothers feeding on chairs, sofas or recliners fall asleep there. This group comprises 25% of the group that is still feeding at night. Women with higher the levels of education and income were *more* likely to feed their babies at night on chairs, couches or recliners (see Figures 5 & 6). High-income, highly educated mothers are generally “low risk” in terms of infant mortality. Possibly in an attempt to avoid bedsharing, this generally low-risk group is engaging in high-risk behavior.

Feedback Mothers are Receiving

Bedsharing mothers (86%) were significantly more likely to receive negative feedback from friends and family about where their babies sleep than when babies

⁵ χ^2 refers to changes in infant sleep location over time

roomshare (8%) or sleep in cribs in a different room (6%; $\chi^2(2)=681.64$, $p<.0001$). Further, bedsharing families (70%) are significantly less likely to tell their health care providers about where their babies end the night than those whose babies roomshare (13%) or whose babies sleep in different rooms (17%; $\chi^2(2)=132.75$, $p<.0001$). These findings suggest that the mothers in our study are well aware of the prohibitions against bedsharing. So why do they persist?

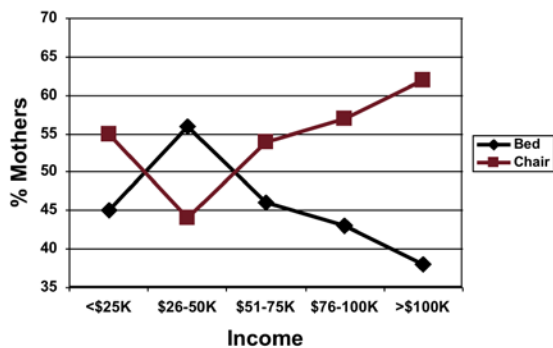


Figure 5. Night feeding location by household income
N=2005 $\chi^2(4)=29.558$, $p<.0001$

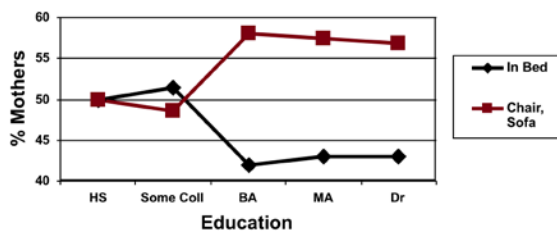


Figure 6. Maternal education by nighttime feeding location
N=2104, $\chi^2(4)=12.47$, $p<.014$

Reasons for Sleep Arrangements

When asked about their reasons for their current sleep arrangements, bedsharing mothers were significantly more likely to indicate that it was the right way to do it (61%) than mothers who roomshare (13%), or have babies in a different room (26%: $\chi^2(2)=6.90$, $p<.032$). Bedsharing mothers were also more likely to indicate that their sleep arrangement was the only way that worked for them (69%) as compared to those who roomshare (9%) or have babies in a different room (22%: $\chi^2(2)=162.9$, $p<.0001$). In other words, bedsharing mothers have both ideological (“the right way to do it”) and pragmatic (“the only way that worked”) reasons for bedsharing that are unlikely to change due to pressure from health care

providers or public-health initiatives. These findings are similar to those of Chianese et al. (2009), who conducted a focus-group study with inner-city mothers. These mothers cited the following reasons for bedsharing: better mother-infant sleep, convenience, tradition, child safety, and parent-child emotional needs. They indicated that clinicians’ advice did not influence their decisions. But they indicated that they would appreciate advice on safe bedsharing.

Conclusions

- Despite ongoing anti-bedsharing campaigns, U.S. parents continue to bedshare in high numbers.
- Bedsharing families cite both ideological and pragmatic reasons for sleeping with their babies. They appear well-aware of prohibitions against bedsharing, but consistent with the results of previous studies, the majority continue to bedshare.
- In a possible attempt to avoid bedsharing, 55% of mothers feed their babies at night on chairs, recliners or sofas. Forty-four percent (25% of the sample) admit that they falling asleep with their babies in these locations. Of all sleep locations, chairs, sofas and recliners are by far the most dangerous and dramatically increase the risk of suffocation.

Recommendations

Safe-sleep campaigns should include information on safe bedsharing. In absence of this information, parents are likely to continue bedsharing, but may do so in unsafe ways. Alternatively, safe-sleep campaigns could provide other strategies, such as encouraging babies to sleep on adjacent, yet separate, surfaces.

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Resources on Safe Sleep

[AAP SIDS Policy Statement](#)

[Canadian Paediatric Society Recommendations for safe sleeping environment](#)

[Safe Sleep for You and Your Baby \(Handout for parents\)](#)

[PowerPoint Slides with Survey Results](#)

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