To Improve Safe-Sleep Practices, More Emphasis Should Be Placed on Removing Unsafe Items From the Crib

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Introduction

Babies are dying from preventable conditions, and in the United States, the infant mortality rate (6.5 per 1000 live births) is higher than in countries that spend less money on their health care.[1] In Sedgwick County, Kansas (population 498 365) the infant mortality rate remains even higher than the national average (8.1 per 1000).[1] In 1994, the American Academy of Pediatrics (AAP) released guidelines for infant safe sleep to prevent sudden infant death syndrome (SIDS). Following these recommendations, the Back-to-Sleep campaign promoted placing infants supine; in the following years, a 50% reduction in SIDS deaths was observed. The AAP revised these guidelines[2] in 2005 and 2011 to further emphasize environment as well as position. Current recommendations include that babies be placed on their back, in a crib with a firm mattress and fitted sheet. Bumpers, pillows, loose blankets, stuffed toys, and other potential suffocation hazards are not recommended. However, studies continue to show infant deaths related to nonsupine position and environment.[3,4] For example, a review of SIDS deaths in San Diego from 1991 to 2008 found that only 5% of infants had no extrinsic risk factors at the time of death.[4]

The focus of our study was to develop and provide a Safe Sleep Toolkit for providers that could facilitate a consistent safe-sleep message (position, location, and environment) to caregivers of infants.

Methods

As part of a university, physician, and nonprofit collaboration, we recently developed a Safe Sleep Toolkit (http://www.kidsks.org/MSSC.html) to improve consistency in safe-sleep communication from providers. The toolkit was intended for use by pediatricians, family medicine physicians, and obstetricians. The focal point of the toolkit was a paper-based checklist for caregivers to complete regarding safe sleep. Caregivers were asked to respond to the following 4 items:

1. How do you lay your baby down to sleep?
2. Where does your baby sleep at home?
3. Please circle the items that are already in your baby's sleeping area at home, or that you plan to get for your baby's sleeping area.
4. Have you talked about safe sleep with others who may put your child down to sleep?

Each item included multiple choice responses. For ease of scoring, the correct answers were located on the left margin. The toolkit also included a brief provider script with suggestions on how to address each of the items on the checklist in order to encourage consistent sleep messages for caregivers. A Child Care Checklist that addressed safe sleep, in addition to other topics, was included with the recommendation of providing it to, at minimum, parents who had not talked about safe sleep with other caregivers. Additional local and national resources were also provided, including a link to the ABCs of Safe Sleep video and Web links to order free safe-sleep items, such as copies of the National Institute of Child Health and Human Development booklet (*Infant Sleep Position, and SIDS: Questions and Answers for Health Care Providers*), posters, trifold brochures, and door hangers.

The toolkit was pilot tested at 2 resident physician clinics in Wichita, Kansas, from March to October 2013. At the obstetrical clinic, mothers were asked to complete the paper-based checklist at 28 and 36 weeks' gestation, based on their intentions for following the safe-sleep guidelines after their infant was born. At the pediatric clinic, parents of children ≤6 months of age completed the checklist based on actual sleep practices. Additional,

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Table 1. Parental Responses to Checklist Items.

Safe-Sleep Recommendation	Obstetrical Clinic, n = 214	Pediatric Clinic, n = 287	Total, n = 501
Safe location (crib, bassinet, portable crib)	199 (93.0%)	243 (84.7%)	442 (88.2%)
Safe position (back)	169 (79.0%)	232 (80.8%)	401 (80.0%)
No unsafe items	81 (37.9%)	106 (36.9%)	187 (37.3%)
Have firm mattress and fitted sheet	155 (72.4%)	225 (78.4%)	380 (75.8%)
Talk about safe sleep with others who might place their child down to sleep	90 (42.1%)	178 (62.0%)	268 (53.5%)
Overall Safe Sleep[a]	44 (20.6%)	71 (24.7%)	115 (23.0%)

[a]Overall safe sleep was computed by identifying infants who had a safe location, safe position, both recommended items (firm mattress and fitted sheet), and no unsafe items (bumper, loose blankets, pillows, stuffed toys, etc).

Table 2. Physician Discussion Regarding Unsafe-Sleep Responses to Parent Checklist Items.

	Physician's Reporting Discussing Safe Sleep[a]		
Parent Report of Unsafe Sleep	Obstetricians	Pediatricians	*P* Value
Unsafe location	3/3 (100%)	17/19 (89.5%)	.56
Unsafe position	13/16 (81.3%)	35/36 (97.2%)	.02
Missing firm mattress	5/7 (71.4%)	8/15 (53.3%)	.73[b]
Missing fitted sheet	6/9 (66.7%)	15/28 (53.6%)	.76[b]
Including unsafe items	56/64 (87.5%)	54/96 (56.3%)	<.001
Failure to disseminate safe-sleep information to other caregivers	28/29 (96.6%)	9/30 (30.0%)	<.001

[a]Not reporting safe-sleep discussions may indicate no topics were discussed or that the physician did not fill out the form.
[b]Yate's correction.

optional demographic questions were added regarding sex, age, education, and race/ethnicity and number of children.

Checklists were given to parents by the front desk when they checked in for their infant's appointment. Parents completed the checklist, and it was collected and reviewed by the nurse or physician during the infant's appointment. Providers were then asked to provide safe-sleep counseling, at minimum, for those responses not following the AAP recommendations. On the back of the checklist, providers could indicate which, if any, of the 3 safe-sleep topics were discussed and whether the Child Care Checklist was provided to the parent. Anonymous checklists were collected weekly from the clinics by a research assistant. The Statistical Package for the Social Sciences (SPSS Inc, Chicago, IL) was used for analysis. Approval was received from the Wichita Medical Research and Education Foundation Institutional Review Board and the University of Kansas School of Medicine–Wichita Human Subjects Committee.

Results

Checklists were completed by 501 parents, 57.3% (n = 287) at the pediatric clinic and 42.7% (n = 214) at the obstetrical clinic. Of the respondents, 84% were female (n = 421), 4% (n =20) were male, and the remaining 12% (n = 60) did not respond. Almost half reported having a high school diploma or less (235; 46.9%). Nearly half (235; 46.9%) identified as white, with 14.8% (n = 74) being African American and 16.6% (n = 83) mixed race or other; 21.8% (n = 109) did not respond. In addition, 22.4% (n = 112) were Hispanic, although 15.2% (n = 76) did not respond. The number of children ranged from 0 to 9, with the majority reporting 1 or 2 (n = 261; 52.1%).

Checklist results are reported in Table 1. The majority of parents reported both safe-sleep location and position for their infant. However, only 37.3% (n = 187) reported a sleep environment with no unsafe items, such as loose bedding, pillows, bumpers, and so on.

Providers engaged in discussion regarding safe sleep with most parents who reported intentions/behavior in opposition to the AAP recommendations for safe sleep (Table 2). Compared with obstetricians, pediatricians were significantly more likely to report discussing unsafe-sleep positions with parents who indicated a position other than supine. However, pediatricians were less likely to report discussing the importance of removing unsafe items reported in the sleep environment. Pediatricians were also less likely to provide the Child

Care Checklist to parents who reported that they had not shared safe-sleep information with other caregivers.

Discussion

These data suggest that most parents are aware of and implementing the AAP's recommendations for safe-sleep location and position, although there is still room for improvement. This is not surprising because the Back-to-Sleep campaign is approaching its 25th anniversary. However, less than a quarter of parents incorporated the recommendations assessed by the first 3 items of the checklist—location, position, and other objects in the environment. Specific areas for focus appear to be removing unsafe items from the crib and encouraging safe-sleep discussions with other caregivers.

More than 60% of respondents reported at least 1 item in the crib that would increase the infant's risk of accidental suffocation, asphyxiation, and SIDS. Additional messages and communication strategies are needed to emphasize the importance of removing these items from the crib. Studies have shown that consistent messaging from health care providers,[5] especially from multiple sources,[6] increased the chances of parents implementing safe-sleep strategies. Therefore, obstetricians, family medicine physicians, hospitalists, and pediatricians should all work collaboratively to disseminate the AAP's recommendations. Strategies outside of the physician's office are also being implemented to disseminate consistent safe-sleep messages. For example, in both Maryland[7] and Chicago, Illinois,[8] the sale of crib bumpers have been banned because of dangers of mortality associated with their use.[9]

Only about half of parents reported having spoken with other child care providers about safe sleep. This is important because nearly 1 in 6 deaths occurred outside the care of the parents or primary caregivers.[10] In addition, the Child Care Checklist was only given to parents about a third of the time by pediatricians. Multiple health care sources advising parents and providing tools such as the Child Care Checklist may enhance parental self-efficacy for encouraging caregivers to follow the safe-sleep guidelines when caring for their infant. Further research is needed on the best ways to empower parents to advocate for safe sleep when their infant is in the care of others.

This project suffers from several limitations regarding process and scope; however, it was intended to pilot test the toolkit and specifically the Safe Sleep Checklist. Next steps include implementation at a new clinic with preintervention and postintervention assessment of provider communication and parental knowledge and intentions. However, our pilot data indicated that the major issues in infant safe sleep are the removal of unsafe items and education of all infant caregivers. Health care providers should focus on these topics in addition to sleep position and location.

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