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The Effectiveness of Music Therapy in the Pediatric Population

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PATIENT CARE ISSUE

Background & Significance

- Very few people in their right mind would say that they enjoy being at the hospital; especially children.
- The scope of Pediatrics is defined of patients ranging from 1 day old to 18 years old.
- Being in a strange environment can cause anxiety and fear which increase pain perception. 25 weeks gestation is when a fetus can begin to feel pain. (NICU Music, 2011)
- Medications can be used as an intervention to treat pain however, it can have adverse effects on the patient and also increases the cost of care for the patient and the hospital.
- Non pharmacological interventions have shown to have positive effects on pain and anxiety while in the hospital. Music Therapy is one of these studies.
- Music therapy (MT) is defined as, "the systematic use of music or musical elements-along with the resulting interpersonal relationship with a trained music therapist to achieve optimal health outcomes..." (The Effectiveness, 2010)
- Nurses are able to implement music therapy in care. Decreasing fear, anxiety, and ultimately pain will enhance the patient's experience at the hospital and will lessen the burden of performing care on the patient, decrease stress on caregivers, and ease the provision of care on health professionals.

EVIDENCE-BASED PRACTICE QUESTION

Question: Can the implementation of music therapy as an intervention decrease anxiety, fear, and ultimately pain in the pediatric population?

- P** The population ranged from preterm babies (less than 38 weeks gestation) to 18.
- I** Interventions were MT to decrease procedural pain pre/post op, ambient sounds in the NICU, and to reduce morphine consumption and pain perception
- C** Recorded music vs. live music, selection from specific playlist vs. patient's choice, interviews of opinions of intervention, ambient sounds, and music education
- O** MT may have a positive effect on reducing pain and anxiety however, studies are limited and more research needs to be done before implementing MT as evidence based practice.

REGISTERED NURSE INTERVIEW

- The NICU at Miami Valley Hospital in Dayton, OH implemented MT 3 years ago. The music intervention was having a harp player come in once a week.
- The nurse noticed no positive correlation between the playing of music and positive outcomes on the patients although, it did relax the nurses on the unit.
- The population in the MVH NICU ranges from 20 weeks to term babies (38-42 weeks.)
- According to policy only babies greater than 37 weeks are allowed to have MT. The nurse feels that there is limited research to support the implementation of MT in the NICU and that more studies need to be done with specific and consistent control groups.

EVIDENCE-BASED PRACTICE RECOMMENDATIONS

Before implementing music therapy as an evidenced-based practice in hospitals, more research needs to be done on the topic.

METHODS

- Searched nursing databases: PubMed, AHRQ, Elsevier
- Narrowed search with descriptive keywords: music therapy, music therapy for children in pain, pediatric music therapy
- Selected high quality articles
- Systematically reviewed the articles
- Synthesized the article findings
- Made evidence-based practice recommendations based on the article findings

RESULTS

- Music therapy reduces pain in some pediatric patients (Klassen, Liang, Tjosvold, Klassen, Hartling, 2008)
- More research needs to be performed (Naylor, Kingsnorth, Lamont, McKeever, Macarthur, 2010)

SYNTHESIS OF EVIDENCE

Many of the studies showed favorable results for using music therapy in pediatric patients, but some of the studies showed no significant differences. Most of these studies recommended more research in the area of music therapy. Below are the results of each article concerning the interventions each one researched.

1. The effects of music therapy in reducing pain in children is promising but needs more research to prove its "safety and efficacy" (Neal, Lindeke, 2008)
2. New information was provided (nurse's expectations of music therapy), but more studies need to be performed to determine which type of music should be used (Polkki, Korhonen, Laukkala, 2012)
3. Music therapy reduces pain in children, but more studies should be done to further validate music therapy as an evidence-based practice (Klassen, Liang, Tjosvold, Klassen, Hartling, 2008)
4. Music therapy is "calming and relaxing" but does not reduce children's self-reported pain (Nilsson, Kokinsky, Nilsson, Sidenvall, Enskar, 2009)
5. Music therapy as a pain-reduced in pediatric patients may be beneficial, but current research of the potential positive effects are compromised by limitations in the studies: variation in outcomes, heterogeneity (Naylor, Kingsnorth, Lamont, McKeever, Macarthur, 2010)
6. Music therapy has positive effects on shortening NICU infants' hospitalizations (Standley, Swedberg, 2010)
7. There are "significant gaps in [MT] intervention reporting that may ultimately have a negative effect on evidence-based practice." Medical professionals need to document interventions and results more clearly (Robb, Carpenter, 2009)

LIMITATIONS

- Limited amount of high quality research
- lack of heterogeneity in the studies
- differences in outcomes between studies
- Personal factors of individual patients

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