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Julia A. Boyd BSN, RN

Lehigh Valley Health Network, julia_a.boyd@lvhn.org

Jordan E. Sunderland BSN, RN

Lehigh Valley Health Network, jordan_e.sunderland@lvhn.org

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Quiet Time at Night in the Pediatric Population

Julia Boyd BSN, RN and Jordan Sunderland BSN, RN

Lehigh Valley Health Network, Allentown, Pennsylvania

BACKGROUND

- Quiet time is a hospital wide initiative.
- Quiet hours are on the Inpatient Pediatric Floor are 1-3pm and 9pm-7am.
- It has been observed by unit leadership that quiet time is not being observed consistently.
- Complaints of increased noise overnight on Inpatient Pediatric Unit by patients/families reported.
- Identified a need for additional education about quiet time for staff on the Inpatient Pediatric Unit.
- The purpose of our project was to increase staff education on the benefits of quiet time as well as offering education on how to achieve our goal.

PICO QUESTION

In the pediatric population, does implementing quiet time at shift change and reinforced education of staff as compared to no additional quiet time or education, decrease the noise level at selected times?

P: Inpatient Pediatric Unit

I: Reinforced education of staff, additional quiet time

C: No additional education or quiet time

O: Decreased noise level at selected times

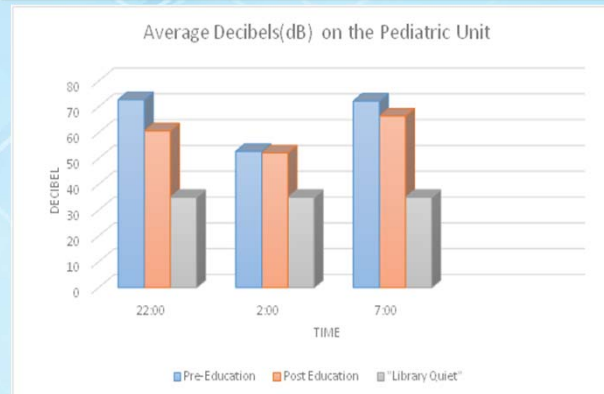
EVIDENCE

- Excess noise contributes to an environment that is unfit for healing (Cramer & Davenport, 2013)
- Noise creates fatigue among patients, parents, and staff (Cramer & Davenport, 2013)
- Noise can; increase BP, increase HR, delay wound healing, impair immune function and delay weight gain (Hinds et al, 2007)
- World Health Organizations (WHO) guidelines recommend daytime noise levels <40dB and nighttime noise levels <35dB. Previous 2005 study showed average daytime noise of 75dB (Luthra, 2016)
- Greater understanding of the *modifiable* sources of noise can lead to a decrease in disrupted sleep and overall more restful night for the patients (Linder & Christian, 2012)
 - Modifiable sources are sources that can be changed. These include, silencing alarms, placing pagers on vibrate, and clustering patient care.

METHODS

- Use of dosimeter to measure the noise level, in decibels at preselected times throughout the night before and after implementation
- Pre-selected 3 times of noise level measurement: 22:00, 02:00 and 07:00
- Re-educate staff on the benefits of a quiet unit. Educational pamphlet handed out to all staff. Education reviewed at monthly staff meeting.
- Reminders placed on unit to reinforce "Quiet time"
- Normal conversation is 60 dB, goal 30-40dB "library quiet"
- Educate families on admission and alter care times when applicable to patient acuity.
 - Vitals while awake; physician buy-in
 - Cluster care

RESULTS



- Pre- education
 - Average noise level in decibels at :
 - 22:00 – 72.8
 - 02:00 – 52.8
 - 07:00 – 72.3
- Post- education
 - Average noise level in decibels:
 - 22:00 – 60.75
 - 02:00 – 52.2
 - 0700 – 66.5

OUTCOMES

- Not a significant decrease in noise levels (dB) after education
- More reinforcement is needed in order to reach goal of 30-40 dB.
- Future education of all staff is necessary; implement in new hire orientation
- Education of residents and medical students regarding noise level at shift change

CONCLUSIONS

- Possible: permanent fixtures that can reduce dB and alert staff when it is too high
- Research into parent satisfaction scores. Unable to explore this due to the nature and length of the experiment, Would need a certain length of stay and measures prior to reinforcement and after.
- Larger sample size and greater days to measure
- Overnight admissions can lead to increased noise; not always able to decrease overall unit noise.

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