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Understanding safe sleep knowledge and practices among New Mexico clinical staff

August 2017



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Introduction

The objective of this study was to gain a better understanding of current safe sleep practices implemented by nurses, and demonstrated to families, in the infant-oriented units [e.g., the Neonatal Intensive Care Units (NICU), Mother-Baby Units, and Labor and Delivery] of Albuquerque hospitals. The University of New Mexico Prevention Research Center (UNM PRC) also used data from the survey to inform a training session for clinical staff. The training was based on the most recent guidelines from the American Academy of Pediatrics (AAP) on safe sleep, applied in a culturally appropriate context for staff and for staff to use with families. The training and surrounding supports, such as safe sleep audits on units, are intended to help ensure that families are learning best practices in the hospital to help reduce the risk of Sudden Unexplained Infant Death (SUID)/ Sudden Infant Death Syndrome (SIDS) in New Mexico.

Background



In the 1990s, a national “Back to Sleep” campaign educated parents and providers on the importance of placing infants to sleep on their backs to help reduce the risk of SIDS.¹ While this campaign was successful, and infant mortality rates dropped significantly following the campaign, rates have since plateaued, and even increased among certain racial and ethnic groups.¹ Research also shows that parents and families are more likely to engage in safe sleep practices if they see

nurses implementing them and that if safe sleep is not practiced in the hospital families are less likely to adopt those practices themselves.^{2,3} Therefore, it is important to continue to promote safe sleep practices to help reduce the rates of infant mortality, since SUID/SIDS is still the number one killer of infants between 1 month and 1 year in New Mexico and nationally. In New Mexico, 66 infant deaths were classified as SUIDS between 2011-2013.⁴

In November 2016, the AAP updated its recommendations for best safe sleep practices based on current evidence.⁵ Most nursing staff are aware of most of the safe sleep recommendations. However, the AAP guidance changes frequently and nurses are not always current on the most up-to-date information, and even when nurses possess the information, they do not always practice safe sleep guidelines when caring for infants.^{6,7} Research from other states indicates that nurses share some of the same fears as parents, such as that infants are at higher risk of aspiration when on their backs, or that they will be cold or uncomfortable if not swaddled or padded.^{8,9} In the NICU, where infants have other complications such as reflux, nurses also are more likely to incline the cribs to improve digestion although there is no evidence to support this practice.⁹

NM SUIDS Data

Between 2005 and 2015, 244 infant deaths in New Mexico were attributed to SUIDS with a death rate of 77 per 100,000 live births.¹⁰ The race/ethnicity that has the highest rate of SUIDS is African Americans (205 out of 100,000 live births between 2005 and 2015). Additionally, male infants disproportionately die of SUIDS (63% of all SUIDS cases). More than two-thirds (68%) of SUIDS cases are infants 0-3 months old. Between 2012 and 2015, in the majority of SUIDS cases in New Mexico (59%), infants were found on an adult bed. Infants are more likely to die of SUIDS when bed-sharing than if they are in their own crib and African Americans are more likely to bed-share than other races/ethnicities.¹⁰

Methods

The UNM PRC conducted a cross-sectional study utilizing an anonymous online survey administered to clinical staff working in the infant-oriented units in two hospitals in Albuquerque, NM – UNM Hospital (UNMH) and Lovelace Women’s Hospital (Lovelace). The survey was open during June and July 2017.

Study Population



Photo credit: Thomas Neerken

Eligible participants included adults (at least 18 years of age) working on clinical units providing direct care and education to infants and families at participating hospitals. These included nurses, nurse educators, nurse technicians and lactation consultants. The research team contacted unit administrators who then sent the online survey to potential participants in their units. Potential participants were excluded if their work did

not put them in direct contact with patients or families. Participants were also excluded if they did not have fluency in English. Members of the research team also made laptops available for completing the surveys in breakrooms for clinical staff on infant-oriented units at UNMH.

Instruments

The UNM research team developed an online survey, administered using RedCAP software. It was adapted from a survey developed by Dr. Michael Goodstein and colleagues who are part of the AAP SIDS Task Force. The anonymous online survey - entitled “Infant Sleep Questionnaire” - included questions that measured safe infant sleep attitudes, knowledge, and practices by clinical staff working with infants and their families (Appendix I). The survey took 5-10 minutes to complete. Before starting the survey participants were asked to read through an informed consent for anonymous surveys.

Data Analysis

Response frequencies and percentages were calculated and response distributions were analyzed. Scores were calculated to assess the percentage of correct responses for the questions designed to determine knowledge of current standard of care and safe-sleep recommendations. Statistical analysis software Stata, version 14¹¹ was used to recode variables, generate scores, and tabulate results.

The qualitative data (open-ended survey responses) were grouped and coded based upon common themes. Themes were reviewed and revised by UNM PRC team members.

Results

There were 179 respondents to the survey. Respondents included nurses, nurse technicians, and nurse educators from UNMH, Lovelace, and Presbyterian (see Table 1). Although the survey was not administered at Presbyterian Hospital, one respondent identified working there.

Table 1. Safe infant sleep survey participant demographics

	<i>Total Participants (n=179)</i>	<i>Percentage*</i>
<i>Hospital</i>		
UNMH	146	81.6%
Lovelace Women's Hospital	31	17.3%
Presbyterian	1	0.6%
Other	0	0.0%
<i>Unit</i>		
Neonatal ICU	43	24.0%
General pediatric	42	23.5%
Intermediate care nursery	27	15.1%
Mother baby	18	10.0%
Pediatric intensive care	12	6.7%
Other	37	20.7%
<i>Time on unit</i>		
1-3 years	67	37.4%
7 years +	63	35.2%
Less than 1 year	27	15.1%
4-6 years	22	12.3%
<i>Age Group</i>		
25-34	80	44.7%
35-44	32	17.9%
45-54	23	12.8%
18-24	22	12.3%
55-64	17	9.5%
65-74	0	0.0%
75 or older	0	0.0%

	<i>Total Participants (n=179)</i>	<i>Percentage*</i>
<i>Race/Ethnicity</i>		
<i>Caucasian</i>	99	55.3%
<i>Latino/Hispanic/Spanish</i>	59	33.0%
<i>American Indian/Alaska Native</i>	6	3.3%
<i>African American</i>	2	1.1%
<i>Other</i>	7	3.9%
<i>Occupation</i>		
<i>Nurse</i>	149	83.2%
<i>Tech</i>	21	11.7%
<i>Nurse Educator</i>	2	1.1%
<i>Years in occupation</i>		
<i>0-10</i>	124	69.3%
<i>11-20</i>	20	11.2%
<i>21-30</i>	14	7.8%
<i>31-40</i>	7	3.9%
<i>41+</i>	1	0.6%
<i>Previous safe sleep education/training</i>		
<i>Yes</i>	102	57.0%
<i>No</i>	74	41.3%
<i>Learned how to demonstrate safe infant sleep</i>		
<i>Yes</i>	123	68.7%
<i>No</i>	52	29.1%
<i>Demonstrate safe infant sleep</i>		
<i>Yes</i>	139	77.6%
<i>No</i>	37	20.7%
<i>Ask families if they have a safe place for their baby to sleep</i>		
<i>Yes</i>	99	55.3%
<i>No</i>	72	40.2%

*Percentages do not add up to 100% due to missing data or multiple response categories.

The responses to the question “what unit do you work on?” were grouped for clarity. The category “other” includes: the newborn nursery, post-partum, labor and delivery, and family birthing unit. Out of 179 participants, 178 (99%) believed that accidental deaths in infants could be reduced. Additionally, only half of participants (54%) knew that the American Academy of Pediatrics updated its safe sleep recommendations in 2016. Nearly all participants reported that they refer patients to a social worker or other resource if they do not have a safe place for their baby to sleep. Participant responses regarding the AAP Safe Sleep Guidelines are reported in Table 2.

Table 2. Participant responses regarding knowledge of safe infant sleep guidelines

	<i>Correct answer</i>	<i>Incorrect answer</i>
<i>The only way for breastfeeding to be successful is by having the mother and baby sleep together: False</i>	178 (99.4%)	0 (0.0%)
<i>Infants are only at risk of SIDS or suffocation during bed-sharing if the parents are under the influence of alcohol or drugs: False</i>	173 (96.6%)	5 (2.8%)
<i>Which of the following are safe to have in the baby's sleep area? None of the above</i>	169 (94.4%)	10 (5.6%)
<i>Which of the following statements is correct: Keeping the room temperature comfortable for a lightly dressed adult is safest for the baby</i>	169 (94.4%)	10 (5.6%)
<i>It is safest for a baby to sleep: on the back</i>	164 (91.6%)	14 (7.8%)
<i>When a parent says that they place their newborn on his/her stomach to sleep, I tell them... the safest place for a baby to sleep is on the back; stomach sleeping places a baby at higher risk for SIDS</i>	158 (88.3%)	21 (11.7%)
<i>It is safest for a baby to sleep: in a crib or bassinet in the parents' room</i>	153 (85.5%)	23 (12.8%)
<i>When parents ask about bed-sharing, I tell them... the baby should sleep in his/her own bed, alone, in the parent's room; this places the baby at much higher risk for accidental death</i>	122 (68.1%)	57 (31.8%)
<i>Which of the following increase the risk of SIDS or suffocation? Stomach sleeping, side sleeping, fluffy bedding, overheating, cigarette use during pregnancy, second-hand cigarette smoke, bed-sharing.</i>	115 (64.2%)	64 (35.7%)
<i>Pacifiers are useful for reducing the risk of SIDS and are recommended after breastfeeding is firmly established: True</i>	108 (60.3%)	70 (39.1%)

*Percentages do not always add up to 100% due to missing data.

When asked what position was safest for the baby to sleep in, 92% of participants responded correctly. Incorrect answers included: “on the side” (1.1%) and “on the side or the back” (6.7%). Similarly, when asked where it was safest for the baby to sleep, 85% of participants answered correctly. Incorrect answers included: “in a crib or bassinet in a separate room” (12%) and “it does not matter” (1.1%). Also, when asked which statement was correct concerning the proper temperature and dressing of the baby, 94% of participants responded correctly. Incorrect responses included: “sleeping with the baby is the best way to keep the baby warm” (1.1%) and “swaddling the baby up to the chin with a thick blanket is the best way for a baby to sleep” (5.0%). The question: “when a parent says that they place their newborn on his/her stomach to sleep, I tell them” was a check all that apply question. Of 179 people, 158 (88%) checked only the correct boxes. An additional, 21 people checked the correct boxes as well as one or more incorrect boxes. Similarly, the question “when parents ask about bed-sharing, I tell them...” was

a check all that apply question. Two-thirds (68%) of respondents checked the correct boxes, and only the correct boxes. However, 57 people checked the correct boxes as well as one or more additional incorrect responses. The question about what factors increase the risk of SIDS or suffocation was also a check all that apply question. 115 people responded completely correctly (only selected the boxes with the correct responses). However, out of the 64 people that responded incorrectly, 42 people selected only one incorrect box.

Table 3. Frequency with which respondents discuss specific safe sleep information with their patients

	<i>Always</i>	<i>Most of the time</i>	<i>Sometimes</i>	<i>Never</i>
<i>What is SIDS</i>	108 (60.3%)	44 (24.6%)	15 (8.4%)	9 (5.0%)
<i>Baby's sleep position</i>	97 (54.2%)	43 (24.0%)	29 (16.2%)	8 (4.5%)
<i>Infant dress and blankets</i>	91 (50.8%)	42 (23.5%)	30 (16.7%)	12 (6.7%)
<i>What to put in the crib</i>	86 (48.0%)	38 (21.2%)	37 (20.7%)	15 (8.4%)
<i>Bedding</i>	83 (46.4%)	48 (26.8%)	35 (19.5%)	10 (5.6%)
<i>Bed sharing</i>	75 (42.0%)	53 (29.6%)	35 (19.5%)	12 (6.7%)
<i>Breast feeding</i>	74 (41.3%)	52 (29.0%)	31 (17.3%)	18 (10.0%)
<i>Smoke exposure</i>	74 (41.3%)	54 (30.2%)	32 (17.9%)	15 (8.4%)
<i>Where to place the baby</i>	69 (38.5%)	48 (26.8%)	35 (19.5%)	24 (13.4%)
<i>Crib mattress</i>	50 (27.9%)	38 (21.2%)	38 (21.2%)	51 (28.5%)
<i>Inclining the crib</i>	45 (25.1%)	48 (26.8%)	48 (26.8%)	34 (19.0%)
<i>Sleep positioners</i>	43 (24.0%)	39 (21.8%)	41 (22.9%)	47 (26.2%)

*Percentages do not always add up to 100% due to missing data.

Barriers

Participants reported barriers that prevent them from using safe sleep practices and/or teaching patients to use safe sleep practices (see Figure 1).

The most commonly reported barrier to following safe infant sleep practices was the beliefs or cultural practices of patients and their family members. Other commonly reported barriers included: language barriers, nursing staff do not always follow safe sleep practices, lack of appropriate educational materials, and staff not wanting to contradict patient or family members. The “other” responses were grouped for clarity and included patients being too ill (n=3), patients being too fussy (n=2), parents not being available (n=2), doubt that safe sleep actually prevents SIDS (n=2), and conflicting advice from lactation specialists (n=1).

Figure 1. Barriers to educating patients regarding safe infant sleep

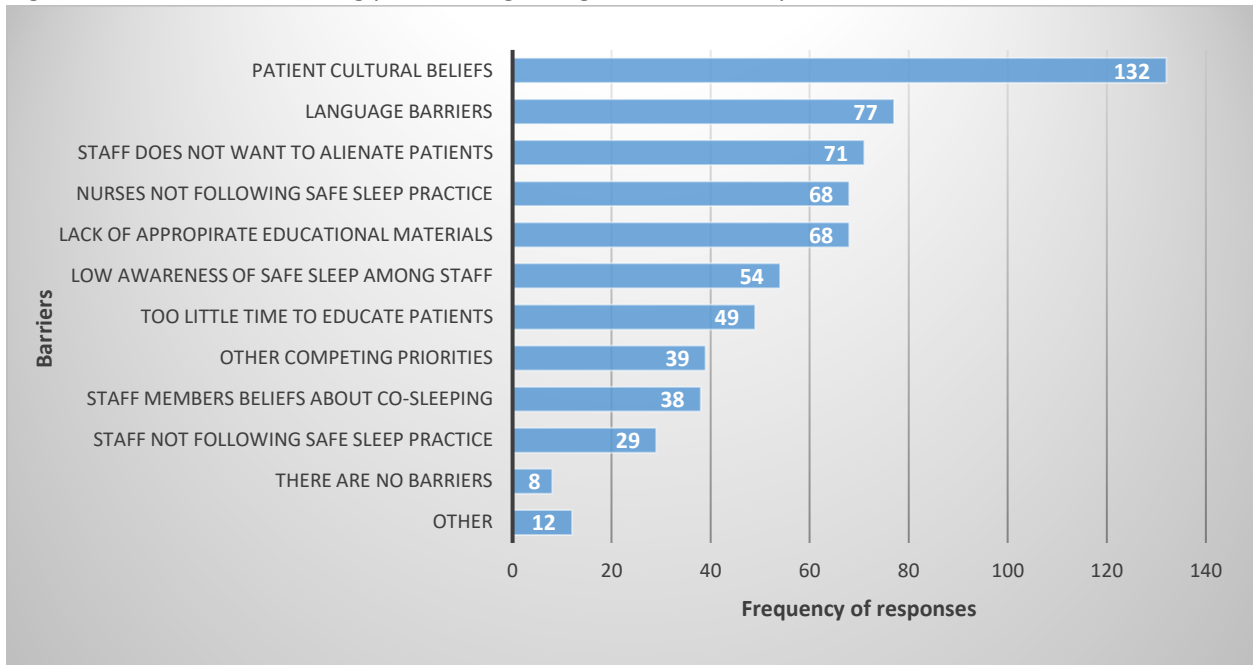


Table 5. Barriers to modeling and encouraging safe sleep practices

	Total Participants (n=88)	Percentage*
What stops you from using safe sleep practices 100% of the time?		
Patient is too sick	37	42.0%
Pushback from parents	25	28.4%
Fussy/withdrawing patients	7	7.9%
Lack of knowledge/resources	7	7.9%
Time constraints	7	7.9%
Cultural/language barriers	3	3.4%
Other	7	7.9%
What stops you from encouraging families to use safe sleep practices 100% of the time? N= 73		
Time constraints	18	24.6%
Pushback from parents	18	24.6%
Patient is too sick	11	15.1%
Cultural/language barriers	9	12.3%
Lack of knowledge/resources	8	10.9%
Parents not present	7	9.6%
Other	12	16.4%

* Percentages do not add up to 100% due to missing data or multiple response categories.

Open-ended responses were grouped and summarized. Among those who responded, the most common response when asked why they did not use safe sleep practices 100% of the time was that the patient was too sick and needed other sleeping requirements. When asked what stopped them from encouraging families to use safe sleep practices, the most common responses were that time was limited and they received “pushback” from parents.



Recommendations

After reviewing participant responses to the safe sleep questionnaire, we recommend:

- Providing nurses/clinical staff with culturally relevant educational materials that they can use to share with patients and their families to educate about safe sleep and SUIDS
- Developing talking points for nurses/clinical staff on the best ways to broach the subject of safe infant sleep with sensitive patients
- Conducting regular training for nurses and other clinical staff on the highlights of the new AAP safe sleep guidelines
- Providing a list of resources to nurses about where to refer patients if they cannot afford a crib or other safe place for their infant to sleep

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Appendix I

INFANT SLEEP QUESTIONNAIRE

[Created in REDCap and administered electronically]

This survey is designed for nurses, lactation consultants, techs, and other employees on the unit who provide direct education to, or have direct contact with, infants and their families. If you do not meet that description, and think you may have gotten this survey by mistake, please check with your unit administrator.

We understand that there are some medical conditions that preclude normal safe sleep practices. Please answer the following questions assuming that we are talking about infants that are >1800grams, > 34 0/7 weeks, and sleep in an open crib.

1. Do you believe that the rate of accidental deaths in infants can be reduced?
Yes No

2. Did you know that the American Academy of Pediatrics updated its safe sleep recommendations in [Nov.2016]?
Yes No

3. It is safest for a baby to sleep:
 - On the stomach
 - On the side
 - On the back
 - On the side or back
 - It does not matter

4. It is safest for a baby to sleep:
 - In a crib or bassinet in the parents' room
 - In a crib or bassinet in a separate room
 - In bed with the parents
 - In a side car or "co-sleeper"
 - It does not matter

5. Which of the following are safe to have in the baby's sleep area? (**check all that apply**)
 - Pillows
 - Comforters
 - Bumpers
 - Stuffed animals and/or plush toys
 - Positioners
 - None of the above

6. Which of the following statements is correct:

- Bundling the baby with lots of blankets is important to keep baby warm.
- Sleeping with the baby is the best way to keep baby warm.
- Keeping the room temperature comfortable for a lightly dressed adult is safest for the baby.
- Swaddling the baby up to the chin with a thick blanket is the best way for baby to sleep.

7. The only way for breastfeeding to be successful is by having the mother and baby sleep together.

True False

8. Pacifiers are useful for reducing the risk of SIDS and are recommended after breastfeeding is firmly established.

True False

9. Infants are only at risk of SIDS or suffocation during bed-sharing if the parents are under the influence of alcohol or drugs.

True False

10. Which of the following increase the risk of SIDS or suffocation? (**check all that apply**)

- Stomach sleeping
- Side sleeping
- Back sleeping
- Fluffy bedding
- Overheating
- Cigarette use during pregnancy
- Second hand cigarette smoke
- Bed-sharing
- None of these

11. Do you discuss the following safe sleep information with your families?

Baby's sleep position?	Always, Most of the time, Sometimes, Never
Crib mattress?	Always, Most of the time, Sometimes, Never
What to put in the crib?	Always, Most of the time, Sometimes, Never
What not to put in the crib?	Always, Most of the time, Sometimes, Never
Infant dress and blankets?	Always, Most of the time, Sometimes, Never
Bedding?	Always, Most of the time, Sometimes, Never
Where to place the baby?	Always, Most of the time, Sometimes, Never
Smoke exposure?	Always, Most of the time, Sometimes, Never
Bed-sharing?	Always, Most of the time, Sometimes, Never
Breast-feeding?	Always, Most of the time, Sometimes, Never

What is SIDS?	Always, Most of the time, Sometimes, Never
Pacifier use?	Always, Most of the time, Sometimes, Never
Sleep positioners?	Always, Most of the time, Sometimes, Never
Inclining the crib?	Always, Most of the time, Sometimes, Never

12. When a parent says that they place their newborn on his/her stomach to sleep, I tell them...
(check all that apply)

- It's all right because the baby will have less of a chance of choking.
- Once in a while it's ok if the baby is fussy.
- The safest place for a baby to sleep is on the back.

13. Stomach sleeping places a baby at a much higher risk for SIDS.
 When parents ask about bed-sharing, I tell them... **(check all that apply)**

- It's ok and promotes bonding.
- The baby should sleep in his/her own bed, alone, in the parent's room.
- It's ok and promotes breastfeeding.
- It's ok once in awhile.
- This places the baby at much higher risk for accidental death.

14. Have you received education or training on how to deliver safe sleep education to families?

Yes No

15. Have you learned how to demonstrate safe sleep practices at the bedside for the families you care for?

Yes No

16. Do you demonstrate safe sleep practices at the bedside to educate new families?

Yes No

17. Do you ask families if they have a safe place for their baby to sleep?

Yes No

17a. [If respond 'Yes' to 17] If parents say "No", that they don't have a safe place for their baby to sleep, what do you say/do?

18. What stops you from using safe sleep practices 100% of the time when caring for infants?

19. What stops you from encouraging families, or educating families, to use safe sleep practices 100% of the time?

20. My age range is:

- 18-24
- 25-34
- 35-44
- 45-54
- 55-64
- 65-74
- 75 or older

21. My race is: **(check all that apply)**

- Caucasian (white)
- Latino/Hispanic/Spanish
- African American/Black
- American Indian/Alaska Native
- Other: _____

22. Which hospital do you work for?

- UNMH
- Lovelace
- Presbyterian
- Other _____

23. What unit do you work on? _____

24. How long have you worked on this unit?

- Less than 1 year
- 1-3 years
- 4-6 years
- 7 years +

25. What is your occupation (e.g., nurse, nurse educator, tech)? _____

26. How many years have you been a [nurse, nurse educator, tech]? _____

Thank you for taking this survey!

Look for an upcoming training on safe sleep for infants. We hope to see you there.