

Implementing the ICU Diary in the Medical Intensive Care Unit

Laxton, L. (2017). Implementing the ICU diary in the medical intensive care unit. *SIS Quarterly Practice Connections*, 2(2), 19–20.

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Research has shown an increased prevalence of psychological distress and acute cognitive impairment in patients who have experienced hospitalization within the intensive care setting (Myers, Smith, Allen, & Kaplan, 2016; Pandharipande et al., 2013). Periods of mechanical ventilation, sensory deprivation, presence of noxious stimuli, and using sedation medication increase a patient's risk of developing delirium and may result in hallucinations, traumatic memories of medical events, or the absence or fragmentation of memories throughout their intensive care experience (Myers et al., 2016). In 2010, stakeholders from the Society of Critical Care Medicine identified this phenomenon as Post Intensive Care Syndrome (PICS) characterized by new or worsening physical, cognitive, or mental health problems after critical illness (Needham et al., 2012). PICS manifests in numerous ways, including anxiety, depression, and post-traumatic stress disorder (PTSD), as well as impaired global cognition and executive function (Myers et al., 2016). Current literature regarding intensive care survivors indicates that 30% of patients will experience depression and 70% will experience anxiety after discharge from the intensive care unit (ICU), with one third of patients developing PTSD symptoms in the first 2 years after critical illness (Bienvenu et al., 2013; Myers et al., 2016). Additionally, the duration of delirium can be an independent risk factor for below-baseline global cognition, as well as for impairment in executive functioning after discharge from the ICU (Pandharipande et al., 2013). In an effort to reduce the occurrence of PICS, health care professionals have used numerous non-pharmacological interventions, including early mobilization, environmental modifications, and the ICU diary (Álvarez et al., 2017; Garrouste-Orgeas et al., 2012; Schweickert et al., 2009).

The ICU Diary

The ICU diary is a low-cost intervention that was initially implemented in Scandinavia in the early 1980s, with growing international use over the last several decades (Nydahl, 2010). The ICU diary is a log of a patient's ICU admission written in everyday language, frequently taking the form of a notebook or folder containing lined paper. Historically written by nurses or relatives of the patient without the patient's active participation, the ICU diary includes daily entries detailing events related to the patient's hospital admission. Examples include surgical procedures, functional milestones during therapy sessions, or patients' emotions related to their hospitalization. After hospital discharge the completed ICU diary is given to the patient for review and reflection to aid in orientation to hospitalization, validate emotions related to memories of medical events, and promote their active participation in their medical plan of care (Garrouste-Orgeas et al., 2012; Nydahl, 2010). Various studies have demonstrated a decreased incidence of PTSD, depression, and anxiety in ICU survivors who received an ICU diary after hospital discharge (Garrouste-Orgeas et al., 2012; Jones et al., 2010). There is currently no research investigating the efficacy of the ICU diary intervention when implemented with active patient participation during their ICU admission.

Incorporating the ICU Diary Into Occupational Therapy Sessions

The value of occupational therapy in the ICU stems from the holistic, client-centered approach to occupational empowerment and engagement through early mobilization, cognitive stimulation, and sensory integration (Álvarez et al., 2017). Within the intensive care environment, patients frequently experience decreased occupational engagement because of illness or medical procedures that negatively affect their basic client factors such as cognitive, sensory, and neuromuscular functions (Schweickert et al., 2009).

Using the ICU diary, occupational therapy practitioners can promote sensory integration through auditory and visual stimulation, as well as cognitive engagement through reorientation, establishing awareness of reality, memory recall, and sustained attention to tasks. Neuromuscular function is challenged through the physical context in which the ICU diary is implemented (i.e., bed level, sitting edge of bed, standing at a bedside table), as well as the fine motor coordination used when handwriting an entry.

Screening patients during a chart review or interdisciplinary team discussion can determine whether the ICU diary intervention is appropriate. The literature supports targeting patients whose ICU length of stay is greater than 48 hours, and who have experienced mechanical ventilation and sedation (Beg, Scruth, & Liu, 2016). Several assessment tools are commonly used by interdisciplinary staff members within the ICU, including occupational therapy practitioners, to identify patients who are experiencing or are at high risk for experiencing delirium, cognitive dysfunction, or PICS symptomology. These assessment tools include, but are not limited to, the Confusion Assessment Method for the ICU (CAM-ICU; Ely & Vanderbilt University, 2014), the Richmond Agitation-Sedation Scale (RASS; Sessler et al., 2002), and the Orientation Log (O-Log; Novack, 2000).

Case Example

The medical intensive care unit (MICU) at the University of Colorado Hospital admitted Karen for abdominal pain and concern for sepsis because of a history of chronic pancreatitis. Subsequently, they diagnosed her with acute respiratory distress syndrome, leading to prolonged periods of oral intubation. Karen eventually underwent a tracheostomy for continued ventilator support.

Approximately 1 week into her MICU admission, Karen participated in an initial occupational therapy evaluation, which included the CAM-ICU, RASS, and O-Log. Karen was experiencing delirium, fluctuations in arousal, and decreased orientation, putting her at high risk for PICS. Additionally, she was demonstrating decreased independence and participation in activities of daily living (ADLs) as well as decreased strength, impaired fine motor coordination, and poor activity tolerance. Karen's occupational therapy plan of care focused on addressing her deficits in cognitive (i.e., orientation, attention, planning, memory) and neuromuscular function through participating in basic ADLs, functional mobility, and cognitive retraining tasks.

Initially, Karen's participation with the ICU diary was passive because of her notable physical and cognitive limitations; her occupational therapist recorded several entries regarding Karen's location, daily events, functional limitations, and progress toward occupational therapy goals. To increase activity tolerance, the head of Karen's bed was raised to an upright position, allowing her to hold the ICU diary and visually scan the sentences while her occupational therapist read the information. The next progression involved Karen writing an entry in the ICU diary using a pen with a built-up foam grip, while receiving verbal cuing for recalling functional milestones achieved during the previous occupational therapy session. As Karen's activity tolerance, global strength, and cognition improved, the activity demands of the intervention were increased to the point that Karen tolerated unsupported sitting at the edge of the bed while independently recalling daily events and writing without using a modified writing utensil.

Throughout Karen's admission to the MICU she experienced numerous procedures and surgical interventions resulting in relapses of delirium and disorientation, as demonstrated by her performance on the CAM-ICU and the O-Log, which were administered during each occupational therapy session. After each period of decline, Karen relied heavily on her ICU diary to reorient herself to medical events and the details of her hospitalization, resulting in a gradual improvement in her global orientation, as assessed by the O-Log.

Conclusion

The ICU diary has a well-established history of promoting mental health and decreasing the incidence of PICS in critical care survivors (Garrouste-Orgeas et al., 2012; Jones et al., 2010). Additionally, using occupational therapy services in the ICU has demonstrated the ability to decrease the duration of delirium, decrease the frequency of mechanical ventilation, and promote a return to independent functional status (Álvarez et al., 2017; Schweickert et al., 2009). Therefore, the marriage of the ICU diary and occupational therapy targets a holistic approach to rehabilitation within the intensive care setting.

Within the intensive care environment, occupational therapy practitioners can identify potential risk factors or existing cognitive impairments limiting a patient's occupational engagement, and provide early intervention to reduce the long-term effects of the ICU. Occupational therapy practitioners using the ICU diary in the intensive care environment is an innovative and novel approach that has the potential to affect the lives of patients experiencing critical illness.

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