• **Researcher:**
  Amy Damashek, PhD

• **Population Health Research Team Project:**
  Safe Sleep Practices and Sleep-Related Deaths in Kalamazoo - “Evaluation of the Talking About Safe Sleep Training” (WMU IRB# 17-02-08)

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Mothers’ Reported Knowledge of, Practices, and Barriers to Engaging in Infant Safe Sleep

Amy Damashek, Ph.D.,¹ Cheryl Dickson, MD, MPH,² Debra Lenz, M.A.,³ Grace Lubwama, Ph.D.,⁴ MPH, and Catherine Kothari, Ph.D.²

Western Michigan University,¹ Western Michigan University Homer Stryker M.D. School of Medicine,² Kalamazoo County Health and Community Services,³ Kalamazoo YWCA⁴
Background

- Infant mortality – serious public health problem in the U.S.
  - Higher than 25 comparably developed nations (MacDorman et al., 2014)

- Significant racial disparity in the U.S.
  - 2:1 for African American versus white infants nationally (MacDorman et al., 2014)
  - Regional variations
  - In Kalamazoo, disparity is approximately 3:1 (MDHHS, 2019)

- Sleep-related deaths – preventable cause of death during infancy (Sleep-Related Infant Deaths in Kalamazoo County Fact Sheet, 2017)
  - Racial and income disparities
  - In Kalamazoo, 75% of sleep-related deaths occur to African-American or multiracial infants
  - 94% of deaths occur to infants with public funded insurance
American Academy of Pediatrics has published guidelines to prevent sleep-related deaths
  - ABC’s – alone, on their back, in a crib or pack and play

Families experience barriers to following these guidelines
  - Some previous research has found that African American mothers are more likely to co-sleep (Hauck, Signore, Fein, & Raju, 2008; Salm Ward, Robb, & Kanu, 2016).

Given racial disparity in sleep-related deaths in Kalamazoo,
  - Important to examine:
    - Mothers’ knowledge and practices regarding AAP guidelines
    - Whether practices vary by race or other demographics
Study Goals

• Examined community mothers’ knowledge of, reported practices, and barriers to following safe sleep guidelines.

• Examined whether safe sleep practices varied by maternal demographics characteristics (i.e., race and insurance status).
Methods: Moms Experiences Survey

- 244 women who gave birth at Bronson or Borgess were recruited during postpartum hospital stay
  - Kalamazoo County resident, spoke English, medically cleared to participate, no significant cognitive impairment

- Race: 63% White, 27% Black, 10% Other
- 5% Hispanic, 95% Non-Hispanic
- 50% Medicaid insurance status
- 17% infants born premature
Methods (cont’d)

• Data abstracted from medical records
  - Demographics, infant prematurity status (y/n), enrollment in home visiting services (y/n)

• 30 minute telephone survey at 2-4 months postpartum
  - Included questions on safe sleep knowledge, practices, and barriers to following AAP safe sleep guidelines
    - Safe sleep practices assessed with 5 yes/no questions
    - Knowledge and barriers assessed via open ended questions that were coded.
Survey Questions

• Yes/No Questions – My baby sleeps...
  • in a crib or portable crib.
  • on a firm or hard mattress.
  • with pillows, a bumper pad, a thick blanket or stuffed toys.
  • with an infant positioner.
  • with me or another person.

• Open-ended questions:
  • Who: “There is a lot of advice these days about how babies should be put to sleep. Who has directly talked to you about this?”
  • Knowledge: “What do you remember them telling you?”
  • Barriers: “The safest way to put your baby to sleep is Alone, On Their Back, In A Crib Or Pack N Play. There are a lot of things that can get in the way of following these recommendations. What is the hardest part for you?”
Results: Safe Sleep Knowledge

• 98% reported someone talked to them about safe sleep.
  • Hospital staff: 71%
  • Pediatricians: 53%
  • Home visitors: 12%
  • OB: 11%
  • Family: 10%

• Safe sleep guidelines recalled:
  • Back to sleep: 90%
  • No objects in sleeping surface: 74%
  • Place baby in crib or pack-n-play: 48%
  • Baby sleeps alone: 39%
  • Firm/flat surface: 32%
Results: Safe Sleep Practices

• 95% reported that they follow 4/5 safe sleep practices:
  • Back to sleep, no objects in sleeping surface, place baby in crib or pack-n-play, firm/flat surface
• 86% of women reported that their baby does not co-sleep
  • 14% said their infant sleeps with them or another person
Results: Safe Sleep Practices x Demographics

- Safe sleep practices not associated with:
  - Insurance status (Medicaid or private)
  - Infant prematurity
  - Participation in home visiting services

- Data trends
  - Ethnicity – trend for Hispanic mothers to be less likely to place their infant on a firm/flat surface ($\chi^2 = 3.3, p = .07$).
  - Race - trend for mothers of color to be more likely to co-sleep ($\chi^2 = 3.1, p = .08$)
    - White mothers (12%), African American (13%), Other (32%)
Results: Barriers to Following Safe Sleep Guidelines

• No barriers reported: 42%

• Of those who reported barriers – top 3 barriers:
  • Baby sleeping alone: 71%
  • Baby sleeping back: 10%
  • Keeping items out of crib: 7%

• Top 3 Barriers to baby sleeping alone:
  • Difficulty getting baby to sleep: 36%
  • Barriers related to breastfeeding: 19%
  • Exhaustion: 14%
Discussion

- Mothers were least likely to recall guidelines related to refraining from co-sleeping and placing infants on a firm/flat surface
  - More emphasis on these needed in safe sleep education

- Mothers reported that refraining from co-sleeping was the most difficult guideline to follow
  - Most often related to difficulty getting infants to fall asleep
  - Interventions should help mothers problem solve barriers to placing babies to sleep alone
Discussion (cont’d)

• Despite differences in rates of sleep-related deaths by race and income
  • Income and was not significantly associated with safe sleep practices.
  • African American women were not more likely to co-sleep.
  • Mothers of “other” races were more likely to co-sleep.
    • Difficult to interpret given the small numbers of women from different backgrounds in this category.
    • Additional research is needed – perhaps focus groups.

• Limitations
  • Maternal self-report of practices
  • Need larger representation of “other” races
Thank you and Questions?

- United Way of the Kalamazoo and Battle Creek Region
- Survey participants