Stop the Noise: A Quiet Environment Promotes Healing

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INTRODUCTION

Most ICU environments have noise levels far above the World Health Organization (WHO) recommendations. Excessive noise in ICU has been linked to negative impacts on the physiological and psychological health of patients. Important links between sleep disturbances and environmental factors have been established. Noise reduction strategies aimed at behavioral changes have revealed a real need for intervention in hospital. This quality improvement project sought to raise awareness of noise in our unit and test out strategies to create a quiet healing environment for our patients and families.

LITERATURE REVIEW

(1) Nurses report that hospital noise levels exceed (not exceed 40dB(A) during the day and 70dB(A) during the night.
(2) Studies in ICUs reported average noise levels of 65-70dB(A) with peaks over 90dB(A).
(3) Negative effects of noise on patients include: sleep disturbance, increased stress response, immunosuppression, agitation, and delirium.
(4) Equipment alarms among nurses influence ICU patient noise contributes to interruption of sleep.
(5) Patients and families felt private rooms were quieter but loud music continued to be a problem.
(6) Measured noise levels before and after an educational and occupational campaign indicated noise reduction.
(7) Earplugs were a reasonable noise-reduction strategy for improving sleep in certain ICU patients.

OBJECTIVES

• Explore nurses’ perceptions of noise and its impact on patients.
• Sensitize nurses to the negative impact of noise on patients, family, and staff.
• Identify sources of noise in our unit.
• Develop unit-based noise reduction strategies.
• Evaluate the impact of the project on staff and the environment.

METHOD

• Quantitative:
  - Survey (before project): staff perception.
  - Patient & family perception.
• Qualitative:
  - Survey (after project): staff perception.
  - Interview (after project): ICU staff with variable levels of experience.
  - Staff and patients from a culturally diverse population.

PHASE (1.1) FORMING THE PROJECT COMMITTEE

• Staff Nurses - volunteers.
• Task-driven nurse participation.
• Communication on monthly meetings - e-mail.

PHASE (2.1) IS NOISE AN ISSUE IN OUR UNIT?

SOUND MEASUREMENTS

- Study nurses’ perceptions of noise.
- Identify sources of noise in our unit.
- Develop unit-based noise reduction strategies.
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• Quantitative:
  - Survey (before project): staff perception.
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PHASE (3) IMPLEMENTING STRATEGIES TO REDUCE NOISE LEVELS

EDUCATION

• Poster implanting negative impact of noise.
• Presentation & discussion during AM Nursing Rounds.
• Posting of current journal article.
• Distribution of handouts.

SIGNAGE

Quotes to Remember and Make Part of our Care

Everyone Can Help Promote a Quiet, Healing Environment

REMINDING & ENCOURAGING CHANGE IN PRACTICE

• Lowing alarm monitor volumes.
• Individualizing alarm parameters.
• Responding quickly to alarms, call bells & phones.
• Reducing volumes on phones and TV.
• Adjusting music volume to patient preference.
• Closing doors during meals & at night.

PHASE (3.1) IMPLEMENTING STRATEGIES TO REDUCE NOISE LEVELS

SOUND LEVEL COMPARISON

• Noises after noise reduction measures.
• Noises after project implementation validated noise reduction.

STAFF SURVEY RESPONSES

• Nurse identified noise reduction strategies they had used.
• Nurses described important factors of noise.
• Nurses are thinking about future strategies.

LIMITATIONS

• Project was designed mainly towards nurses.
• Environmental variability during sound measurements.

CONCLUSION

"Stop the Noise: A Quiet Environment Promotes Healing" was a project planned by ICU nurses to highlight the issue of excessive noise in the ICU. This quality improvement project was successful in raising the nurses’ awareness of noise levels. Results of our sound and sound measurements established that noise to disturbing and that some simple strategies can make a difference in the "healing" ICU environment.

We look forward to future developments of this project in order to sustain this change. We aim to continue developing new signage and awareness strategies, to include ancillary and professional staff in the project and to consider a "noise policy" at our unit. Finally, we would like to see the case of working on appropriate patients and consider conducting a formal research project.

OUTCOMES

- Introduction of a quiet environment.
- Increased quietness in the ICU.
- Lower noise levels in the ICU.
- Improved patient experience.

ACKNOWLEDGEMENTS

References

Affiliations

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