



Enhancing Knowledge and Retention of Infant Safe Sleep Practices with Simulation

Jennifer Lemoine, DNP, APRN, NNP-BC
Assistant Professor, University of Louisiana at Lafayette
College of Nursing and Allied Health Professions

NERC 2018, Washington, D.C.
April 21, 2018



UNIVERSITY of
LOUISIANA
L A F A Y E T T E

Disclosures

- There will be no discussion of off label use or investigational use of any product in this presentation.
- There are no financial relationships to disclose.
- There are no conflicts of interest to report.



Categories of Sudden Unexpected Infant Death (SUID)

- SUID – unforeseen and precipitous death of an infant < 1 year of age
- Categories of SUID
 - Sudden infant death syndrome
 - Unknown cause
 - Accidental suffocation



Background & Significance

- Late 1980s 1.4 deaths per 1,000 live births¹
- 1992 American Academy of Pediatrics (AAP) Safe Sleep Recommendations
- 1994 “Back to Sleep” Campaign
- 1996 SUID Investigation Reporting
 - Rate of SUID decreased by more than 50% by the end of the decade¹
- 2010 0.4 deaths per 1,000 live births²
- 2015 0.9 deaths per 1,000 live births²



Background & Significance

- 3,700 infants annually – cause of death classified as SUID³
 - 43% SIDS; 32% unknown cause; 25% accidental suffocation & strangulation
- Bed-sharing is the greatest risk factor⁴

POLICY STATEMENT

Organizational Principles to Guide and Define the Child Health Care System and/or Improve the Health of all Children

American Academy
of Pediatrics



DEDICATED TO THE HEALTH OF ALL CHILDREN™

SIDS and Other Sleep-Related Infant Deaths: Updated 2016 Recommendations for a Safe Infant Sleeping Environment

TASK FORCE ON SUDDEN INFANT DEATH SYNDROME

Statement of the Problem

- Following discharge, newborn caregivers are more likely to model the nursing behaviors exhibited in the hospital setting⁵
- Despite national recommendations, nurses' non-adherence to infant safe sleep best practices persists
- **29%** of new mothers report “*sometimes to always*” bed-sharing with their baby²

What We Know about Adult Learners

- *Traditional educational modalities are not likely to change imbedded beliefs and behaviors*⁶

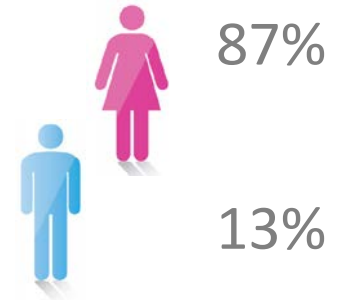
Research Question

What is the effect of simulation-based learning experiences on the acquisition & retention of knowledge, behavior, and clinical skills of senior-level, traditional BSN nursing students regarding infant safe sleep practices?

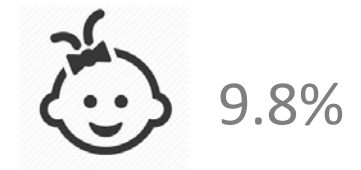
Participant Demographics



$n = 51$



Age 21 – 38 y/o



- 13.7% work history
- 35.3% PSA past year

What did we hope to accomplish?

Provide the foundation for an evidenced-based approach to inform the future nursing workforce about infant safe sleep practices, which may influence caregiver practices at home **AND** has the potential to impact the behaviors of nurses who currently work in the hospital setting.



Design and Methods

- Pre-post interventional pilot study (additional collection of qualitative data) at the University of Louisiana at Lafayette, College of Nursing and Allied Health Professions
 - Phase I (pre-test)
 - Phase II (post-test)
 - One month after Phase I activities



Phase I

- 10-item multiple-choice pre-test
- Random assignment to 1 of three simulation scenarios
- Pre-briefing, scenario execution, group debriefing (total time ~4 hours)



Phase II – one month later


- Post-test (items rearranged)
- Random assignment to 1 of the two remaining simulation scenarios
- Scenario execution, group debriefing for the purpose of clarification and to close the learning loop (total time ~ 1 hour)



Instrument

Modified Creighton Competency Evaluation Instrument **
(C-CEI[®]) was used to evaluate Simulation Performance

- Assessment
- Communication
- Clinical Judgement
- Patient Safety


Creighton Competency Evaluation Instrument (C-CEI)

Student(s) Name: Scenario: Evaluator:	0- Does not demonstrate competency 1- Demonstrates competency NA- Not applicable	Date: ____/____/____	
ASSESSMENT			
1. Obtains Pertinent Data	0: 1 NA	COMMENTS:	
2. Performs Follow-Up Assessments as Needed	0: 1 NA		
3. Assesses the Environment in an Orderly Manner	0: 1 NA		
COMMUNICATION			
4. Communicates Effectively with Interprofessional Team (TeamSTEPPS, SBAR, Written Read Back, Etc.)	0: 1 NA		
5. Communicates Effectively with Patient and Significant Other (verbal, nonverbal, teaching)	0: 1 NA		
6. Documents Clearly, Concisely, & Accurately	0: 1 NA		
7. Responds to Abnormal Findings Appropriately	0: 1 NA		
8. Provides Professionalism	0: 1 NA		
CLINICAL JUDGEMENT			
9. Integrates Vital Signs (T, P, R, BP, Pain)	0: 1 NA		
10. Integrates Lab Results	0: 1 NA		
11. Integrates Subjective/Objective Data (recognizes relevant, not irrelevant data)	0: 1 NA		
12. Prioritizes Appropriately	0: 1 NA		
13. Performs Evidence Based Interventions	0: 1 NA		
14. Provides Evidence Based Rationale for Interventions	0: 1 NA		
15. Evaluates Evidence Based Interventions and Outcomes	0: 1 NA		
16. Reflects on Clinical Experience	0: 1 NA		
17. Delegates Appropriately	0: 1 NA		
PATIENT SAFETY			
18. Uses Patient Identifiers	0: 1 NA		
19. Utilizes Standardized Practices and Precautions, including Hand Washing	0: 1 NA		
20. Administers Medications Safely	0: 1 NA		
21. Manages Technology and Equipment	0: 1 NA		
22. Performs Procedures Correctly	0: 1 NA		
23. Reflects on Potential Hazards and Errors	0: 1 NA		
COMMENTS			
Total: _____			
Total Applicable Items: _____			

Copyright © Authors. All modification, reproduction, or further distribution permitted. For more information, please contact the Office of Health, Safety, and Quality at med@creighton.edu. Revised: 4/22/2014

**Validity 92.9 – 97.25; reliability Chronbach’s alpha .979

Results

- Between Phase I and Phase II....
 - Mean test scores* increased by **15.88** points
 - Mean overall simulation performance scores* improved by **18.62** points
 - Mean safe sleep specific simulation performance scores* improved by **28.66** points
- Only **19.6%** of participants placed the infant in a safe sleep environment during Phase I, while **78.4%** did so at the end of Phase II (**58.8% increase**)

*statistical significance noted

Results

- *“I used this information yesterday during clinical to educate a young, new mother who was sleeping with her baby in bed on her chest!!”*
- *“PERFECT opportunity to use what I learned in this study in clinical”*
- *I used this research experience in a real hospital setting when a new mom placed her baby to sleep on a pillow & I explained to her that it’s not recommended”*

Study Limitations

- Single-center site
- Limited to nursing students
- Some participants performed in pairs



Implications for Nursing Practice

- Integration into nursing curriculum (Maternal-Child course/Clinical rotation)
- Partnering with key community stakeholders to replicate findings using nurses in the inpatient setting as participants
- Integrate into annual competency training days (NICU, well-baby nursery, post partum, and L&D)

Thank You for Your Attention!



UNIVERSITY of
LOUISIANA
LAFAYETTE

References

- [1] Moon, R., Darnall, R., Goodstein, M. & Hauck, F. (2011). SIDS and other sleep-related infant deaths: Expansion of recommendations for a safe infant sleeping environment. *Pediatrics*, 128(5), 1030-1039. doi:10.1542/peds.2011-2284
- [2] Centers for Disease Control and Prevention. (2017a). *Sudden unexpected infant death and sudden infant death syndrome. Data and statistics*. Retrieved from <https://www.cdc.gov/sids/data.htm>
- [3] Centers for Disease Control and Prevention. (2017b). *Sudden unexpected infant death and sudden infant death syndrome. About SUID and SIDS*. Retrieved from <https://www.cdc.gov/sids/AboutSUIDandSIDS.htm>
- [4] Moon, R.Y. (2016). *SIDS and other sleep-related infant deaths: Evidence base for 2016 updated recommendations for a safe infant sleeping environment* (Technical Report of the American Academy of Pediatrics). Retrieved from <http://pediatrics.aappublications.org/content/pediatrics/early/2016/10/20/peds.2016-2940.full.pdf>
- [5] Carrier, C. (2009). Back to sleep: A culture change to improve practice. *Newborn & Infant Nursing Review*, 9, 163-168. doi:10.1053/j.nainr.2009.07.006
- [6] Shaefer, S., Herman, S., Frank, S., Adkins, M., & Terhaar, M. (2010). Translating infant safe sleep evidence into nursing practice. *Journal of Obstetric, Gynecologic & Neonatal Nursing*, 39(6), 618-626. doi:10.1111/j.1552-6909.2010.01194.x