

Human Factors for Critical Care

Chair: Elif Özcan, PhD

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Critical care is in the midst of a transition from provider-centric care to patient-and-family-centric care in order to tackle dehumanization of patients. This is due to the issues encountered as a result of overengineering the medical systems, complicated information flows and heavy dependency on patient data. While human-centered engineering solutions can target better design of medical devices in favour of patients, patient-centered research has also been discovering the role of emotions in different phases of patient recovery. These new discoveries also influence care provision and challenge the clinical role of healthcare providers and their workflows. Thus, there is need to understand and reframe the conditions for “human” not only from the perspective of better patient experiences but also from the perspectives of healthcare professionals. Moreover, environmental factors (e.g., lights, noise, alarms, temperature) also condition the wellbeing of patients and the professionals asking for new definitions and limitations for what the physical context of critical care can be and can offer. In this session, we will shape new horizons for the physical, emotional and environmental needs of critical care patients and healthcare providers and offer simple and complex solutions that are exemplary in their human-centric approach.

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

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This study investigates how the current intensive care environment affects care activities and patients’ experiences in the perspective of healthcare professionals (HCPs). A multi-center study consisting of an online survey and semi-structured interview was conducted with a total of 25 ICU HCPs from 4 Dutch hospitals. The study results provide an overview of positive and negative factors of patient experiences and challenges in care activities, and discuss opportunities in creating a technology-enabled therapeutic environment.

Experienced ICU Sounds: A mixed-methods study into the lived experience of the critically ill patient’s sound environment

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Environmental influences (i.e., stressors) such as sound are seen as important contributors to post-intensive care syndrome by creating a negative experience with the IC-environment, exposing patients to stress. Designing for a more positive experience with IC sounds, however, calls for an understanding of which psychological needs are most (un)fulfilled in their current experiences. We

present an overview of preliminary findings of a mixed-methods descriptive study aimed at understanding patient experiences of IC-sounds and which needs underlie these experiences.

HORIZON-IC: Virtual Reality to improve psychological recovery of ICU patients

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A substantial proportion of ICU patients develop psychological impairments after their ICU stay as part of the post-intensive care syndrome. These impairments result in a decreased quality of life and limits the ability to return to the patients' former life, and no robustly effective interventions are available. In the HORIZON-IC project, we investigate whether an ICU-specific Virtual Reality intervention can reduce psychological symptoms and subsequently improve health-related quality of life.

Introduction of a digital diary in person-centered ICU care

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Margo, with a background as ICU nurse and psychologist, has expertise in practice-oriented research design and person-centred care. Her research line combines two topics; improving the long-term mental health impairments for ICU patients and their relatives, and promote the vitality and autonomy of ICU nurses. From a background of ICU nursing and quality advisor, Carola combines her knowledge and experience in daily ICU practice with her role as coordinating project leader in the multicentre DIPIC-study.

A diary is regularly used to support patients and their relatives in an emotional distressing period during admission into an intensive care unit (ICU). Most Dutch ICUs (87%) provide paper diaries, which are mainly written by the patients' relatives. A web-based application, the 'Post-ICU' diary has been developed and implemented during the Covid-19 pandemic and continues to be used as an innovative intervention in a person-centered ICU policy. The experiences of relatives in a pilot study with Post-ICU were promising and the preliminary results from feasibility for ICU nurses provided useful starting point for further improvement. In the DIPIC-study the facilitators and barriers will be studied for a successful implementation.