

The Effects of Recorded Lullaby Music on the Physiological and Behavioral States in Infants in the NICU

Hayley Jambor, RN, BSN, MSN

Background

- In utero, infants are accustomed to sounds coming from the cardiovascular system, intestines, and the placenta
- Appropriate infant stimulation can enhance physiologic and neurobehavioral development, helps the infant organize bodily functions
- Use of music has been shown to positively affect physiologic function (heart rates, respiratory rates, O₂ saturation) and behavioral states
- Implementation of music therapy in the neonatal intensive care unit by compact disc (CD) and compact disc player is a cost-effective option to provide patients with music therapy compared to live music therapy
- Conceptual framework for study was the Universe of Developmental Care model

Research Questions

- Is there a difference in the mean heart rates in premature infants receiving music therapy compared with premature infants not receiving music therapy?
- Is there a difference in mean oxygen saturation rates in premature infants receiving music therapy compared with premature infants not receiving music therapy?
- Is there a difference in mean respiratory rates in premature infants receiving music therapy compared with premature infants not receiving music therapy?
- Is there a difference in behavioral states in premature infants receiving music therapy compared with premature infants not receiving music therapy?

Methodology

- Sample size: 30 infants greater than or equal to 32 weeks
- Each baby served as their own experiment and control
- Vital signs and behavioral state were documented by the researcher or other trained staff members on the data collection tool during the first evening feeding over six days
- Music therapy performed by playing a CD on a CD player, in patient's room on a shelf behind the baby's bed; sound set at 60 decibels
- MT done on days 1, 3, & 5; control done on days 2, 4, & 6



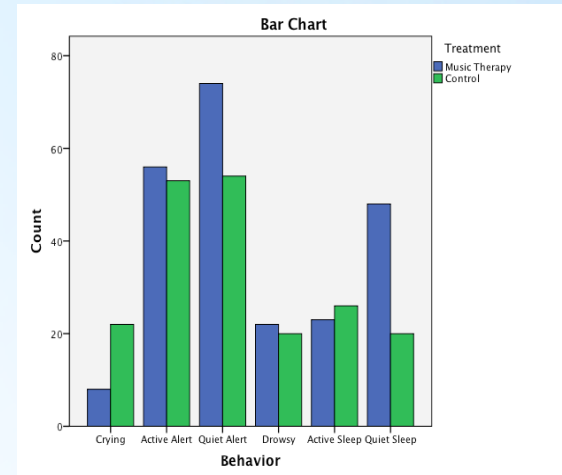
Results

Statistical significance level set at $p < 0.05$

T-Test:

- HR during MT (mean= 143.32), control (mean= 151.45); $p < 0.000$
- Respiratory Rate during MT (45.94), control (mean=47.59); $p < 0.161$
- Oxygen Saturation during MT (mean= 98.90), control (mean= 98.59); $p < 0.015$

Tables/Graphs



Chi square:

- Analyzed behavioral states during MT and control; $p < 0.002$

Conclusions

- Research study further determined the use of music therapy had a positive effect by lowering heart rates, increasing oxygen saturations, and more time spent in sleep and relaxed behavioral states
- Music therapy is an intervention that could fit as an integral part of family-centered care in the hospital setting and promote parent bonding and positive patient outcomes in the NICU

References available upon request