



KEY POINT SUMMARY

OBJECTIVES

The objectives of this study were to evaluate the quantity and quality of sleep that patients perceived they experienced in the critical care setting; identify factors preventing sleep; identify factors promoting sleep; and evaluate the usefulness of eye masks and earplugs as an intervention to improve sleep in the critical care environment.

Eye Masks and Earplugs Improve Patient's Perception of Sleep

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Key Concepts/Context

Sleep disruption is commonly identified as a feature of admission to critical care units. The environment, level of intervention, and patient morbidity are understood to influence patients' poor experiences of sleep in critical care. This study discusses the impact of the built environment on Intensive Care Unit (ICU) patients' sleep.

Methods

The study design was a prospective pre/post-service evaluation over 2008/2009 based on a prior investigation into the efficacy of eye masks and earplugs.

Sample

A convenience sample of 100 patients was identified to participate in the evaluation.

Setting

This service evaluation took place in a 17-bed teaching hospital's general ICU. The unit is divided into an 11-bed horseshoe-shaped area with an adjacent six-bed nightingale style ward. The unit provides care for emergency medical and surgical patients and elective surgical patients from a range of specialities.

Metrics and Measurement

The data collection tool comprising of three elements was adapted from a prior study. The first element used hospital charts and medical notes to gather data relating to age, gender, bed location, specialty, length of stay, and level of care/dependency. The second element asked participants to rate the quantity and quality of sleep using 5-point Likert scales. The third element of the data collection tool was a four-item data collection sheet comprising of one closed- and three open-ended questions, designed to investigate the factors helping them to sleep and preventing them from sleeping.



Confounding Variables

None were identified.

Data Analysis

Quantitative data was analysed using Excel 2007 (Microsoft Corp., Redmond, Washington, USA). Qualitative data was transcribed verbatim; the transcripts were analysed using content analysis.

Findings

This service evaluation demonstrated that patients reported sleeping for longer periods using earplugs and eye masks; however, there was no reported improvement in patients' perception of quality of sleep. This suggests that although patients may have reported longer periods of sleep, sleep may have been fragmented or disturbed.

Noise was identified as a sleep-disturbing factor in both groups, although the significance of noise as a sleep-disturbing factor in the literature is unclear. Both groups also identified observation/intervention, light, discomfort, and environment as sleep-disturbing factors.

Design Implications

The study results should encourage nurses to reduce noise wherever possible. The study indicates that the introduction of eye masks and earplugs helped to modify this response, with only 6% of participants in the post-intervention group identifying 'nothing' as a sleep-promoting factor. It is possible that the act of offering these products provides patients with a sense that they are being cared for and that they have an element of control over a strange and often distressing environment.

Sleep in the critical care unit is disturbed by a number of physiological and environmental factors, and currently we do not fully understand the complex relationship among these. For designers, the message in this article is to try and mitigate noise through architectural and interior finishes whenever possible.

Limitations

The small sample size, reliance on patient recall, and the study design limit the generalizability. There are a number of disadvantages associated with using a large number of inexperienced investigators. This includes the possibility of greater variation among interviews than would be found in a study using fewer interviewers.



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During the project, the unit underwent a three-week period of refurbishment, resulting in an alteration in the environment that participants were exposed to. The environment experienced by the two cohorts may have been inconsistent in terms of the type and distribution of light to which patients were exposed. Another important limitation is that we have not controlled for the patients' location in the critical care unit. A patient attempting to sleep in a side room will not experience the same range of disturbances experienced by patients being cared for on the ICU or High-Dependency Unit (HDU).

The evaluation also had a clear focus on the high-dependency patient. The experiences of this group of patients may not be representative of wakeful intensive care patients.