

Evaluation of Safe Sleep Practices of Cribs for Kids Attendees

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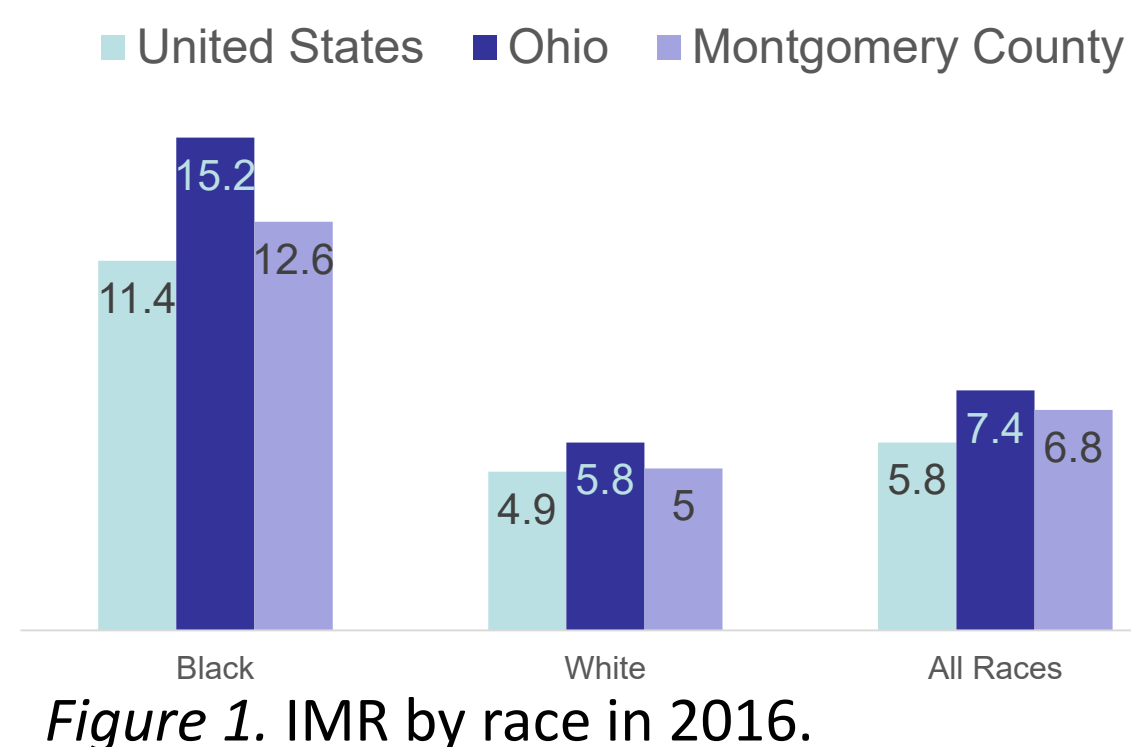
Background

Infant mortality (IM) is defined as the death of any child before age one, and the infant mortality rate (IMR) is the death of any child before age 1 per 1,000 live births.¹ A racial disparity exists for the IMR^{1,2,3} (Figure 1). The HealthyPeople 2020 goal for IMR is 6 per 1,000 live births.³

Sudden infant death syndrome (SIDS) is a major cause of IM and is usually classified under sudden unexpected infant death (SUID).^{1,4}

Sleep-related SUIDs are a focus of many strategies to combat IM because they are largely preventable.

One intervention that combines the distribution of a portable crib and safe sleep education to families that indicate a financial need is the Cribs for Kids program.



Purpose

To evaluate the self-reported practices of Cribs for Kids class attendees on recommended safe sleep practices at the time of the class, and three months after they receive a Cribette.

Methods

Study Sample

- Families at Dayton Children's Hospital who met eligibility criteria and received a Cribette and a 'Safe Sleep Survival Kit' (one crib sheet and one wearable blanket).
- Eligibility criteria included being in the third trimester of pregnancy or with a child < 4 months old; attendance of one-hour long class with education on safe sleep, proper use of pack 'n play, and use of other materials in the survival kit; Women, Infants, and Children (WIC) program eligibility

Data Collection

- The Ohio Department of Health Safe Sleep Assessment Tool was completed prior to the start of the class (pre-survey) and three months after the class (follow-up survey).
- All data were de-identified prior to any statistical analyses; therefore, an IRB ethical review was not required.

Statistical Procedures

- The study variables were summarized using frequency distributions for race, ethnicity, and safe sleep options available.
- McNemar's test was conducted to analyze differences in responses on safe sleep practices during the pre-survey and follow-up survey.
- All analyses were carried out using SPSS. All tests were conducted at the $\alpha = 0.05$ level of significance.

Results

Description of the Study Sample

- A total of 94 participants were included in the analysis (analyses excluded data without a paired follow-up survey [$n = 117$] and those with missing data [$n = 49$]).
- The infants of participating families were predominantly Black/African American and non-Spanish/Hispanic/Latino (Table 1).
- A significant increase in families who reported having at least a crib or pack 'n play during the follow-up.
- The majority of the families reported they received safe sleep education at the time of the class (94.3%).

Results (continued)

Table 1. Characteristics of Dayton Children's Hospital Cribs for Kids Attendees in 2017

Characteristic	Pre-survey N = 94	Follow-up N = 94	p-value*
Infant race, n (%)			
White	23 (24.5)	-	-
Black/African American	66 (70.2)	-	-
Other	7 (7.4)	-	-
Native American	0 (0)	-	-
Asian/Pacific Islander	0 (0)	-	-
Infant ethnicity, n (%)			
Spanish/Hispanic/Latino	4 (6.3)	-	-
Not Spanish/Hispanic/Latino	60 (93.8)	-	-
Safe sleep options available, n (%)			
Crib	26 (27.7)	50 (53.2)	<.001
Bassinet	29 (30.9)	32 (34)	0.710
Pack 'n Play	15 (16)	81 (86.2)	<.001
None	39 (41.5)	0 (0)	<.001

Note. Infant race and ethnicity were obtained during the pre-survey only; reported results are for matched pre-survey and follow up surveys. Respondents could check multiple options in the racial and available safe sleep options categories.
*p-values for the difference between responses during the pre-survey and follow-up survey used the McNemar's test.

Changes in Recommended Safe Sleep Practices

- A significantly higher number of families reported placing their infant in a pack 'n play for naps and at night between pre-survey and follow-up survey (Table 2).

Table 2. Comparison of Safe Sleep Practices by Cribs for Kids Attendees in 2017

Practices	Pre-survey N = 94	Follow-up N = 94	p-value*
Sleep location (naps), n (%)			
Crib	31 (33)	24 (25.5)	.230
Bassinet	37 (39.4)	26 (27.7)	.054
Pack 'n Play	36 (38.3)	58 (61.7)	.001
Couch	3 (3.2)	0 (0)	.250
Recliner	1 (1.1)	0 (0)	1.000
Swing	8 (8.5)	4 (4.3)	.344
Car seat	2 (2.1)	0 (0)	.500
Bouncy seat	5 (5.3)	1 (1.1)	.125
Floor	2 (2.1)	1 (1.1)	1.000
With an adult, child, or pet	4 (4.3)	0 (0)	.125
Other	6 (6.4)	2 (2.1)	.219
Bed	2 (2.1)	1 (1.1)	1.000
Sleep location (night), n (%)			
Crib	38 (40.4)	33 (35.1)	.458
Bassinet	38 (40.4)	26 (27.7)	.045
Pack 'n Play	27 (28.7)	48 (51.1)	.002
Couch	0 (0)	0 (0)	-
Recliner	1 (1.1)	0 (0)	1.000
Swing	2 (2.1)	2 (2.1)	1.000
Car seat	0 (0)	0 (0)	-
Bouncy seat	1 (1.1)	0 (0)	1.000
Floor	1 (1.1)	0 (0)	1.000
With an adult, child, or pet	5 (5.3)	0 (0)	.063
Other	5 (5.3)	1 (1.1)	.125
Bed	3 (3.2)	0 (0)	.250
No items in sleep environment, n (%)	84 (89.4)	90 (95.7)	.688
Share sleep surface with adult/sibling/pet, n (%)	9 (9.6)	5 (5.3)	.109
Share sleep surface in bed/couch/recliner/other, n (%)	8 (8.5)	10 (10.6)	1.000
Back position (naps), n (%)	87 (92.6)	89 (94.7)	.727
Back position (night), n (%)	87 (92.6)	90 (95.7)	.508
No smoking	73 (77.7)	77 (81.9)	.344
Change clothes after smoking outside, n (%)	23 (24.5)	14 (14.9)	1.000
Dressed for temperature of home, n (%)	81 (86.2)	93 (98.9)	1.000
Breastfeeding only and combination, n (%)	53 (56.4)	29 (30.9)	<.001
Pacifier use, n (%)	52 (55.3)	70 (74.5)	.375
Tummy time, n (%)	64 (68.1)	87 (92.6)	1.000

Note. Respondents could check multiple options in the sleep location categories.
*p-values for the difference between responses during the pre-survey and follow-up survey used the McNemar's test.

Results (continued)

Changes in Recommended Safe Sleep Practices (continued)

- The use of bassinet for infant's sleep at night also significantly decreased between pre-survey and follow up survey.
- There was a significant decrease in breastfeeding only and a combination of breastfeeding and formula from the pre-survey to the follow-up survey.

Discussion and Conclusion

The results of this study showed significantly more families reported the availability of a crib and pack 'n play three months after attending the Cribs for Kids class than on the day of the class.

Significantly more families also reported using a pack 'n play during the follow up than the pre-survey, indicating most families retained knowledge on recommended safe sleep location for infants, consistent with previous studies.

Although the other safe sleep practices were not statistically significant, the proportion of families adhering to recommendations increased during the three-month follow up, indicating participants retained knowledge and did not change self-reported practices.

Recommendations for Public Health

- A further emphasis on breastfeeding and the importance of placing their infant alone and in their crib during the Cribs for Kids class.
- Ask participants their reasons for not following recommended safe sleep practices. Developing a better understanding of barriers to adherence will aid in addressing barriers specific to each family.

Limitations

- Lack of generalizability due to eligibility criteria.
- Self-reporting nature of the study - respondents' answers may be influenced by social desirability.
- The parent/caregiver who initially completed the pre-survey may not be the same parent/caregiver contacted during the follow-up.
- Potential confounding factors such as age, level of education, and cultural practices were not measured and could have an impact on the results.
- The impact of any safe sleep advertisements outside the Cribs for Kids program is not assessed, which could influence adherence to safe sleep practices.

References

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