



Statistical Brief

A Publication of the State Center for Health Statistics

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No. 39

June 2012

Infant Bed Sharing Results from the North Carolina Pregnancy Risk Assessment Monitoring System Survey, 2009–2010

by
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Introduction

In 1992, the American Academy of Pediatrics (AAP) recommended that infants be placed to sleep on their backs in order to reduce the risk of Sudden Infant Death Syndrome (SIDS) and other sleep-related infant deaths.¹ Since that time, the AAP has offered additional recommendations regarding “bed sharing.”² Bed sharing involves the parent or caregiver sharing a sleep surface with his or her infant, such as sleeping together on a bed, couch or chair. A variety of research has linked infant bed sharing with increased risks for SIDS, suffocation and asphyxia.^{3,4,5} As a result, the AAP now recommends sharing a room with the infant (“room sharing”) but does not recommend “bed sharing.”⁶

According to the latest available data from the North Carolina Child Fatality Review Team, there were 79 infant sleep-related deaths where co-sleeping was present in North Carolina in 2009, including deaths due to Sudden Infant Death Syndrome (SIDS), accidental suffocation and deaths with undetermined cause.⁷ The objective of this report is to describe the prevalence of infant bed sharing in North Carolina and the characteristics of mothers that report bed sharing.

Methods

This report uses data from the 2009 and 2010 North Carolina Pregnancy Risk Assessment Monitoring System (N.C. PRAMS) survey. N.C. PRAMS is a survey of North Carolina women who recently delivered a live-born infant. The survey is sponsored by the Centers for Disease Control and Prevention (CDC) and currently operates in 40 states throughout the United States.⁸ A total of 2,146 women completed the N.C. PRAMS survey via mail or telephone during this time period and 2,071 women responded to the question on bed sharing.

All of the percentages shown in this report represent weighted percentages, which are designed to reflect prevalence in the entire population of North Carolina women having a live birth. The confidence intervals presented show the range within which we expect the “true” percentage to fall 95 percent of the time. As a rough guide, if the confidence intervals of 2 percentages do not overlap, the difference is statistically significant.

The N.C. PRAMS survey has included a question regarding infant sleep position since its inception in

1997.⁹ Beginning with the 2009 revision to the N.C. PRAMS survey, an additional question related to infant bed sharing was added. This PRAMS survey question asks: “How often does your new baby sleep in the same bed with you or anyone else?”¹⁰

Results

Figure 1 presents maternal response to the 2009–2010 N.C. PRAMS survey regarding bed sharing. Overall, approximately one in three new mothers (34.2%, C.I. 31.9–36.6) reported that they follow AAP recommendations by never allowing bed sharing with their infant. Another quarter (22.7%, C.I. 20.7–24.9) of new mothers reported that they rarely allow bed sharing. However, a little over one quarter of mothers responded that they “always” (14.2%, C.I. 12.4–16.1) or “almost always” (12.0%, C.I. 10.5–13.8) shared a bed with their infant and 16.9 percent (C.I. 15.1–18.9) indicated that they share a bed with their infant “sometimes.” The remainder of this report examines mothers who report following the AAP guidelines (never allowing bed sharing with their infant) compared with mothers who bed share with their infant (e.g., mothers who report rarely,

sometimes, often/almost always and always bed sharing with their infant).

Characteristics for mothers who reported bed sharing compared with mothers who reported never bed sharing are presented in **Table 1**.

- **Age**—Bed sharing was inversely correlated with maternal age (as maternal age increased, reported bed sharing decreased). As shown in **Figure 2**, mothers who were less than 20 years old were significantly more likely to report sharing a bed with their infant (81.5%, C.I. 74.2–87.1) compared with mothers over the age of 35 (54.6%, C.I. 48.3–60.8).
- **Race/Ethnicity**—With regard to race and ethnicity, non-Hispanic white mothers were the least likely to report bed sharing with their infant (53.9%, C.I. 50.8–57.0). In comparison, the majority of non-Hispanic black mothers (86.7% C.I. 82.5–90.1), Hispanic/Latina mothers (74.8% C.I. 68.3–80.4), and mothers of other races (85.3% C.I. 75.4–91.7) reported sharing their bed with their infant.
- **Education**—As with age, maternal education was also inversely related to reported infant co-sleeping. Among mothers with less than a high school education, almost 80 percent (76.9%, C.I. 70.9–82.0) reported co-sleeping with their infants, compared with 61 percent of mothers with more than a high school education (60.5%, C.I. 57.4–63.6).
- **Marital Status**—Married women were less likely to report bed sharing (59.7%, C.I. 56.7–62.7) compared with women who were not married (74.3%, C.I. 70.5–77.8).
- **Income**—N.C. PRAMS respondents with higher incomes were less likely to report bed sharing with their infant. During 2009–2010, three quarters (76.7%, C.I. 71.2–81.5) of new mothers reporting annual household incomes of \$14,999 or less reported bed sharing with their infant. In comparison, among women with household incomes of \$50,000 or more, approximately half (50.9%, C.I. 46.7–55.1) reported that their infant shares a bed with themselves or someone else.

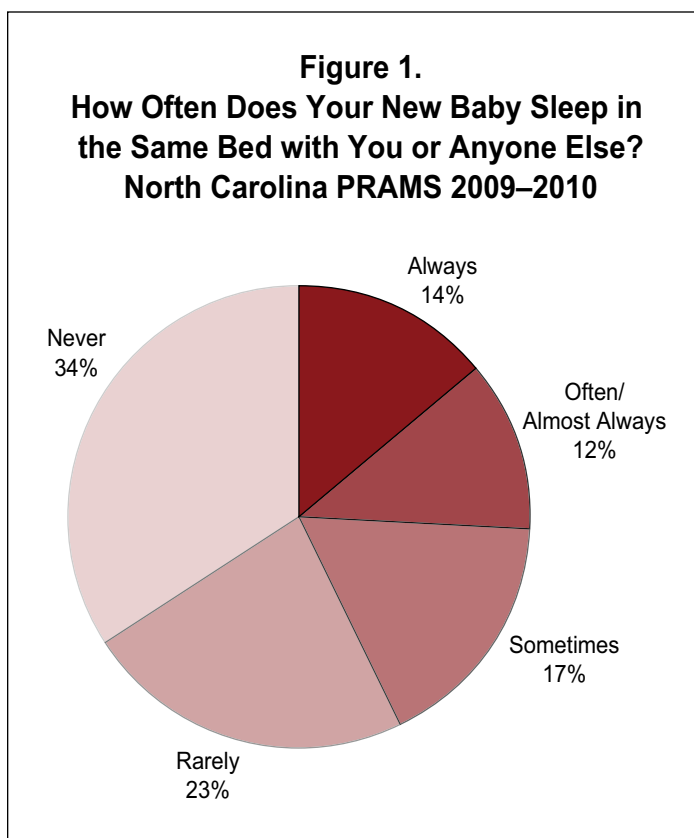


Table 1.
Does Your New Baby Ever Sleep in the Same Bed with You or Anyone Else?
North Carolina Pregnancy Risk Assessment Monitoring System Survey Results (2009 and 2010)

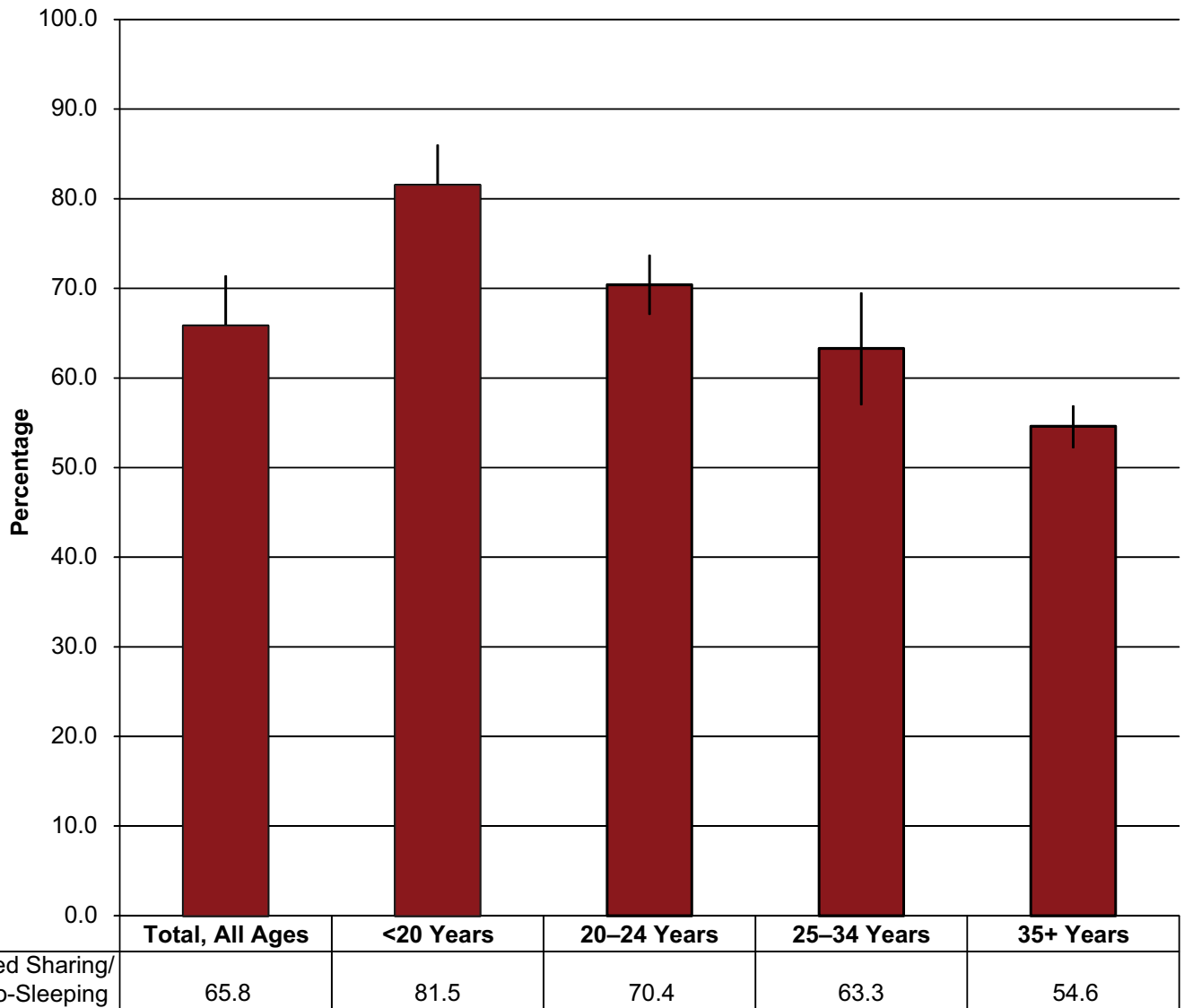
	Total Respondents	Yes/Bed Share			No/Never Bed Share		
		N	%	C.I. (95%)	N	%	C.I. (95%)
Total	2,071	1,350	65.8	63.4–68.1	721	34.2	31.9–36.6
Age							
< 20 Years	188	147	81.5	74.2–87.1	41	18.5	12.9–25.8
20–24 Years	478	336	70.4	65.4–74.9	142	29.6	25.1–34.6
25–34 Years	1,075	679	63.3	60.0–66.6	396	36.7	33.4–40.0
35+ Years	330	188	54.6	48.3–60.8	142	45.4	39.2–51.7
Race							
Non-Hispanic White	1,253	685	53.9	50.8–57.0	568	46.1	43.0–49.2
Non-Hispanic Black	454	386	86.7	82.5–90.1	68	13.3	9.9–17.5
Non-Hispanic Other	102	87	85.3	75.4–91.7	15	14.7	8.3–24.6
Latina	253	187	74.8	68.3–80.4	66	25.2	19.6–31.7
Hispanic Origin							
Yes	254	187	74.4	67.9–80.0	67	25.6	20.0–32.1
No	1,815	1,162	64.3	61.7–66.8	653	35.7	33.2–38.3
Education							
< High School	338	261	76.9	70.9–82.0	77	23.1	18.0–29.1
High School	548	374	67.8	63.1–72.1	174	32.2	27.9–36.9
> High School	1,180	711	60.5	57.4–63.6	469	39.5	36.4–42.6
Marital Status							
Married	1,302	775	59.7	56.7–62.7	527	40.3	37.3–43.3
Other	769	575	74.3	70.5–77.8	194	25.7	22.2–29.5
Income							
\$14,999 or less	379	295	76.7	71.2–81.5	84	23.3	18.5–28.8
\$15,000–\$24,999	478	342	72.1	67.2–76.4	136	27.9	23.6–32.8
\$25,000–\$49,999	428	295	67.3	61.9–72.2	133	32.7	27.8–38.1
\$50,000 or more	680	351	50.9	46.7–55.1	329	49.1	44.9–53.3
WIC Status							
Not on WIC	1,117	633	56.3	53.0–59.6	484	43.7	40.4–47.0
WIC Recipient	947	712	75.3	71.9–78.4	235	24.7	21.6–28.1
Medicaid Status							
Not on Medicaid	1,033	589	57.4	54.0–60.7	444	42.6	39.3–46.0
Medicaid Recipient	1,038	761	72.9	69.6–76.0	277	27.1	24.0–30.4
Infant's Birth Weight							
Under 2,500 Grams	681	472	71.0	67.5–74.2	209	29.0	25.8–32.5
2,500+ Grams	1,390	878	65.4	62.8–67.9	512	34.6	32.1–37.2
Breastfeeding at Eight Weeks							
No	927	596	64.6	60.9–68.1	331	35.4	31.9–39.1
Yes	1,126	744	66.9	63.8–70.0	382	33.1	30.0–36.2
Smoking After Pregnancy							
No	1,654	1,065	65.9	63.3–68.4	589	34.1	31.6–36.7
Yes	403	274	64.7	58.9–70.2	129	35.3	29.8–41.1
Infant Sleep Position							
Back	1,429	887	63.0	60.0–65.8	542	37.0	34.2–40.0
Other	642	463	71.9	67.7–75.8	179	28.1	24.2–32.3

Use caution in interpreting cell sizes less than 50.

N = Cell Size, % = Percentage, C.I. (95%) = Confidence Interval (at 95 percent probability level).

The percentages shown are weighted percentages, designed to reflect the entire population of North Carolina women having a live birth.

Figure 2.
Percentage of New Mothers Reporting Bed Sharing with Their Infant,
North Carolina PRAMS 2009–2010



- **Medicaid Status**—Mothers that had their delivery paid by Medicaid were more likely to co-sleep with their infant (72.9%, C.I. 69.6–76.0) compared with mothers whose delivery was paid by other sources (57.4%, C.I. 54.0–60.7).
- **WIC Status**—Women who received *Women Infants and Children* (WIC) program services were more likely to report infant bed sharing (75.3%, C.I. 71.9–78.4) than mothers who were not on WIC (56.3%, C.I. 53.0–59.6).
- **Breastfeeding**—Prior research suggests that infant co-sleeping may be more common among mothers who breastfeed their infants and co-

sleeping may encourage breastfeeding.^{11,12,13} However, N.C. PRAMS data for 2009–10 showed no significant difference between co-sleeping practices among mothers who reported breastfeeding their infants at eight weeks postpartum. Co-sleeping was common among both breastfeeding and non-breastfeeding mothers. Approximately 67 percent of new mothers (66.9%, C.I. 63.8–70.0) who reported breastfeeding their infant at eight weeks postpartum reported co-sleeping with their infant, compared with 64 percent (64.6%, C.I. 60.9–68.1) of mothers who were not breastfeeding.

- **Postpartum Smoking**—Maternal smoking is an independent risk factor for infant death. Smoking in conjunction with infant co-sleeping has also been associated with an increased risk of SIDS.⁵ PRAMS data for 2009–10 reveal that North Carolina mothers who reported smoking postpartum were not significantly more likely to report co-sleeping with their infant (64.7%, C.I. 58.9–70.2) than mothers who did not smoke (65.9%, C.I. 63.3–68.4).
- **Low Birth Weight Infant**—Mothers of low birth weight infants were somewhat more likely to report bed sharing (71.0%, C.I. 67.5–74.2), than mothers with infants of normal birthweight (65.4%, C.I. 62.8–67.9).
- **Infant Sleep Position**—In addition to the potential risks of infant bed sharing, research suggests that to reduce the risk of infant death, caregivers should always place infants to sleep on their backs.^{1,2,3,6} Mothers that reported putting their infants on their back to sleep were also slightly less likely to report bed sharing with their infant (63.0%, C.I. 60.0–65.8). Among women who reported not placing their infants on their back to sleep, over 70 percent (71.9%, C.I. 67.7–75.8) reported bed sharing with their infants.

Summary

To summarize, based on 2009–2010 N.C. PRAMS survey data, over half of North Carolina mothers (65.8%) report that they have allowed their infant to share a bed with them or someone else. The characteristics of mothers in North Carolina who report higher rates of infant bed sharing include:

- 20 years of age and younger
- 12 years or less of education
- Not married
- Non-white (Latina, African American, Other)
- Delivery paid by Medicaid
- Receipt of WIC benefits during pregnancy
- Delivered a low birth weight baby.

Limitations

There are several limitations to this report. First, our N.C. PRAMS survey question is limited to bed

sharing. The survey does not include questions related to co-sleeping with an infant on other potential sleeping surfaces, such as a couch, chair or floor. Therefore, these figures may underestimate the true prevalence of parents and caregivers who co-sleep with their infant.

Another limitation of this report relates to constraints inherent with all survey data—non-response. Some mothers selected for the sample may choose not to respond to the PRAMS survey. Additionally, we may be unable to make contact with all mothers selected for the sample due to inaccurate or missing address, phone or other contact information. In both 2009 and 2010, North Carolina PRAMS overall response rate was less than the CDC threshold of 65 percent, with minority mothers being significantly less likely to respond to both the mail and phone phases of the survey.

Lastly, it is important to note that PRAMS data are based on self-report. Some mothers that are aware of the AAP recommendations regarding infant bed sharing may fail to report their behavior for fear that they will be perceived as potentially putting their infant at risk.

Conclusion

Research suggests that infant bed sharing may be associated with an increased risk for infant deaths, including SIDS, accidental suffocation and overlay.^{3,4,5,14} Data from N.C. PRAMS show that the majority of North Carolina mothers are not following AAP recommendations which advise caregivers to never engage in bed sharing with an infant. These findings suggest that North Carolina mothers who have recently given birth may need to receive more information from providers and pediatricians regarding safe infant sleep practices—including the potential increased risk of infant death associated with infant bed sharing. Based on AAP guidelines, health care providers should advise new parents and caregivers that while “room sharing” with an infant is appropriate, bed sharing is not advised and may pose a mortality risk to their infant.⁶

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