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Effectiveness of Music Therapy as Pain Management for Postoperative Children with Developmental Disabilities

Isabel Arellano



Introduction

Postoperative children with developmental disabilities are difficult to assess and manage pain due to the lack of verbal/communication skills. Children with developmental disabilities experience more nociceptive and neuropathic pain episodes compared to children who do not have developmental challenges (Carter et al., 2021). Parent/nurse controlled analgesia (PNCA) is a postoperative patient analgic device that allows the nurse to administer an opioid when the patient has a high Faces, Legs, Activity, Cry, and Consolability (FLACC) score. However, due to the unknown safety range and efficacy of the PNCA it may cause potential adverse effects (Czarnecki et al., 2018). This can lead to adverse effects such as sedation and respiratory depression, causing additional medication such as naloxone to be administered (Czarnecki et al., 2018).

Research shows that music therapy implemented in special education enhances mood, attention, and behavior, while promoting muscular relaxation, and easing anxiety and pain (American Music Therapy Association, 2021).

There has been limited research on the topic of combating pain for postoperative children with developmental disabilities. Furthermore, there are limited studies that demonstrate the effectiveness of music therapy as postoperative pain management.

Hypothesis

Scheduled music therapy, as an additional pain management method, will decrease FLACC scale ratings in postoperative children with developmental disabilities compared to children who only have medications as the primary method of pain management.

Method

- Design: Quantitative, quasi experimental
- Sample size: 100 pediatric participants
- Inclusion Criteria: children 4-18 years old, those with inpatient surgical procedures, diagnosed with developmental disabilities, are nonverbal, using pharmaceutical pain management.
- Independent Variable: Music therapy
- Dependent Variable: Pain scores

Procedure

- Recruitment strategy: flier at pediatric offices/surgical centers and hospitals
- Intervention started on day one postoperative.
- Scheduled music therapy incorporated with normal pain management methods
- Pre and post test of FLACC pain scale before and after music therapy.
- Therapy administered via headphones, lasts 30 minutes, two times a day until end of hospitalization
- Measurements and tools: pain scores/rates from FLACC tool

Data Analysis

- The means of pain scores from the pre- and post-tests of both groups will be analyzed using descriptive statistics.
- The t-test will be utilized as a tool of inferential statistics to evaluate the p-value and determine whether the findings are statistically significant. If the p-value is less than 0.05, it can be concluded that there is evidence to support the effectiveness of the intervention, therefore the null hypothesis would be rejected.

Conclusion

Evidence shows that current pain management techniques for pain management (PNCA) for postoperative pain in children with developmental disabilities has potential of adverse events (sedation respiratory depression) (Czarnecki et al., 2018). Limited research describes the effectiveness of music therapy as an additive intervention for postoperative pain management in children with developmental disabilities. Music therapy promotes relaxation and eases anxiety therefore decreasing pain rates. This study can determine if music therapy is a viable intervention for treating pain in this vulnerable population. This further aids nurses in providing holistic care by seeking different interventions for treating pain.

Category	Scoring		
	0	1	2
Face	No expression or smile.	Occasional grimace/frown, withdrawn or disinterested.	Frequent/constant quivering chin, clenched jaw.
Leg	Normal position or relaxed	Uneasy, restless, tense	Kicking or legs drawn up
Activity	Lying quietly, normal position, moves easily	Squirming, shifting back and forth, tense	Arched, rigid or jerking
Cry	No cry	Moans or whimpers, occasional complaint	Crying steadily, screams or sobs, frequent complaints
Consolability	Content and relaxed	Reassured by occasional touching, hugging or being talked to, distractible	Difficult to console or comfort



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