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the Potential for the Intensive Care Environment
to Enhance Patients' Experiences and Recovery
from the Perspective of Health Care
Professionals

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From traumatic to therapeutic: Investigating the potential for the intensive care environment to enhance patients' experiences and recovery from the perspective of health care professionals

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SUMMARY

This study investigates how the current intensive care environment affects care activities and patients' experiences, and the potential of turning the ICU into a healing environment. A multi-center study consisting of an online survey and a semi-structured interview was conducted with a total of 25 ICU health care professionals from 4 Dutch hospitals. The study results provide an overview of positive and negative factors of patient experience and challenges in care activities. Based on these insights, opportunities are discussed in creating a technology-enabled therapeutic environment.

KEYWORDS: patient experience, ICU, healing environment, healthcare design

BACKGROUND

Environmental design factors of healing environments play an important role in the recovery of patients (Ulrich et al., 2008). However, patients' rooms and recovery spaces, especially those in the intensive care environment, are known to be stressful and traumatic leading to negative health outcomes (Bayramzadeh, Ahmadpour, & Aghaei, 2021). Recognizing the importance of the environment in patients' experiences during recovery, efforts have been made to turn the intensive care unit (ICU) into a healing environment (Birdja & Özcan, 2019; Kotfis et al., 2022; Luetz et al., 2019). To enable the ICU environment to provide holistic and personalized care for healing, it is important to obtain a comprehensive view of patients' experiences during their ICU stay and the role of the environment herein. Therefore, we conducted a multi-center study to create an overview of the current state of environmental support for ICU care activities and to identify both positive and negative factors contributing to patients' experiences in the ICU.

METHODS

A mixed method study was conducted between December 2021 and March 2022. As ICU patients usually have a hard time recalling and reflecting on their experiences (Russell, 1999), this study focuses on the perceived experiences of health care professionals (HCPs) who have frequent interactions with patients. An online survey (n=25) and a semi-structured follow-up interview (n=6) were conducted with ICU HCPs of 4 Dutch hospitals (2 academic and 2 non-academic). The online survey included both closed- and open-end questions covering the following topics i) the current affective qualities of the ICU environment, ii) the perceived level of environmental support for different care activities and challenges, and iii) the perceived mood states of ICU patients and contributing factors. The follow-up interviews were conducted to get in-depth insights into the factors that contribute to patients' experiences and their related needs. Collected data were systematically analyzed with descriptive and thematic analysis methods.

RESULTS

The results revealed that emotional care (e.g., sitting with patients, comfort talk) is the most challenging activity for HCPs due to lack of time and communication barriers. Importantly, although the environment could play an important role in terms of fulfilling patients' emotional needs, the current ICU falls short in conveying affective qualities (e.g., homely, relaxing) and incorporating positive stimuli (e.g., nature view, positively stimulating design elements). Regarding the activities that are directly related to ICU patients, the current ICU environment supports well medical activities while it poorly supports restorative activities. Regarding patients' experiences, HCPs perceived that, in general, ICU patients predominantly experience negative mood states. Ten identified factors contributing to the patients' negative moods were categorized into three overarching themes: psychological (i.e., feeling lost, feeling devastated, being dependent, fear & anxiety, loneliness), physical (i.e., pain, exhaustion & fatigue, losing a sense of body awareness), and environmental (i.e., overstimulating environment, lack of positive stimuli) factors. The most mentioned negative factors were pain and feeling devastated due to the worsening of one's condition and the perceived lack of prospects. Ten identified factors contributing to the patients' positive moods were also categorized: psychological (i.e., feeling of being cared for, feeling in control, feeling like oneself, feeling of being understood, anticipation, interactions with loved ones), physical (i.e., physical comfort, feeling well), and environmental (i.e., relaxing environment, positive distraction) factors. Positive factors were often related to having a conversation with nurses (comfort talk, personal attention, and provision of information) and family visits. While interactions with HCPs and family are the main source of positive patients' experiences, the insights from the interviews showed that these were often disrupted by situational barriers such as HCPs having limited time due to a high workload and restricted family visits, for instance, during COVID.

DISCUSSION

The study provides a comprehensive overview of the positive and negative patient experience factors perceived by HCPs and pinpoints the areas where environmental support is lacking. The insights of this study suggest that the design of a healing environment should aim for more than sensory comfort. For instance, a recent study (Kim, van Rompay, & Ludden, 2022) found that an environment can stimulate positive thoughts (e.g., uplifting rather than depressing thoughts) and facilitate relaxing activities (e.g., supporting family visits to be more pleasant) using positive stimuli inspired by nature. Technologies could amplify the role of the ICU environment in supporting the healing process. For instance, ambient technology could coordinate audio-visual stimuli to create a pleasant wake-up experience and to provide a good night's sleep in the ICU. Interactive digital technology could support patient control by providing a real-time overview of one's healing journey so patients can celebrate their little steps toward recovery, or a digital family platform supporting patients to remotely interact with their loved ones whenever they want. This study has limitations. Since all participants were recruited from the Netherlands, the findings may not be readily transferrable to ICUs in other countries. Larger scale research is required including ICU survivors to fully explore and validate identified patient experience factors and opportunities for enhancing the ICU environment.

CONCLUSIONS

This study described how the current ICU environment affects care activities and patients' experiences and created an overview of positive and negative patient experience factors. A reflection was offered on the possibility of the ICU environment taking an active role in supporting a healing process by addressing multifaceted patient experience factors and opportunities were discussed in creating a technology-enabled therapeutic ICU environment.

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