

“Echoes Of Care: A Nurse-Led Journey into the Sleep and Emotional Realms of Hospitalized Children”

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ABSTRACT

Background: Hospitalization can significantly impact children's sleep patterns and emotional well-being. This study aimed to evaluate the effectiveness of nurse-led interventions in reducing sleep disturbances and emotional distress among hospitalized children, and to explore mothers' perceptions of the paediatric inpatient experience.

Methods: A sequential explanatory mixed-methods design was employed. The quantitative phase involved a pre-experimental one-group pre-test and post-test study with 100 hospitalized children aged 3-6 years. The qualitative phase included interviews with six mothers. Data were collected using the Children's Sleep Habits Questionnaire and Paediatric Emotional Distress Scale. Nurse-led interventions focused on creating sleep-friendly environments, establishing bedtime routines, and providing emotional support.

Results: Following the intervention, 80% of children exhibited mild sleep disturbances, while 20% achieved normal sleep patterns. Emotional distress levels reduced significantly, with 73% experiencing mild distress and 27% showing normal/low distress. A strong negative correlation ($r = -0.682$) was found between improved sleep and reduced emotional distress. Qualitative analysis revealed themes related to sleep routine changes, environmental impacts, and coping strategies.

Conclusion: Nurse-led interventions significantly improved sleep quality and reduced emotional distress in hospitalized children. The study highlights the importance of holistic, family-centered care in paediatric settings.

INTRODUCTION

Hospitalization can be a distressing experience for children, often causing significant sleep disturbance and emotional distress. Factors such as unfamiliar environments, invasive medical procedures, and separation from caregivers contribute to anxiety and fear. The psychological impact of hospitalization can have both short-term and long-term consequences on a child's well-being. It is crucial to address these emotional and physiological responses to improve paediatric inpatient care.

Nurse-led interventions have gained prominence in paediatric care due to their patient-centered approach. These interventions focus on holistic care, addressing not only medical needs but also emotional and psychological well-being. By implementing strategies such as therapeutic communication, play therapy, and structured reassurance, nurses can significantly alleviate distress in hospitalized children.

The perception of hospitalization among children is largely shaped by their interactions with healthcare providers, particularly nurses. A positive experience can reduce fear and foster trust in medical professionals, while a negative experience can lead to heightened anxiety and reluctance towards future medical care. Understanding how children perceive their hospital stay is crucial in designing interventions that enhance their comfort.

This study aimed to evaluate the impact of nurse-led interventions on sleep disturbance and emotional distress among hospitalized children and explore mothers' perceptions of the paediatric inpatient experience. The research adopted a mixed-methods approach to provide a comprehensive understanding of the effectiveness of these interventions and their influence on the overall hospital experience for both children and their mothers.

METHODS:

Study Design:

An explanatory sequential mixed-method design was employed, consisting of a quantitative phase followed by a qualitative phase.

Quantitative Phase:

A pre-experimental one-group pre-test and post-test design was used.

Setting and Participants:

The study was conducted at the Paediatric Medical Ward, Institute of Child Health and Hospital for Children (ICH&HC), Chennai. The quantitative component included 100 hospitalized children aged 3-6 years selected through convenience sampling. The qualitative component involved 6 mothers selected through purposive sampling.

Inclusion Criteria

- ❖ Children aged 3-6 years
- ❖ Minimum hospitalization period of one week
- ❖ Mothers can communicate in Tamil or English

Exclusion Criteria

- ❖ Children with altered mental status or developmental delays
- ❖ Mechanically ventilated children
- ❖ Mothers with psychiatric disorders

Data Collection:

Quantitative data were collected using:

1. Demographic Variables Questionnaire
2. Children's Sleep Habits Questionnaire (CSHQ)
3. Paediatric Emotional Distress Scale (PEDS)

These tools were administered before and after the intervention.

Qualitative Phase:

Semi-structured interviews were conducted with six mothers of hospitalized children to explore their perceptions of the paediatric inpatient experience.

Intervention Protocol

The nurse-led intervention consisted of six components:

1. Creating a Sleep-Friendly Environment (noise reduction, light management, comfort items)
2. Establishing Bedtime Routines (calm activities, relaxation techniques)
3. Pain and Discomfort Management (pain assessment, comfortable positioning)
4. Hospital Staff Collaboration (communication protocols, medication timing)
5. Emotional Support (reassurance techniques, family involvement)
6. Maternal Self-Care Support (rest opportunities, support activation)

Data Analysis:

Quantitative data were analyzed using descriptive and inferential statistics, including paired t-tests and chi-square tests. Qualitative data were subjected to thematic analysis.

Ethical Considerations:

The Institutional Ethics Committee approved the study. Informed consent was obtained from all participants.

RESULTS:

Demographic Characteristics: The study included 100 children with a mean age distribution of 37% (5 years), 33% (6 years), and 30% (4 years). Gender distribution was 57% male and 43% female. Most mothers (53%) belonged to nuclear families, with 57% being homemakers and 30% having graduate-level education.

Quantitative Findings

Pre - Intervention Status

Pre-test results showed that 75% of children had moderate sleep disturbances, while 25% had high disturbances. Regarding emotional distress, 82% experienced moderate levels, and 18% showed severe distress.

Post-intervention Assessment:

Following the nurse-led intervention:

- ❖ Sleep Habits: 80% of children showed mild disturbances, while 20% achieved normal sleep patterns.
- ❖ Emotional Distress: 73% of children experienced mild distress, and 27% showed normal/low distress levels.

The changes in both sleep habits and emotional distress were statistically significant (McNemar's test, $\chi^2 = 60.00$, $p = 0.001$).

Statistical Significance:

The improvements were highly significant (McNemar's $\chi^2 = 60.00$, $p = 0.001$). Mean sleep scores improved from 54.12 ± 3.71 to 43.40 ± 3.23 ($t = 19.99$, $p = 0.001$). Mean emotional distress scores decreased from 51.13 ± 8.78 to 30.43 ± 5.13 ($t = 23.05$, $p = 0.001$).

Correlation Analysis:

A strong negative correlation ($r = -0.682$, $p = 0.001$) was found between sleep improvement and emotional distress reduction, indicating that better sleep was associated with lower emotional distress.

CORRELATION BETWEEN BIO(SLEEP)-EMOTIONAL DISTRESS SCORE

CORRELATION BETWEEN	MEAN DIFFERENCE	KARL PEARSON CORRELATION COEFFICIENTS	INTERPRETATION
CHILDREN'S SLEEP DISTURBANCE REDUCTION SCORE Vs EMOTIONAL DISTRESS REDUCTION SCORE	10.72±0.48 20.70±3.65	$r = -0.682$ $P=0.001^{***}$	There was a strong negative correlation ($r = -0.682$) between the pretest level of sleep disturbance and emotional distress among children. This indicated that as the children's sleep disturbances increased, their emotional distress scores also increased. Conversely, improvements in sleep patterns were associated with reduced emotional distress. After the intervention, demonstrating the effectiveness of the intervention in improving both sleep habits and emotional well-being among the pediatric population.

Association with Demographic Variables:

Children using mobile phones for less than one hour daily and those from nuclear families showed better outcomes in both sleep quality and emotional well-being.

Qualitative Findings:

Thematic analysis of mothers' interviews revealed six main themes:

❖ **Theme 1: Changes in Sleep Routine Due to Hospitalization**

- Bedtime routine disruption
- Irregular sleep patterns

"At home, he listens to a story every night. Here, we are disturbed by nurses or other patients." (Participant 1)

❖ **Theme 2: Environmental Impact on Sleep**

- Noise and light disturbances
- Uncomfortable bed and room setting

"The beep sounds and bright lights are too much. He covers his face with a sheet." (Participant 5)

❖ **Theme 3: Emotional Influence on Sleep**

- Anxiety and fear of procedures
- Separation from family and familiarity

"She becomes scared every time someone in a white coat enters." (Participant 2)

❖ **Theme 4: Coping Strategies Adopted by Mothers**

- Soothing and comfort techniques
- Emotional support from mothers

"I sing his favourite song softly until he falls asleep." (Participant 1)

❖ **Theme 5: Role of Hospital Staff in Sleep Experience**

- Gentle and understanding staff behavior
- Disruptions from medical routines

"One nurse explained everything with a smile. My son felt relaxed after that." (Participant 5)

❖ **Theme 6: Suggestions for Better Sleep Environment**

- Environmental modifications
- Support for emotional well-being

"They could reduce noise during night-time, maybe have quiet hours." (Participant 2)

Integration of Quantitative and Qualitative Findings:

The qualitative data supported and expanded on the quantitative results. Mothers' observations of improved sleep and reduced distress in their children aligned with the quantitative measurements. The themes identified in the qualitative analysis provided context to the factors influencing children's sleep disturbance and emotional well-being during hospitalization and highlighted the importance of nurse-led interventions in addressing these issues.

DISCUSSION

This study demonstrates the significant impact of nurse-led interventions on reducing sleep disturbance and emotional distress among hospitalized children. The findings align with previous research emphasizing the importance of holistic care in paediatric settings.

The substantial improvement in sleep patterns post-intervention is particularly noteworthy. The reduction in sleep disturbances from moderate-high levels to predominantly mild levels suggests that targeted nursing strategies can effectively mitigate the sleep disruptions commonly experienced by hospitalized children. This improvement is crucial, as adequate sleep is essential for recovery and overall well-being.

The parallel reduction in emotional distress levels further underscores the effectiveness of the interventions. The shift from moderate-severe distress to predominantly mild levels indicate that addressing both physical comfort and emotional needs can significantly enhance children's hospital experiences. The strong negative correlation between sleep improvements and reduced emotional distress highlights the interconnected nature of these aspects of well-being.

The qualitative findings provide valuable insights into the factors influencing children's hospital experiences from the mothers' perspectives. The identified themes, such as changes in sleep routines and environmental impacts, corroborate the quantitative results and offer a more nuanced understanding of the challenges faced by hospitalized children and their families. The emphasis on coping strategies and the role of hospital staff underscores the importance of family-centered care and the critical role of nurses in facilitating positive experiences.

The association between better outcomes and factors such as limited mobile phone use and nuclear family structure suggests potential areas for targeted interventions and family education. These findings may inform more personalized approaches to

paediatric care, considering the child's home environment and habits.

The study's mixed-methods approach provides a comprehensive view of the impact of nurse-led interventions, combining objective measures with rich, experiential data. This holistic perspective is crucial for developing and refining interventions that address the multifaceted needs of hospitalized children and their families.

Limitations:

The study's limitations include its single-center design, relatively small sample size, and short intervention duration. These factors may limit the generalizability of the findings to other settings or populations.

Implications for Practice:

The findings of this study have several implications for paediatric nursing practice:

1. Implementation of structured sleep promotion protocols in paediatric wards.
2. Integration of emotional support interventions into routine care.
3. Enhanced focus on creating child-friendly hospital environments.
4. Increased emphasis on family involvement in care processes.
5. Development of tailored interventions considering factors like mobile device use and family structure.
6. Incorporation of regular assessments of children's sleep quality and emotional well-being.

Future Research:

Future studies should explore the long-term effects of these interventions, their applicability in diverse healthcare settings, and their impact on clinical outcomes such as length of stay and recovery rates. Additionally, research into the cost-effectiveness of these interventions and their impact on healthcare provider satisfaction could provide valuable insights for healthcare management and policy.

CONCLUSION

This mixed-methods study provides robust evidence for the effectiveness of nurse-led interventions in reducing sleep disturbance and emotional distress among hospitalized children. The significant improvements in both sleep quality and emotional well-being, coupled with enhanced maternal satisfaction, support the implementation of comprehensive nursing protocols in paediatric settings.

The integration of quantitative and qualitative findings offers a holistic understanding of the paediatric inpatient experience, emphasizing the dual importance of evidence-based interventions and compassionate care delivery. The strong correlation between sleep and emotional outcomes reinforces the need for integrated approaches addressing multiple dimensions of child well-being. Future research should focus on long-term outcome assessment, intervention standardization, and implementation across diverse healthcare settings. The development of evidence-based guidelines for paediatric sleep disturbance and emotional distress management represents a crucial next step in advancing paediatric nursing practice.

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Conflicts of Interest

The authors declare no conflicts of interest.

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