

Improving Comfort and Development with Maternal Voice

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Background/Purpose

- **Purpose:** Improve comfort of newborns in the NICU to improve overall patient outcomes
- Preterm infants (in the NICU) are exposed to various stimuli such as noise, lights, and touch that they would not experience until after full term delivery which may disrupt normal growth and development.
- Maternal speech provides predominant and unique sensory stimulation for the developing fetus (including auditory, vibratory, and vestibular).
- Decreased quality of sleep increases stress in the newborn which may cause physiological/neurological effects including learning disorders and language delay. (Krueger, 2010) & (Efendi et al 2018)

PICO Question

- In NICU newborns does the use of maternal voice recordings compared with no intervention improve comfort as evidenced by decreased heart rates?
 - P: NICU newborns
 - I: Maternal voice recordings
 - C: No intervention
 - O: Improvement of comfort and stability of vital signs

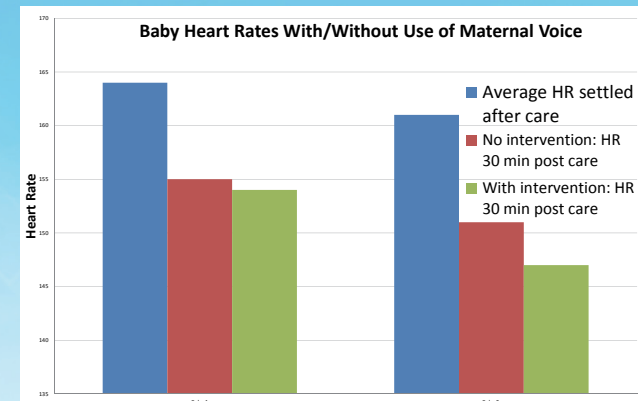
Evidence

- The use of maternal voice improves sleep states, heart rate, oxygen saturation, and respiratory rate. (Efendi, Caswinib, Rustinaa, & Iskandarb, 2018).
- Short exposure to sounds (10 minutes) results in more attentive states, whereas relaxation and vital sign stability were observed and noted over longer periods of exposure (at least 30 minutes) (Flippia et al., 2013; Rand & Lahav, 2014).
- A lowered sustained mean heart rate was recorded after 30 minute periods of maternal sound exposure. (Rand & Lahav, 2014).
- Singing and speaking recordings both resulted in decreased heart rate, pain, and crying. It also proved increased weight gain, overall improved status, and decreased the hospital stay by an average 3 days. (Saliba, 2017).
- Neurofunctional assessments showed improved visual and auditory orientations and general motor movements with the use of mother's voice in the hospital. (Picciolini, 2014).

Implementation

- Have mother record herself singing or talking and have available on the unit
- Play mom's recorded voice and/or singing for at least 30 minutes, to times within twelve hours.
- Record infant's heart rate with and without the use of the recording, two times each a day.
- Compare findings of heart rate with and without maternal voice recording

Results



Conclusion

The use of maternal voice recordings after care times versus no intervention showed a decrease in the heart rates of the newborns observed. This decrease in heart rate shows that the newborns were settled into a more comfortable deep sleep after care times with the use of maternal voice. This intervention would be helpful to soothe NICU babies whose mothers cannot always be present at the bedside to improve overall patient outcomes. Additional data and further testing should be collected to confirm the findings of this data collection.

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