

Expansion of Infant Cardiopulmonary Resuscitation Education in Eastern North Carolina

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- **Important Findings**

- An eastern North Carolina (ENC) County had extremely high infant mortality rates when compared to national averages and goals (NC State Center for Health Statistics, 2021).
- In 2018, the United States (US) male black infant death rate was almost triple when compared to white infants (Jang & Lee, 2022). This raised concern as to why there was such a major difference.
- Infants had better health outcomes when receiving CPR with rescue breaths than those without CPR (Naim et al., 2021).
- A method to reduce infant mortality was needed in this area. Therefore, infant CPR classes were restarted at an ENC county's local hospital.

- **Background & Purpose**

- Infant mortality is a stagnant issue in the US, North Carolina (NC), and a local ENC county.
- In the local ENC county of concern, the infant mortality rate is triple that of the US in 2021, with comparative rates of 13.8 per every 1,000 live births to 5.4 (NC State Center for Health Statistics, 2021 & Ely & Driscoll, 2023). Substantially, black male infants also have a higher infant mortality rate when compared to other races (Jang & Lee, 2022).
- Early initiation of CPR reduces mortality rates (American Heart Association, 2020). The selected county did not offer infant CPR classes, which could increase layperson CPR knowledge and use.

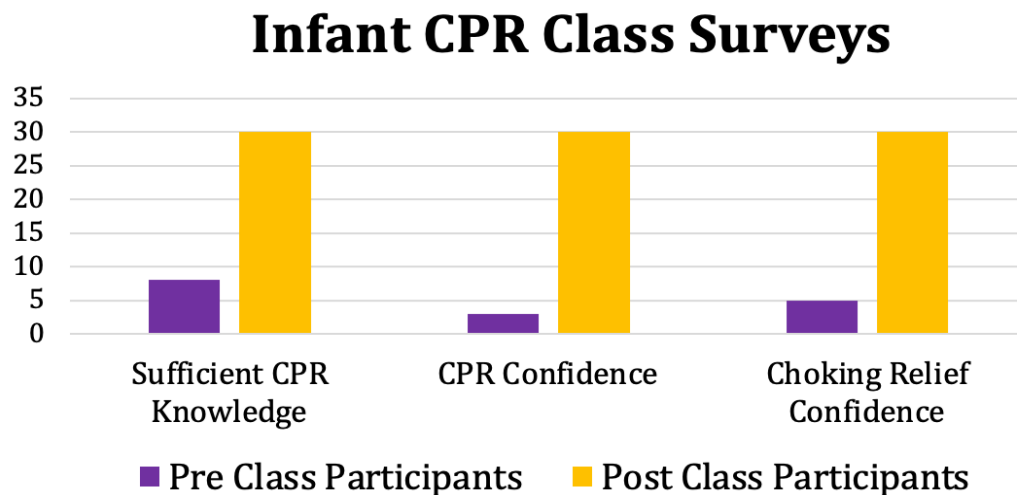
- This DNP quality improvement (QI) project aimed to increase infant caregiver CPR and choking relief skill confidence and technique by offering free infant CPR classes at the local hospital.
- CPR was chosen as the intervention to reduce infant mortality because it is used to restart a heart during arrest (American Heart Association, 2020).
- The results of this project will support the benefit of teaching CPR in this format in terms of participant knowledge and confidence after completing the course.

- **Methodology**

- An IRB screening process was conducted by the university, and an IRB review was not necessary for this project.
- This QI project's design consisted of organizing free, regularly scheduled infant CPR classes at a local ENC community hospital for the site.
- The site had not had infant CPR classes since prior to the COVID-19 pandemic in 2020. After speaking with the site's CPR coordinator, her director approved this project.
- A classroom at the site was reserved for the CPR courses, which occurred monthly during the ten-week implementation period.
- Each classroom had tables, chairs, a projector, a DVD player, CPR manikins, and pencils for the participants to use for free.
- Flyers containing the class dates, times, locations, and general information were provided to local outpatient clinics, a postpartum hospital ward, breastfeeding support groups, and the site's social media pages and website.

- Participants registered for the class on signupgenius.com. This website displayed the number of spots left in each class without revealing the other participants' names to the public. It also automatically sent a reminder email to all signed-up participants two days before the class.
 - A hospital volunteer or employee was at the back entrance to allow participants inside since this door could only be opened with badge access from the site's staff.
 - The CPR coordinator and hospital-provided CPR instructors were available to assist during each class with set up, clean up, and participant questions.
 - An American Heart Association video was played during each class to assist in teaching the participants. This video was paused throughout the class to allow time for demonstration, practice, elaboration, and questions.
 - A grant to the site provided each participant or pair with a free infant CPR manikin and a copy of the class's DVD to take home.
- **Results**
 - The pre-and post-class surveys had the same three yes-or-no questions. They were used to measure the participants' infant CPR and choking relief skill confidence and knowledge.
 - Over the ten-week project, consisting of three classes and 30 participants, 100% reported having the confidence and knowledge to perform CPR or provide choking relief on an infant after class completion.
 - These results were compared on an Excel spreadsheet and displayed in a bar graph to show the pre- and post-survey growth.

- The audience's demographics comprised only two identified races, 93% white, and 7% black. 27% were male, 73% were female, and none of the participants identified as nonbinary.

Figure 1

- **Strengths & Limitations**

- A strength of this project is the teaching of infant CPR courses in terms of reported skill confidence and knowledge of the participants.
- The sign-up process, community advertising, and site staff support all contributed to the positive implementation of this project.
- A limiting factor included finding staff to assist with allowing participants in the entrance. Only a couple of days before the first class, a staff member was no longer available to help with this task. However, the site's volunteer group can now help during each class.

- Another limiting factor is participant attendance. Before each start date, each class had all 20 spots filled. However, on the day of class, attendance was never 100%.
- For future projects, classes could be offered at outpatient offices in the waiting rooms so that after individuals finish their appointment, they could complete an infant CPR in-service. This combats transportation barriers or getting time off from work to attend hospital-based classes.
- **Implications & Conclusions**
 - CPR saves lives; therefore, teaching infant CPR to the community is essential.
 - The sooner CPR is initiated, the better the infant's chance of a positive health outcome, as CPR promotes oxygen reaching the brain.
 - The local area and project site are more likely to have improved patient outcomes after implementation since more people now know CPR. This would support effective healthcare procedures and great access to care as well.
 - If CPR can save an infant, then the associated loved ones can avoid the potential trauma and poor mental health outcomes that could occur if the infant were to pass.
 - Future projects that mirror this one could redirect the focus on the disparity gap between black infant deaths to other races and the lower attendance rate of nonwhite participants.

References

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