



KEY POINT SUMMARY

OBJECTIVES

To investigate the influence of window presence and location on the health outcomes of patients receiving treatment within an intensive care unit.

The impact of windows on the outcomes of medical intensive care unit patients

Chiu, W.-C., Chang, P.-S., Hsieh, C.-F., Chao, C.-M., Lai, C.-C. 2018 / International Journal of Gerontology, Volume 12, Issue 1, Pages 67-70

Key Concepts/Context

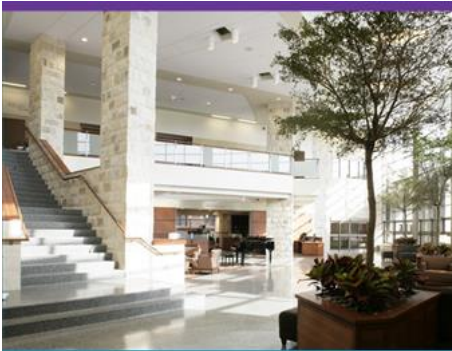
Numerous studies have demonstrated the positive impact that natural lighting can have on patient experiences, both in terms of overall mood and even overall recovery time. Exposure to regular rhythms of natural lighting can positively influence human sleeping patterns, which can play a large role in supporting positive moods and timely recoveries. Intensive care units (ICUs) provide treatment to patients who require a high degree of medical support for painful and complex conditions. One survey found that out of 116 ICU patients, 56% reported experiencing poor or very poor sleep patterns. The authors suggest that relatively little research has been done to explore how the presence of windows allowing higher levels of natural lighting could positively affect ICU patient populations.

Methods

The authors analyzed five months' worth of electronic patient records from a 14-bed ICU that featured a patient-to-nursing staff ratio of 2:1. The ICU contained seven rooms with windows and seven rooms without windows. Data for patients who were transferred out of the ICU at any point during the study period were excluded. Primary outcomes included patient length of stay (LOS) in the ICU, as well as in-hospital mortality rates. A total of 281 patient cases were analyzed, with 155 patients being admitted to windowless rooms and 126 patients being admitted to window-equipped rooms..

Findings

Patients admitted to rooms featuring windows saw shorter ICU LOS on average (4.8 days versus 5.8 days for patients in windowless rooms). No significant



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differences in mortality rates were found between window-equipped and windowless rooms. The authors note that these findings are particularly significant in the context of an ICU, since many patients receiving treatment experience issues with sleep during intensive treatment processes.

Limitations

This study took place in a single ICU, meaning the results may not be applicable to ICUs in all settings especially in geographic locations that experience lower levels of daylight on average. All data were derived from hospital records and analyzed retrospectively; thus no qualitative patient or staff data concerning overall treatment experiences were gathered. The data involved in this study were from a relatively short period of time (five months).

Design Implications

Designers could consider how the inclusion of windows that allow higher levels of natural lighting might help reduce patient LOS in ICU settings. The implementation of windows may be a relatively simple and inexpensive design decision that could result in significantly improved ICU patient experiences. Designers might carefully consider how window size and placement could affect lighting levels, and implement window designs so that natural lighting is maximized without causing detrimental increases in heat or glare, or issues with patient privacy.

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