

Measuring Caregiver Knowledge Pre and Post Safe Sleep Education

Lynn Herr RN, BSN, CPN; Charissa Schuetz MHSA

Vanderburgh County Health Department

1. Problem:

Infant mortality rates are used as an indicator of a nation's overall health status and has been made a priority by various national programs, states and counties. Southwestern Indiana has a higher infant mortality rate than the state and National Healthy People 2020 goal of 6.0 for every 1,000 live births.¹ In 2016, 18 % of infant deaths in Vanderburgh County were due to unsafe sleep practices or Sudden Unexpected Infant Death (SUID). These infant deaths may have been prevented with the proper education and resources for the family. A need for improvement in safe sleep education was identified.

2. Process:

The Vanderburgh County Health Department (VCHD) has partnered with the Indiana State Department of Health to coordinate the purchase of portable cribs for distribution. The collaboration ensured all families participating in safe sleep education classes, had access to safe sleep environments. The VCHD provided safe sleep education in a variety of settings including on-site, a local hospital, one-on-one classes and emergency in-home classes. The education utilizes combined media such as PowerPoint slides, videos and dialogue. The educational platform is based on the American Academy of Pediatrics (AAP) Guidelines for Infant Sleep Safety.



3. Objective:

1. Explain steps taken to address infant mortality in Southwestern Indiana.
2. Explore the link between safe sleep education and caregiver knowledge pre and post education.
3. Describe the value of caregiver understanding of safe sleep education.

4. Methodology:

This research analyzed data of 182 safe sleep class participants from February 1st 2017-February 1st, 2018. Participants were asked to complete a pre-safe sleep education survey including nine (9) multiple choice questions. After education was provided, each participant was asked to complete the same survey to measure the participant's gained knowledge of safe sleep practices. Statistical significance was tested for each question using a two-sample, two-tailed Z-test. The determination of statistical significance was $p < .05$.

Set up

- Choose time frame (February 1st 2017-February 1st 2018)
- Number of participants (182)

Prior to Education

- Ask participants to fill out survey on safe sleep knowledge

After Education

- Ask participants to fill out the same survey on safe sleep knowledge

Significance Testing

- Determine best statistical significance testing
- Two-sample, two-tailed Z-test

Develop Changes

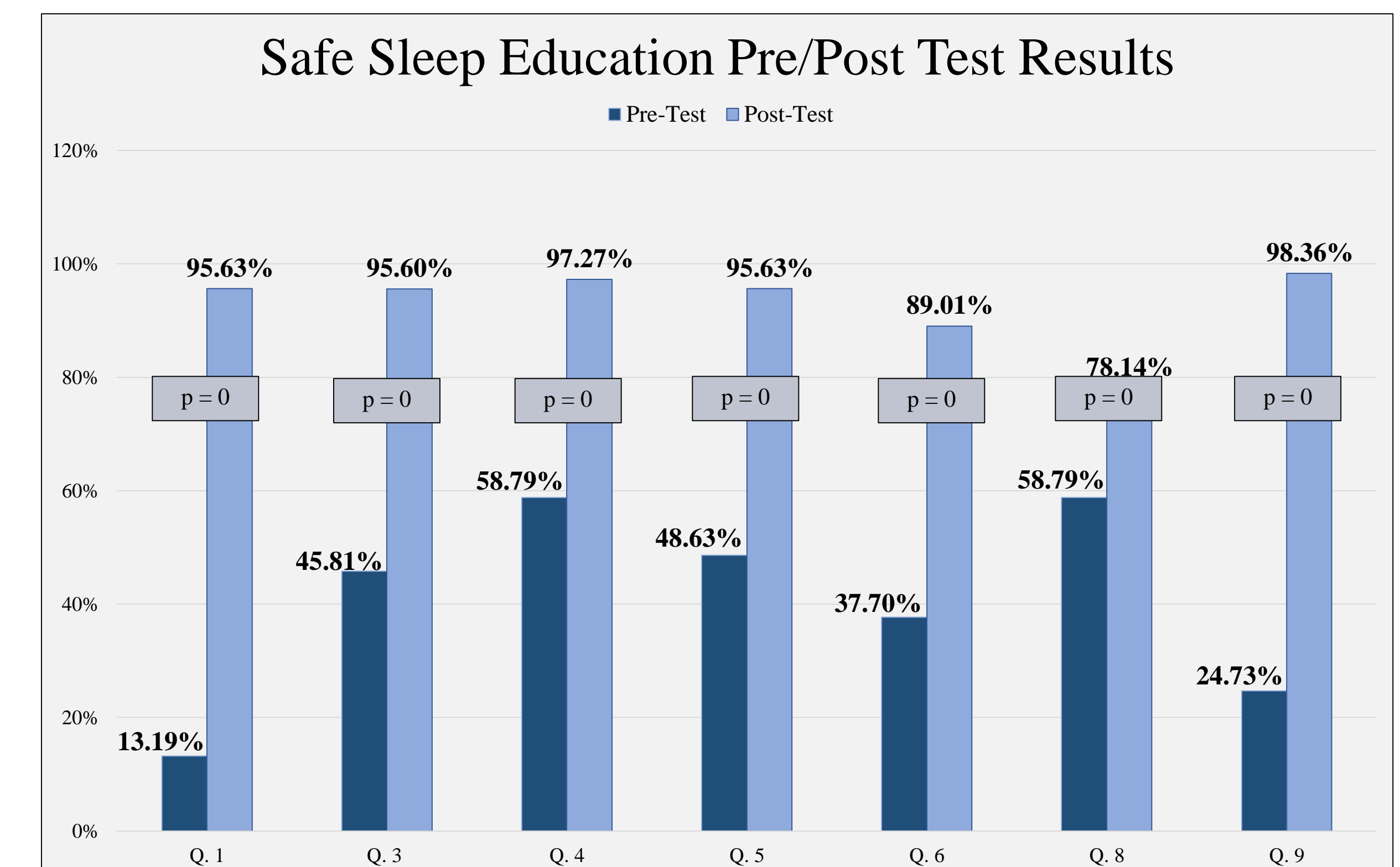
- Electronic group survey
- Revise ambiguous survey questions

4. Survey Questions:

Safe Sleep Pre/Post Education Survey Questions
Q. 1 - How sure are you that you know the best ways to create a safe sleep place for your baby?
Q. 3 - How likely are you to put your baby to sleep on their back for every sleep, even naps?
Q. 4 - How likely are you to put bumper pads, stuffed animals, pillows, or blankets in baby's sleep area?
Q. 5 - How likely are you to have baby sleep on or with you?
Q. 6 - How likely are you to have baby sleep in your room but in a separate sleep area?
Q. 8 - What are the chances that your baby will be exposed to second-hand or third-hand smoke?
Q. 9 - How sure are you that you can tell others who will care for your baby, about best safe sleep practices?

Key Findings:

As shown in *Figure 1*, statistical significance has been identified for seven (7) of the nine (9) questions on the pre and post-survey demonstrating the education as an effective tool for safe sleep instruction. Two (2) survey questions were not included in the significance testing due to ambiguous wording and multiple correct answers. After this analysis, these question have been revised. The VCHD is also moving towards an electronic group survey to avoid literacy barriers.



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Contact information:

Lynn Herr
 Clinical and Outreach Division Director
 Vanderburgh County Health Department
lherr@vanderburghcounty.in.gov
 812-435-5761

