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Revisiting Safe Sleep Recommendations for African-American Infants: Why Current Counseling is Insufficient

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Abstract The American Academy of Pediatrics recommends that children be placed in the supine position on firm bedding and not bed share with parents or other children. Health professionals increasingly understand that many African-American parents do not follow these recommendations, but little research exists on provider reactions to this non-compliance. This study was intended to better understand how low-income, African-American mothers understand and act upon safe sleep recommendations for newborns and how providers counsel these mothers. We conducted focus groups with 60 African-American, low-income, first-time mothers and telephone interviews with 20 providers serving these populations to explore provider counseling and patient decision making. The large majority of mothers reported understanding, but not following, the safe-sleeping recommendations. Key reasons for non-compliance included perceived safety, convenience, quality of infant sleep and conflicting information from family members. Mothers often take measures intended to mitigate risk associated with noncompliance, instead increasing SIDS risk. Providers recognize that many mothers are non-compliant and attribute non-compliance largely to cultural and familial influence. However, few provider attempts are made to mitigate SIDS risks from non-compliant behaviors. We suggest that counseling strategies should be adapted to: (1) provide greater detailed rationale for SIDS prevention recommendations; and (2) incorporate or acknowledge familial and cultural preferences. Ignoring the reasons for sleep decisions by African-American parents may perpetuate ongoing racial/ethnic disparities in SIDS.

Keywords SIDS · Sleep safety · African-American · Co-sleeping

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Introduction

Although Sudden Infant Death Syndrome (SIDS) rates have declined by more than 50 % in all populations in the United States since the early 1990s, there remain racial disparities [1, 2]. African-American infants are at particularly high relative risk for SIDS and (100.7 per 100,000), approximately twice that of Caucasian infants (54.8 per 100,000) [1, 3]. Similarly, in 2009, Sudden Unexplained Infant Deaths (SUID), which includes SIDS, rates were highest for American Indian/Alaska Native and non-

Hispanic Black infants (2.14 and 1.92 per 1,000, respectively, compared to 0.94 per 1,000 among Caucasian infants) [4]. Georgia has one of the highest SIDS/SUID rates in the country and, in 2009, became one of five states to receive funding for the SUID Case Registry Pilot Program of the Centers for Disease Control [5].

Since 1992, the American Academy of Pediatrics (AAP) has recommended that infants sleep in a non-prone position, followed by later recommendations for supine positioning, sleeping alone and on a firm surface [1, 6]. However, there is ongoing debate about the benefits and risks of bed sharing practices for infants, particularly in light of increased breastfeeding initiation rates and duration for mother/infant dyads that share a bed [7–13]. In many parts of the world, bed sharing is standard for parents of infants [14]. Ball [15, 16] suggests that "beliefs about the appropriate degree of parental proximity for infant sleep are culturally mediated" and have significant impact on breastfeeding initiation and duration rates, which are known to be protective against SIDS/SUID. Bed sharing prevalence has also increased in the United States [7], with up to 50 % of American mothers acknowledging bed sharing with their infant at some point [11].

McKenna and McDade also recommend more specific definitions to differentiate between safe and unsafe beds and bed sharing. For example, bed sharing has been shown to be more hazardous when parents are smokers [17–21], when on excessively soft surfaces, such as waterbeds, sofas, and armchairs [18, 19, 22–24], or when the infant is <2–3 months of age [18, 20, 23–26]. In addition, bed sharing SIDS/SUID risk increases with multiple bed sharers [22], when bed sharing occurs for the entire night [18, 21], and when the bed sharer has consumed alcohol or is overtired" [21, 25, 27]. Therefore, labeling one generic sleeping arrangement (bed sharing) as inferior, without awareness of the environmental, family, social and ethnic context, ignores important nuances and may not accurately describe the risk [2, 10–12, 28].

In 2000, the AAP began expanding SIDS prevention recommendations to include pacifier use, room (but not bed) sharing, breastfeeding and limiting exposure to tobacco, alcohol and illicit drugs [1, 6]. Yet, research increasingly demonstrates that certain racial populations are less likely to follow these recommendations for safe infant sleeping. African-American mothers are significantly more likely to bed share [10, 12, 28, 29] and to place infants to sleep in the prone position [7, 22, 30], even though they are aware of and understand the safe sleep recommendations [28]. Even for African-American infants who begin sleeping in the supine position, approximately one quarter will begin sleeping in the prone position at 2–4 months of age, a high risk period for SIDS/SUID [31]. Mothers are more likely to place infants in the prone position to increase perceived comfort and safety; safety concerns tend to include concerns of infant vomiting/aspiration while in the supine position [28]. Prone sleeping position has also been linked to a grandparent in the home or if the infant is the first-born child [29], suggesting that new mothers may be particularly influenced by outdated generational advice.

The goal of this study was to compare decision making regarding sleep practices for low-income, African-American women and counseling practices of their providers to better understand how to effectively mitigate SIDS/SUID risk for this population.

Methods

This analysis is part of a larger study that qualitatively explored the topic of parenting information needs for low-income, first-time, new mothers in Georgia [32]. For this manuscript, we focused on the sleep safety components of the study and data collection from African-American mothers. Data collection included information from eight focus groups with African-American new mothers (n = 60) and 20 interviews with medical providers who serve new mothers.

Focus Groups

Participant Recruitment

We recruited focus group participants for seven groups via fliers in waiting and exam rooms at clinical sites in Atlanta and Albany, GA. These clinical sites included a large, safety net public health system in metro-Atlanta, a safety net, non-profit clinic and health department clinic in Albany, GA. Participants in seven focus groups were exclusively African-American. We also held one focus group comprised of moderate–high-socioeconomic status (SES) women of varying races in Metro-Atlanta, including three African-American and two Caucasian mothers. Data in this manuscript includes only findings from the African-American participants.

Interested participants contacted the study coordinator and participated in a brief telephone interview to determine eligibility. A woman was eligible if she was over the age of 18, spoke English, was a first-time mother and her infant was <6 months old. We restricted infant age to 6 months to reduce recall bias of informational needs shortly after birth. Of 65 African-American women screened, 60 participated. We conducted focus groups until our research team determined that we had reached saturation on the key

Table 1 Sleep safety questions used in data collection

General questions	Probing questions
Questions about sleep safety used in focus groups	
Focus group questions	
Tell us about the sleeping arrangements for you and your baby when you got home from the hospital. Where does your baby sleep?	Is the baby in the same room as you?
	Is the baby in the same bed as you?
	Is there anyone else in the same bed?
	Do you have a crib/bassinet for the baby?
Did the hospital or doctor's office talk to you about the best place for your baby to sleep?	What did they tell you?
	Did you understand the recommendations?
For those of you who decided to have your baby sleep in the bed with you, why did you make this decision?	Did it feel safer to have the baby with you?
	Was it more convenient for nighttime feedings/changing to have the baby with you?
Do you put your baby to sleep on his/her back, side or front?	Why?
	Is it a matter of safety?
	Does the baby sleep better/longer in this position?
Did the hospital or doctor's office talk to you about the best sleeping position for your baby?	What did they tell you?
	Did you understand the recommendations?
Questions about sleep safety used in provider interviews	
Provider interview questions	
What are the key issues you counsel new mothers about?	Do you have a list of topics you counsel on?
	Is SIDS prevention one of the issues you spend time discussing? Why or why not?
	If yes, how much time do you spend counseling on SIDS/ sleep safety?
Do you feel most new mothers are well-informed on parenting issues?	Do you think most mothers understand the SIDS recommendations?
	Do you think most mothers are following the SIDS recommendations? If not, why do you think they are not following the recommendations?
Do you feel that you face cultural barriers when working with your patients around parenting issues?	What are some of the cultural issues you face?
	Are there cultural issues specific to co-sleeping?
	How do you emphasize safety when it conflicts with cultural or economic issues for the family?

themes of interest to our funding agency, as determined by ongoing data and summary reviews.

Focus Group Guide and Process

We developed the focus group guide in partnership with the state funding agency, and based upon a comprehensive review of the extant literature on a variety of predetermined parenting topics. The guide was also piloted with three women at one clinical location and revised accordingly. Informed consent was collected for all participants prior to participation. Focus groups were co-conducted by two facilitators with expertise in maternal-child health and qualitative data collection and a research assistant who took notes. Each focus group lasted approximately 90 min and participants received a $50 incentive. All focus groups were audio recorded and professionally transcribed. When questions on child care practices arose from the participants, the moderators noted that they were not clinical health care professionals and referred the parents to their child's own primary care provider. Participants were also provided a list of parenting resources they could access for answers to certain questions. Key focus group questions related to SIDS and sleep safety are shown in Table 1.

Provider Recruitment

Each partner site provided a listing of all providers (physicians, nurse practitioners and nurse midwives) who see new mothers at their location. Our research team generated a sampling strategy to maximize diversity of provider type, location, gender, and years of practice (for which age above or below 50 years acted as a proxy). Providers were contacted by telephone and/or email and invited to participate in the study. If a provider declined, we replaced him/her with a provider with similar characteristics (as much as possible). Sixty-seven providers were invited to participate, of whom 20 completed the interview process. We held provider interviews until the research team determined that we had reached saturation on key study topical areas.

Provider Interview Guide and Process

We developed separate interview guides for obstetric and pediatric/family practice providers. Each guide was piloted with an OBGYN and a pediatrician, respectively, and revised based on input. Interviews were conducted by one of two senior researchers with expertise in provider interviewing and a research assistant who took notes and facilitated logistics. Each interview lasted 45–60 min and providers were offered a $100 gift card incentive for their participation. All interviews were audio recorded and transcribed by a

professional transcriptionist. Key provider interview questions related to SIDS and sleep safety are shown in Table 1.

Data Analysis

Using a content analysis framework [33], our team of five researchers, experienced in qualitative research methods, developed both inductive and deductive categories and major themes for data analysis. At the conclusion of each focus group or interview, two team members collaborated to generate a summary, including the major findings, themes and observations/developments. The focus group facilitators and provider interviewers reviewed each transcript and amended summaries as appropriate. Summaries were subsequently presented to an expert panel of providers, government stakeholders, and academic researchers to validate findings and obtain feedback.

Our data analysis included an iterative cycle of data collection, coding, and triangulation [34]. The data from the focus groups and provider interviews were first coded separately using an open coding approach and given equal consideration. When themes diverged, differences were noted and discussed among the research team. Illustrative examples of each theme were identified, and select quotes are included in this paper. All coding was completed using NVivo9 software [41]. In addition, researchers used narrative member checks and verbal summarizations to verify the interpretation and analysis of the data [42]. During data analysis, team members met frequently to discuss emerging themes, problem solve when discrepancies occurred and determine when saturation was met.

For purposes of establishing internal validity, transcripts were dual coded and we compared the coding and established a minimum concurrence of 80 %. If coding consistency was less than 80 % across all transcripts for a code, a third research team member reviewed the coding and acted as the tiebreaker. The protocol for this study was approved by a university institutional review board and are in accordance with accepted ethical standards.

Results

Sample

As shown in Table 2, the average age of the mothers was 22.5 years of age; average infant age was less than 9 weeks; and less than ½ of the sample had completed education beyond high-school/GED. Providers included 13 physicians, three nurse practitioners and four nurse midwives, representing the fields of family practice, pediatrics, and obstetrics. In addition to job type, providers varied in gender (30 % male; 70 % female), age (45 % under age 50; 55 % over age 50) and geographic location (65 % in Metro-Atlanta, 35 % in Albany, GA).

Table 2 Participant demographics

Focus group characteristics (n = 92)	
Participant age average (years)	22.5
Participant age range (years)	18–36
Infant age average (weeks)	8.4
Infant age range (weeks)	1.5–24
Highest level of education, n (%)	
Less than high school	9 (15 %)
High school/GED	24 (40 %)
Some college/Tech/community	22 (37 %)
College graduate or more	4 (7 %)
Other/missing	1 (2 %)
Race/ethnicity, n (%)	
African-American/Black	60 (100 %)
Provider characteristics (n = 20)	
Provider type	
Physician	13 (65 %)
Nurse practitioner	3 (15 %)
Nurse midwife	4 (20 %)
Medical specialty	
Family practice	1 (5 %)
Pediatrics	10 (50 %)
Obstetrics	9 (45 %)
Gender	
Male	6 (30 %)
Female	14 (70 %)
Geographic location	
Metro Atlanta	13 (65 %)
Albany, GA	7 (35 %)
Age	
<50	9 (45 %)
>50	11 (55 %)

Central Themes

Several themes related to sleep safety behaviors were discussed, including: (1) understanding of and compliance with sleep safety recommendations, (2) reasons for compliance/non-compliance, and (3) the role of family and culture in parental decision making. Illustrative quotations for each theme can be found in Table 3.

Understanding of and Compliance with Sleep Safety Recommendations

In focus groups with African-American mothers, we found that the very large majority of participants were aware of

Table 3 Selected quotations by theme

Widespread knowledge of guidelines
"They told me the same thing in my parenting class. Put the baby on the back," *Mother*
"I know I'm not supposed to, but she sleeps on her stomach." *Mother*
"Well, I know they say you don't supposed to but … at night I put her in the bed with me." *Mother*
"I know that you can get so far and then you can't get any further with it. They hear you, they understand what you're saying, and they might even agree with you, but they're not going to do it." *Pediatrician*
"I mean I don't think written training or anything is going to help you because you know people know about it. So the question is how are you going to get them to change behaviors." Nurse *Practitioner*
Reasons for non-compliance
Safety
"Especially with sudden infant death, the SIDS. Man, they had me scared to death if I put her in the crib she was going to roll over or something." *Mother*
"They tell you not to put the baby in the bed, but it feels more safe to have the baby next to you." *Mother*
Convenience
"because I be tired. I don't really want to walk to the crib." *Mother*
Better infant sleep
"But, yeah, she just sleeps better on her stomach. I know I'm not supposed to, but she sleeps on her stomach." *Mother*
Risk mitigation
"At night I put her in the bed with me, but I put a pillow between us." *Mother*
"OK, when I'm getting ready to put him in the bed, I completely make up my bed, smooth it out and everything and put his own blanket on top of the sheet and then when he fall asleep, I put pillows so he won't roll." *Mother*
Role of family/culture in sleep decisions
"Other caregivers may have heard a different message from what we're saying today, so they need to really understand that this is better information today and we're seeing less deaths as a result of it. I think that's crucial information … because otherwise grandmamma or auntie is going to win out because they're going to say are you sure about that?" *Pediatrician*
"I think it's a cultural norm and people have done it. You know, their parents did it. They do it with other kids. It's a hard topic to kind of really convince people that there are some dangers to it." *Pediatrician*
"I think probably one of the important cultural issues, which I have given up on trying to persuade people to do differently … is co-sleeping… And that is very common in the African-American community. So we would tell them, I would give them the advice, but I doubt whether it's followed frequently and it's not something that I kind of really make a big argument about because I believe it's cultural." *Nurse Practitioner*
"Most of the time, people shouldn't take advice from the grandmother anyway because doctors are more advanced now than they were back then." *Mother*

and understood the content of the safe sleeping recommendations. Nonetheless, all but three of the African-American women reported bed sharing with their infants, largely for reasons of perceived safety, convenience, and improved infant sleep quality. Providers largely concurred that mothers understood the guidelines but suggested they did not comply largely due to cultural factors.

Reasons for Non-compliance

Almost universally, both mothers and providers stated that mothers understand the content of the AAP safe sleeping recommendations –that babies should be placed on their backs to sleep in a separate, firm sleeping environment (i.e. not in the family bed). However, many of the mothers expressed to us directly, or through the content of their comments, that they did not accurately understand the rationale for the sleeping recommendations. For example, one mother asked "suppose the baby chokes… Don't it be common sense to put them their stomach so if they choke, it will come out?"

To better understand why so many new mothers were non-compliant, we actively queried the reasons for infant sleep decisions. New mothers provided three general reasons for which they decided not to follow the medical advice they received regarding safe sleeping: perceived safety, convenience, and infant sleep quality. Comments such as "I be tired and don't want to walk to the crib" and "she sleeps better on her stomach," were common.

We specifically asked whether all mothers had a crib or bassinet available for their babies to sleep in because several providers noted lack of cribs as a limitation. However, all of the women in our study reported that a crib or bassinet was available to them, suggesting that bedding resources were not a determining factor in the sleep safety decisions made by our participants.

Although most of the mothers were aware that their decisions contradicted medical advice, they took comfort in the idea that they took actions to mitigate the risk of bed sharing. Notably, many of the actions actually increase SIDS risk, rather than decreasing it. Particularly evident was the use of soft blankets and pillows to cushion the infant, which actually create greater suffocation risks. Other mothers noted that when they bed share, they do so on alternative surfaces (chairs, sofas) so that they will not become too comfortable and fall asleep while holding the baby. While these attempts are generally based on incorrect assumptions of perceived safety, we find it notable that mothers attempted to mitigate the sleep safety risks when their choices are contrary to standard medical advice.

Role of Family/Culture in Parental Decision-Making

While we observed examples of culture and family influencing all aspects of childrearing during our focus groups, providers were more likely to suggest that family advice supersedes clinical advice and to express limited ability to address this issue beyond providing the standard AAP recommendations. Pediatricians in the study consistently noted that many African-American patients elect to bed-share, and they view bed-sharing as a culturally ingrained process that it difficult to adapt.

A few providers noted that they try to explain the virtues of room sharing versus bed sharing and recognize the virtues of close proximity for breastfeeding, bonding, and safety. Another pediatrician noted that her practice instituted a policy requiring bed sharing mothers to sign a waiver stating that they understand the increased SIDS risk. None of the providers we spoke to actively counsel their patients on risk-mitigating techniques if they decide to bed share. Universally, all of the providers we spoke to, including several African-American providers, noted some frustration and sense of futility in trying to change sleep safety habits for African-American patients, offering comments such as "I don't think written training or anything is going to help because you know people know about it." In contrast, many mothers noted that when familial advice promoting bed sharing contradicted medical advice, they were actually more likely to follow advice from medical providers, stating that they recognized that familial advice may be outdated.

Discussion

Although the AAP sleep safety recommendations have broadened beyond the initial "back to sleep" recommendations to include sleeping on a firm surface, avoiding smoke exposure, promoting breastfeeding, use of pacifiers and other specifics [35], they do not endorse clinician consideration of the individual/family context and preferences in making or adapting recommendations. Our findings support previous literature that African-American mothers often bed share [10, 12, 29, 30], often place infants in the prone sleep position [7, 22, 31], are aware of safe sleep recommendations [28], and may be subject to influential cultural norms that promote bed sharing [10, 28–30]. These findings suggest that in spite of the expanded AAP recommendations, some African-American mothers are not effectively internalizing the safe sleep messaging and behaviors.

To our knowledge, this investigation is the first to explore both maternal and provider beliefs regarding sleep safety. The mother/infant dyads we studied may be especially predisposed to environments which increase SIDS/SUID risk, making them ideal for consideration of applying the AAP recommendations to an at-risk population. Additionally, provider findings are not readily available elsewhere and our findings show that providers felt very limited in their ability to address the non-compliance beyond repeating the standard AAP recommendations. When we shared our findings with an expert panel that included several pediatricians, we found additional confirmation of a sense of futility, but also discomfort among pediatricians with the idea of adapting recommendations or providing risk mitigation techniques to parents who express an unwillingness to follow the recommendations.

The need for cultural competence among health care providers has been widely recognized [36–40] and seems very relevant to our findings that lack of following sleep safety recommendations is largely cultural. However, providers in our study did not identify this disconnect as a cultural competence training issue. In fact, several of the providers who lamented an inability to effectively counsel African-American mothers were African-American themselves and practice locations included in the study are largely minority practices in which providers are highly trained in cultural competency generally; providers report (and the patients in this study confirm) strong rapport with patients across most other health issues. Of course, cultural competence goes beyond provider training and should include "a set of congruent behaviors, attitudes, and policies that come together in a system, agency, or among professionals that enables effective work in cross-cultural situations [41]." Our findings may suggest a need for more community involvement in developing appropriate counseling strategies and recommendations to reduce unsafe sleeping behaviors among African-American mothers and infants, rather than a renewed focus exclusively on provider training.

Because clinicians typically give the "gold standard" recommendations, but do not provide risk mitigation information, many mothers are using their own judgment to "reduce" SIDS risk when they decide to bed share or place the child in a supine sleeping position. Unfortunately, many of the actions intended to increase safety and comfort, such as surrounding the infant by pillows, have the effect of further increasing SIDS/SUID risk. It appears that current clinical practices reported in our study are not translating to safe sleeping behaviors among African-American patients, who in our study demonstrate a poor understanding of risk reduction techniques.

Our findings also suggest that more detailed information is needed to explain the rationale for current safe sleeping recommendations. As noted above, mothers we spoke to were quite concerned about placing infants in the supine position due to fear of aspiration. Therefore, many made

what they considered to be the logical decision not to follow this recommendation. One way to address the high level of non-compliance among African-American mother/infant dyads is to better educate mothers about the rationale for supine positioning recommendations, as done in the "Helping Baby Back to Sleep" document from the National SIDS Resource Center [42].

Similarly, we recognize the ongoing debate about the value of bed sharing for promoting breastfeeding and maternal/infant bonding [7–13]. While this debate is beyond the scope of this paper, we note that with recent efforts to increase breastfeeding (protective from SIDS) among African-American women in the US [43], ignoring the debate is almost certainly confusing and likely detrimental to the likelihood of increasing-African-American maternal breastfeeding rates. We argue that, at a minimum, pediatricians should acknowledge the ongoing debate and consider whether to incorporate some positive components of bed sharing into their counseling strategies, with a notable focus on breastfeeding for African-American mothers. Providers should also offer "safer sleep strategies" for parents who bed share, including recommendations that an infant should never be left alone on the bed surface, that older children should not be allowed to share a sleeping surface with an infant, that pillows, blankets and other soft surfaces should not be used and pose a suffocation risk, and that the baby should always be placed on her back in a bed sharing situation. Similarly, stressing the dangers of tobacco/alcohol use and promoting breastfeeding and pacifier use are solid strategies to promote sleep safety for families who do decide to bed share or place an infant in a prone sleep position. While these strategies are included in the AAP safe sleep guidelines [35], our results suggest that some providers may not present them as risk mitigation techniques, but rather as part of a long list of safe sleeping behaviors that is predicated on not bed sharing and placing the infant in the supine position. Once these initial recommendations are violated, parents may not understand that they can still apply risk mitigation techniques.

We recognize that providing risk mitigation techniques may be perceived as granting permission to ignore provider advice; however, this study demonstrates that some African-American mothers are currently substituting their own judgment regarding risk mitigation, inadvertently increasing SIDS risk for their infants Therefore, we suggest that future iterations of safe sleep recommendations should focus on maximum mitigation of risk in light of social/familial/cultural preferences and circumstances and detailed education to address factors that increase/decrease SIDS risk in this population. Revised guidelines should also allow providers greater flexibility in how they counsel high-risk patients. Pediatric and family practice providers should also consider making changes to their own clinical counseling strategies and materials in order to more effectively reach African-American families on this important issue. Future studies should further seek to measure provider counseling strategies and messaging across geographic areas and for patients of various racial and ethnic backgrounds.

Conclusion

Our findings suggest that extant literature and clinical guidelines have done a sufficient job of making Georgia providers aware of potential cultural considerations in safe sleep choices, but have not yet advanced to the point of helping providers better counsel parents about how to mitigate SIDS risk in the real-life context of how, where and why these choices are made. In a setting like Georgia, with very high SIDS/SUID rates, particularly among African-Americans, this disconnect is a critical deficit. Effectively addressing SIDS/SUID prevention for African-Americans requires guidelines and provider training on risk mitigation techniques, beyond the standard safe sleep counseling, which appears to be less than ideally effective for this population. Focusing only on "gold standard" recommendations may perpetuate ongoing racial disparities in SIDS rates for African-Americans.

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