Decisions of Black Parents About Infant Bedding and Sleep Surfaces: A Qualitative Study

WHAT'S KNOWN ON THIS SUBJECT: The American Academy of Pediatrics has recommended avoidance of soft sleep surfaces and soft bedding in infant sleep environments as a strategy for reducing the risk of sudden infant death syndrome. However, use of soft bedding and surfaces is common.

WHAT THIS STUDY ADDS: Many black parents use soft bedding in the mistaken belief that it will keep their infant safe. There is much misunderstanding about the meaning of a "firm" sleep surface. Additional educational messages apparently are needed to change parental perceptions and practices.

abstract

OBJECTIVE: The goal of this qualitative study was to examine factors influencing decisions by black parents regarding use of soft bedding and sleep surfaces for their infants.

METHODS: We conducted focus groups and individual interviews with black mothers of lower and higher socioeconomic status (SES). Mothers were asked about many infant care practices, including sleep surface and bedding.

RESULTS: Eighty-three mothers were interviewed, 73 (47 lower and 26 higher SES) in focus groups and 10 (7 lower and 3 higher SES) in individual interviews. The primary reason for using soft surfaces was infant comfort. Parents perceived that infants were uncomfortable if the surface was not soft. Many parents also interpreted "firm sleep surface" to mean taut; they were comfortable with and believed that they were following recommendations for a firm sleep surface when they placed pillows/blankets on the mattress as long as a sheet was pulled tautly over the pillows/blankets. The primary reasons for using soft bedding (including bumper pads) were comfort, safety, and aesthetics. In addition to using bedding to soften sleep surfaces, bedding was used to prevent infant rollover and falls, particularly for infants sleeping on a bed or sofa. Some parents used soft bedding to create an attractive space for the infant.

CONCLUSIONS: Many black parents believe that soft bedding will keep their infant safe and comfortable. There is much misunderstanding about the meaning of a "firm" sleep surface. Additional educational messages apparently are needed to change parental perceptions and practices. *Pediatrics* 2011;128:494–502

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KEY WORDS

SIDS, suffocation, bedding, sleep environment, parental decision, decision-making, racial disparity

ABBREVIATIONS

SIDS—sudden infant death syndrome
AAP—American Academy of Pediatrics
SES—socioeconomic status

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The use of soft bedding (eg, pillows, blankets, quilts, bumper pads) and soft sleep surfaces (eg, cushions, sofas, cushioned chairs) in the sleep environment places infants at higher risk for both sudden infant death syndrome (SIDS) and other forms of sudden unexpected infant death, such as suffocation, strangulation, entrapment, and deaths for which the cause is uncertain (undetermined deaths). Soft bedding increases the potential of rebreathing,[1–6] a pathway through which SIDS may occur.[7] Pillows, quilts, comforters, and other soft objects are hazardous when placed under the infant[8–15] or loose in the infant's sleep area,[10,12,15–20] increasing SIDS risk up to 5-fold,[13,15] and up to 21-fold when the infant is placed prone.[15]

However, use of soft bedding and surfaces is common. In a recent multistate survey of low-income families with infants, 33.4% reported that their infant usually slept with pillows, 34.9% with a quilt, and 69.3% with a light blanket (E. Colson, MD, written communication, 2010). The recommendations of the American Academy of Pediatrics (AAP) for a safe infant sleep environment include a firm, snug-fitting mattress; avoidance of pillows, quilts, comforters, and other soft bedding; and avoidance of waterbeds, sofas, and soft mattresses.[21] Despite these recommendations, rates of soft bedding use have not decreased.[22] Soft bedding use is more common in bed-sharing infants[23,24] and in black families.[23,25]

Infants born to black mothers succumb to SIDS at a rate more than twice that of white, non-Hispanic infants.[26] Black infants are also disproportionately affected by accidental suffocation and strangulation in bed and undetermined deaths, with rates 2 to 3 times those seen for nonblack infants.[27] Parental attitudes about and reasons for using or not using soft bedding and sleep surfaces for infants in general, and black infants specifically, have not been studied.

The goal of this qualitative study, therefore, was to examine factors influencing decisions by black parents regarding use of soft bedding and sleep surfaces for their infants.

METHODS

Qualitative interviewing is used to better understand motivations and perceptions underlying health decisions[28,29] and relies on obtaining the widest possible range of perspectives[30] through systematic sampling.[31,32] We selected 2 different qualitative interview formats: focus groups, because they provide participants of similar backgrounds with a comfortable forum to express opinions,[33] and individual, in-depth, semistructured interviews, because socially sensitive topics might be more likely to be raised.[34] The institutional review boards at Children's National Medical Center, MedStar Research Institute, and Holy Cross Hospital approved this study.

Sample

We enrolled a cross-sectional sample of black parents with infants 0 to 6 months of age in Washington, DC, and Maryland. We recruited parents of both lower and higher socioeconomic status (SES) to ensure a broad range of experience, influences, and attitudes. SES was determined by parental educational level, Medicaid eligibility, and the Special Supplemental Nutrition Program for Women, Infants and Children eligibility. The latter 2 factors, which are easily verifiable and do not rely on self-report, were used as proxies for family income. Recruitment has been described previously.[35–37] Parents who were older than 18 years with children younger than 6 months were eligible to participate if they self-identified as black/African American, and if their parents (ie, the infant's grandparents) were both born in the United States. This criterion was designed to be highly specific so as to minimize cultural heterogeneity. A parent was also excluded if he or she was not the custodial parent of the child, the infant had a chronic illness, or the infant was born prematurely (gestational age: <36 weeks).

After written informed consent was obtained, qualified and interested parents participated in a staff-administered, validated quantitative survey asking about knowledge, attitudes, and practices regarding infant care and sleep environment, and family demographic characteristics. On the basis of responses to this survey, a subsample of parents was asked to participate in a focus group or individual interview.

Procedures

All interviews were conducted by trained facilitators (Ms Oden and Ms Joyner), who used the same interview guide for both interview formats. Questions were asked about infant care and infant sleep environment, including sleep surface and bedding (Table 1). Broad, open-ended questions were followed by more specific, probing questions to elucidate responses.

We anticipated that a minimum of 10 focus groups and 10 individual interviews would be conducted, as we assumed that 3 to 4 semistructured interviews and 3 to 4 focus groups with any 1 type of participant would be necessary[38] to allow for thematic saturation (the point at which no new themes are emerging) and for analysis across groups for themes and patterns.

Analysis

All interviews were videorecorded and audiorecorded and transcribed by the authors. Video recordings allowed cor-

TABLE 1 Questions About Sleep Position Used in Focus Groups and Individual Interviews

General Questions	Probing Questions
Blankets	
Do you use blankets for your baby when he or she goes to sleep?	Why or why not?
	[For those who use blankets] Do you ever worry about using blankets?
	What do you worry about?
	Do you think there is anything dangerous about using blankets for your baby?
Sleep surface	
How should your baby's sleep surface feel to them?	Do you have a preference for how the sleep surface feels to your baby?
	How do you know if your baby doesn't like the way a sleep surface feels?
	What do you do if your baby doesn't like the sleep surface?
When you think of a mattress being firm, how do you picture it?	What type of mattress do you imagine?
What do you think is the best way for your baby's mattress or sleep surface to be? Soft or hard?	What would be too hard for a baby?
	Is a crib mattress too hard?
	What is it about a mattress that makes it too hard?
	How do you know that a mattress is too hard?
	If you think that a sleep surface is too hard for your baby, what do you do?
	Do you try to do anything to make it less hard?
What would be too soft of a sleep surface for your baby?	What about it makes it too soft?
	If you think that a sleep surface is too soft for your baby, what do you do?
	Do you try to do anything to make it less soft?
Do you think a baby can get used to how a sleep surface feels?	Why not?
Where in your home isn't your baby allowed for sleep?	
Bumper pads	
How do you feel about bumper pads?	Is there anything you don't like about bumper pads?
What do you like about bumper pads?	Why?
What if I told you that babies are safer in cribs that don't have bumper pads—would you believe me?	Why not?

rect attribution of responses to speakers and documentation of facial expressions. After initial transcription, the transcript was checked by 2 additional authors for accuracy. If there was disagreement about the transcription, all authors listened to the recordings to reach consensus. This multistep process was used to maximize accuracy and eliminate bias from the transcription process.

Qualitative analysis software (NVivo 8 [QSR International Pty Ltd, Melbourne, Australia])[39] was used to organize, sort, and code the data. Using grounded theory methods, themes were developed and revised in an iterative manner as patterns within the data became more apparent.[30] In weekly meetings, authors discussed emerging themes and patterns and reached consensus on the major themes. Individual interviews and focus group interviews were analyzed separately, after which emerging themes were compared. Concurrent triangulation, or use of multiple sources for verification of findings,[40] of the focus group interviews and the individual interviews was used to confirm findings.[41] Our findings were additionally corroborated through peer review and feedback during presentations to community groups, pediatric and SIDS researchers, and maternal and child health professionals.

RESULTS

Sample

Between July 2006 and December 2008, we conducted 13 focus groups (47 lower SES and 26 higher SES parents) and 10 individual interviews (7 lower SES and 3 higher SES parents) with 83 parents and reached thematic saturation. All participants were mothers. Focus group attendance averaged 4.9 (range: 3–7) participants. Participant demographic characteristics have been described previously.[40,42,43] In summary, mean maternal age was 27.4 years (range: 18–42 years), and 74.7% were never married. Sixty-five percent of the mothers had a high school diploma, and an additional 24.1% had a 4-year college degree. At the time of the focus group or individual interview, mean infant age was 5.4 months (range: 1.1–9.3 months), and 56.6% of mothers reported using soft bedding with their infants. Participants and nonparticipants (those who did not participate in focus groups or individual interviews) were statistically similar with regard to maternal age and marital status, infant age and gender, Medicaid status, or presence of older children, the other parent, or a senior caregiver in the home.

Central Themes

Several topics related to infant sleep surfaces and bedding were discussed: desirable qualities of infant sleep surfaces, reasons for blanket use/nonuse, reasons for pillow use/nonuse, and reasons for bumper pad use/nonuse.

TABLE 2 Soft Bedding: Themes and Subthemes

- Desirable qualities of sleeping surfaces
  - Comfort
    - Parents perceive infant is more comfortable if
      - Infant sleeps better
      - Parent would be comfortable on surface
    - If it is too thin, parent often perceives that it is not comfortable
    - If surface is too hard, parents will
      - Pad it with pillows or blankets
      - Move to different surface (often parents' bed)
  - Safety
    - Must be firm
    - Firmness means different things to different people
      - Comfortable (not too soft, not too hard)
      - Flat, not lumpy
      - Not so firm that it is uncomfortable but firm enough that it does not sink
      - Springs back
      - Taut
        - As long as it's taut, it is okay
        - Pad mattress, then cover with taut sheet
      - Cheap
    - Surface is too soft if
      - Infant sinks into it
      - If infant sinks, he or she can get stuck and cannot breathe/can suffocate
      - If surface is too soft, parent will not lay infant there
  - Temperature
    - Bed is too cold
- Reasons for blanket use or nonuse
  - Comfort (usually means warmth)
  - Tradition
  - Concerns about using
    - Can get entangled or can suffocate if infant pulls it up or if the infant "scoots"
    - Safe as long as it is not near head/neck
    - Safe if it is a light receiving blanket
    - Safe if it is a crocheted afghan (has breathing holes in it)
    - Safe if infant is on back
    - Safe if the blanket is tucked in at the bottom of mattress
    - Also worry about clothes being too big (head can go down in neck hole or get stuck)
- Reasons for pillow use or nonuse
  - Safety
    - Use to create wall around baby so infant will not fall off bed
    - Use to prop infant on side
- Reasons for bumper pad use or nonuse
  - Safety
    - Reasons for bumper pad use
      - Infant can hit head on railings
      - Infant's leg or arm can get caught in railings
      - Will keep infant safe if he or she scoots into the corner
      - Worried about social services if infant has bruises
      - If you use it for safety, you have to monitor more closely
      - Some will put bumper pads in once infant rolls
    - Reasons for bumper pad nonuse
      - Can gnaw on strings
      - Can pull on strings
      - Can suffocate if baby gets stuck under bumper pads or scoots into corner
      - Can use to climb out of crib
      - Cannot see the infant
  - Aesthetics
    - They are cute
    - Use them for the "whole baby experience"

The central themes that emerged for all of these topics were infant comfort and safety. Aesthetics was an additional theme that emerged in discussions about bumper pads. Themes are outlined in Table 2 and discussed in the following text, with illustrative quotes (Q) in the accompanying tables.

Desirable Qualities of Infant Sleep Surfaces

Sleep surface quality was an important factor in mothers' decision about where they placed the infant for sleep (Table 3). For instance, mothers in all interviews described the importance of the surface being comfortable. Mothers had different methods of judging infant comfort. Many perceived that the infant was more comfortable if he or she slept better (ie, fell asleep more quickly and slept for longer periods) (Q1). Others perceived that a surface was comfortable if it would be comfortable for the parent (Q2). Some mothers also perceived that a surface was not comfortable if it was too thin or too hard. Mothers generally had 1 of 2 responses to this instance: pad the surface with pillows or blankets or move the infant to a different surface, usually the parent's bed (Q3).

Mothers agreed that the sleep surface must be firm, but discussions revealed that the term "firm" meant different things to different people. When mothers were asked to define or describe firm, common responses were comfortable, not too soft and not too hard, flat, and not lumpy. Others described firm as meaning that the surface springs back and does not sink in. One parent described firm as meaning cheap (Q4–Q6). Many mothers, however, interpreted a firm surface to be a taut surface. They were comfortable with and believed that they were following recommendations for a firm sleep surface when they placed pillows or blankets on the sleep surface, as long as a sheet was pulled tautly over the pillows and blankets (Q7).

When asked to describe a soft surface, some mothers suggested that a surface was too soft if the infant could sink into it. They recognized that if the infant could sink, he or she could get stuck and suffocate. Some mothers noted that if a surface was too soft, they would not lay the infant there (Q8, Q9).

TABLE 3 Quotations Regarding Desirable Qualities of Infant Sleep Surfaces

Q1. "Not too hard or too soft. As long as . . . he goes to sleep good, it's okay. He's comfortable."
Q2. "I wouldn't want to sleep on nothing too hard. So I would think that he wouldn't . . . be comfortable on nothing that is hard."
Q3. "My son sleeps on a pillow . . . because he like soft surfaces. And his playpen . . . is not as soft as he would like it . . . so we put a pillow in it and he sleeps on top of the pillow."
Q4. "Not so firm that it's uncomfortable, but firm enough that I don't have to worry about her getting caught in any indentations."
Q5. "If you press down on it, it's not going to sink too much and it's going to bounce back."
Q6. "I hate to say it, but [when I imagine a firm mattress, I think] cheap."
Q7. "Take the soft blanket, put it on top of the crib mattress and then put your sheet over it so it's not like they're laying on top of the soft blanket. It's more like it's under the sheet to make the surface softer."
Q8. "I was going to lay her on [a recliner] until I felt it . . . I didn't want her to try to turn her head and her nose, and she get stuck in it so she couldn't breathe."
Q9. "I put him on [a big pillow] . . . he completely sunk in the middle. I'm like, 'oh my God, let me get my child up out of this thing . . . he can't sleep in this.' "
Q10. "His bed is cold, because he haven't been on it. As soon as he feels that it is cold he'll just wake up . . . I have to put a receiving blanket down . . . he wants to feel a certain warmth in order for him to stay asleep."

A final consideration in choosing a sleep surface was the temperature of the surface. Some mothers would not place their infant on a surface that they considered too cold (Q10).

Reasons for Blanket Use or Nonuse

Although some mothers used blankets because of tradition (ie, their mothers used blankets), blankets were used primarily to keep the infant comfortable (Table 4). With regard to blankets, comfort implied warmth; many mothers were concerned about infants becoming cold (Q1).

However, mothers also expressed concerns about using soft bedding. They recognized that an infant could become entangled or suffocate with blankets, particularly if the blanket covered the infant's head or face (Q2). Some mothers believed that blankets were safe as long as the blanket was not near the head or neck, or if it was a light receiving blanket or crocheted afghan (which have breathing holes) (Q3). Other mothers believed that blanket use was safe as long as the infant was supine or if the blanket was tucked in at the bottom of the mattress (Q4).

TABLE 4 Quotations Regarding Reasons for Blanket Use or Nonuse

Q1. "I have . . . a really thick blanket that I use, but I keep it right here on his shoulder 'cause that room gets kind of cold, but . . . I try to keep it . . . so it doesn't go past his neck."
Q2. "Because babies, they grab, put [the blanket] in their face and put it in their mouth. They could suffocate their self, because babies move a lot."
Q3. "That's the reason I . . . use an afghan because [they] have little holes. I feel like, 'ok if it does go over his head, it has holes in it, so . . . he can breathe.' "
Q4. "If your child sleeps on its back, [using a blanket] is no risk at all. But you know, if you lay him on his belly, then maybe . . . suffocation."

TABLE 5 Quotations Regarding Reasons for Pillow Use or Nonuse

Q1. "I have this travel bed . . . I put that on the big bed and I put pillows around that."
Q2. "I'll put him [in my bed], . . . and I put a pillow, one on this side and one of this side, maybe one in the back of him."
Q3. "I would put a pillow at their back and lay them on their side."

TABLE 6 Quotations Regarding Reasons for Bumper Pad Use or Nonuse

Q1. "I be scared . . . what if he try to roll over and his arm can't get out? . . . 'Cause I've been told, don't use it, so I haven't used it, but I'm scared . . . What if my baby was trying to move, hitting his hand, anything?"
Q2. "My first daughter . . . she get in there and get to moving that head and hit the bar. I be like, 'Oh lord, baby going to have a knot. Somebody going to call social services on me.' "
Q3. "I don't understand; what are they exactly for? I just thought they were cute."
Q4. "When I did have [the baby], I wanted the whole baby experience. So yeah, I had everything . . . the bumpers, everything."
Q5. "But I rather for him to hit the bars so that he can breathe than to hit that bumper and his head stick, no."
Q6. "I used the bumper pads but sometimes she gets too close to it . . . sometimes I think, like she stops breathing, so I would pull her away from it, but I keep it in the crib. Plus now she starting to sit up and . . . when she rocks, she will hit her head on the bars of the crib . . . So I just keep them in there for her safety, but I also have to watch her with it to make sure she's ok."
Q7. "If you have the bumper there, it will protect the baby, but you can't see the baby. Then when you want to see . . . how they're doing or breathing or whatever? You can't see them."

Reasons for Pillow Use or Nonuse

As mentioned earlier, mothers often used pillows to make the sleep surface softer or more comfortable (Table 5). The other primary reason for pillow use was infant safety. Mothers frequently used pillows with infants sleeping on beds or sofas to create a barricade around the infant so that he or she would not fall (Q1, Q2). Others used a pillow to prop the infant on the side, usually because of the perception that the infant would be less likely to aspirate in that position (Q3).

Reasons for Bumper Pad Use or Nonuse

As with other soft bedding, a common reason for using bumper pads was infant safety (Table 6). Mothers were concerned that, without bumper pads, the infant would hit his or her head on the railings, or the infant's limb would

become entrapped between the crib slats. Some mothers believed that bumper pads would prevent injury if the infant moved to the corner of the crib (Q1). This concern about potential injury from crib railings seemed to increase as the infant became older and could roll over. One mother who used bumper pads described her concern about social services if her infant had bruises from rolling into the crib railings (Q2). A second reason for bumper pad use was aesthetic; mothers described them as cute and part of the "whole infant experience" (Q3, Q4).

However, there were also concerns about using bumper pads. Some mothers recognized that if bumper pads were used, the infant must be monitored closely. Others worried that the infant could gnaw on or pull on the strings. A major concern was that an infant could suffocate if he or she became entrapped under or against the bumper pads (Q5, Q6). Some suggested that the infant could climb out of the crib using the bumper pads, whereas others did not like the fact that the bumper pads hindered visibility of the infant (Q7).

DISCUSSION

Although the AAP has recommended against the use of soft sleep surfaces and soft bedding in infant sleep areas since 2000,[21] the use of these products is still common.[22] To the best of our knowledge, this is the first article to describe parents' attitudes about and reasons for using or not using soft bedding and sleep surfaces. It is essential for health care professionals and others who provide information to families to understand reasons for and concerns regarding use or nonuse of soft bedding and soft sleep surfaces so that appropriate advice is given and interventions developed.

In our interviews of black mothers, we found that, regardless of SES or educational level, the primary reasons for using soft bedding and soft sleep surfaces seem to center around infant safety and comfort. Mothers try to ensure both safety and comfort in the infant's sleeping environment. Unfortunately, many may have the misperception that soft bedding will protect the infant from injury and/or falls and thus may unknowingly place their infants at greater risk when they place these items in the sleeping environment. These items create an increased risk for SIDS[13,15] and accidental suffocation.[42] In a recent report from the Consumer Product Safety Commission, deaths reported in cribs/mattresses, playpens/play yards, and bassinets/cradles between 2005 and 2007 were mainly attributed to extra bedding, leading to asphyxiation or suffocation.[43] Parents should be made aware that elimination of soft bedding and surfaces will make the sleep environment safer.

Likewise, many parents may use bumper pads because of the perception that these will keep their infant safe from injury. However, Thach et al,[44] in a study using data from the Consumer Product Safety Commission, found 3 mechanisms of SIDS that can be caused by bumper pads: suffocation against the bumper pads, entrapment between the bumper pads and the crib or mattress, and strangulation by the ties. In addition, they found that the injuries that conceivably might be prevented by bumper pads in young infants are generally minor and nonlethal.[44] Because of the potential risk of suffocation, strangulation, and entrapment with bumper pads and the lack of benefit, Thach concluded that bumper pads should not be used. However, it is important to acknowledge the concern of some parents that minor injuries that might be prevented by bumper pads may be misconstrued by vigilant child protection agencies as suggestive of child abuse or neglect. It is unlikely that the youngest infants (ie, those younger than 4 months [the ones at most risk for suffocation, entrapment, or strangulation from bumper pads]) will generate enough force when rolling into a crib side to result in injury. Nonetheless, child protection agencies may need updated training regarding injuries such as those sustained when a limb becomes stuck between crib slats or when an infant rolls into the crib side, such that these patterns of injury will be recognized as the result of no bumper pads. Finally, bumper pads obscure visibility of the infant, which may be an important consideration for some parents.

Although AAP recommendations state that infants should be placed on a firm sleep surface, the meaning of the adjective "firm" may not be understood by parents. Mothers in our interviews had many interpretations of firm. Some mothers believed a surface was firm if it "springs back," indicating that the sleep surface does not have fixed malleability. Although malleability and softness are often related, they are not synonymous. Furthermore, sleep surfaces typically are not uniform in their firmness and are often softer in the middle than they are closer to the edge. Because softness may vary depending on where the infant's head is resting, a single measure of softness for a sleep surface will not be helpful.

Also of concern with regard to the sleep surface was that many mothers had the perception that firm means taut and that the surface would still be firm if a pillow or blanket was placed between the mattress and the sheet, as long as the sheet was tucked tautly around the pillow or blanket. However, pillows, quilts, and other items used to pad the sleep surface are hazardous.[8–15] Health care professionals should be aware that sleep surface padding may be a common practice

and should not assume that parents understand the meaning of "firm sleep surface."

In addition, some parents may equate a thin, firm mattress (particularly those for bassinets and play yards) with being uncomfortable and may be more likely to pad such surfaces. To avoid this perception, manufacturers should be encouraged to produce mattresses, especially for bassinets and play yards, which are thicker yet still firm. In addition, because many parents may use bassinets and play yards as routine infant sleep areas because of financial and space concerns,[35] it is particularly important for programs that work with these families, especially programs that provide portable cribs or play yards at no or reduced cost, to be aware that this may be a common practice.

Parents may also perceive that blankets are safe if they do not go past the shoulders, have holes (eg, afghans), or if the infant is supine. These misconceptions may exist because of the decreased risk of suffocation if the face is not covered and/or the decreased risk of SIDS when the infant is supine. However, infants can pull blankets over their heads during sleep.[45] Loose bedding, particularly when the infants' heads become covered, has been associated with SIDS, even in supine sleeping infants.[12,16,17,20] Infant sleep clothing may be an appropriate alternative to blankets.

Some parents may choose to use bedding, particularly bumper pads, for aesthetic reasons. Parents who are eager to decorate the infant's room should be encouraged to decorate the room instead of the crib. This will allow parents to enjoy the full infant experience, while still keeping the infant sleep area safe.

There are several limitations to this study. Our study population was limited to black mothers in the Washington, DC, area. In an effort to minimize cultural heterogeneity, the mothers in our study were born in the United States and had parents also born in the United States. In addition, one cannot determine prevalence of attitudes and opinions from qualitative studies. Although these mothers represent a wide range of infant care practices, the results may not be generalizable to other cultures, groups, or regions. However, our findings about opinions and beliefs influencing other infant sleep practices, such as sleep position[37] and sleep location,[35] have been consistent with other qualitative studies of both black populations[46–49] and European populations.[50,51] It will nonetheless be important to expand this study to other racial and ethnic groups to determine how prevalent these factors are in the society as a whole.

CONCLUSIONS

Because of common misconceptions, many parents, in the attempts to ensure that their infants are both safe and comfortable, may unintentionally place their infants at more risk by using soft bedding and soft sleep surfaces. Parents apparently need additional information about the dangers of soft pillows, loose blankets, and bumper pads in the infant sleep environment. In particular, education should include information about the importance of a firm sleep surface and what that entails. Health care professionals should address parental concerns about bedding and sleep surfaces. Finally, manufacturers may be able to increase the safety of the infant sleep environment by developing thick yet firm mattresses for play yards/playpens and creative embellishments for infant rooms that would satisfy the desire for aesthetics.

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GENETIC VARIATION: *Recently, I was working at The National Board of Medical Examiners trying to determine which diseases or conditions should be coded to the "genetics" section in each organ system. Could everything be coded to genetics since there is probably a genetic and environmental influence on most conditions? Or, should we limit the coding to those conditions in which there is absolute certainty, if that indeed exists in medicine, as to the nature of the genetic mutation? Our struggle certainly mirrors some of challenges at the national and international level. According to an article in* The New York Times *(Health: April 16, 2009), researchers have had difficulty finding common genetic variations that can predict the risk of a particular disease. In genome-wide association studies, researchers compared the genetic sequences of patients with diseases with known common genetic variations found in the general population. Unfortunately, in most diseases commonly detected genetic variations do not account for much of the genetic risk for that particular disease. An international team of researchers then looked at rare variations to determine if these could be associated with a particular common disease. The studies have not yet been completed but the preliminary data are not promising. Evidently, rare variants in the Chinese, European, and African populations are quite different. This suggests not only that the rare variants most likely developed after the populations had split but that investigators looking for the genetic causes of a disease may have to examine distinct populations. There is some good news, however. We now have a better understanding of human evolution. Based on fossil findings, archeologists have assumed that modern humans left Africa approximately 50,000 years ago. Geneticists had supported an earlier date. The genome-wide association studies suggest the archeologists are correct. Most of the common variations in genetic sequences had already been formed by the time humans left Africa. The majority of the rare variations most likely occurred much later during the Neolithic revolution approximately 10,000 years ago when the human population greatly expanded. So, both the National Board of Medical Examiners and the greater scientific community continue to struggle with identifying "genetic" diseases and the genetic variations associated with a clinically relevant increased risk of disease. The search goes on.*

Noted by WVR, MD