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CAREGIVERS OF ICU SURVIVORS AT HIGH RISK OF DEPRESSION



Canadian study has found that caregivers of ICU survivors experience symptoms of depression up to 1 year after their relative is discharged (Cameron et al. 2016). Factors associated with worse mental health symptoms included younger age and less social support and sense of control over life. Older caregivers caring for a spouse, with a higher income and better social support and sense of control had better health outcomes. No patient variables were consistently associated with caregiver outcomes over time.

In an email to ICU Management & Practice, lead

author Jill Cameron, PhD, Affiliate Scientist at Toronto Rehabilitation Institute-University Health Network (UHN) and Associate Professor, Department of Occupational Science and Occupational Therapy, Graduate Department of Rehabilitation Science, Faculty of Medicine, University of Toronto, explained that the study is one of the first to take a comprehensive look at caregiver outcomes. The research team enrolled 280 caregivers of patients in 10 hospitals across Canada, who received 7 days or more of mechanical ventilation in an ICU.

"We simultaneously examined patient illness severity, aspects of the caregiving situation (e.g. amount of care provided, impact on everyday life of providing care), and aspects of the caregiver (e.g. their social support network, their ability to maintain control over situations). When you consider all factors at the same time, the most important seem to be those related to the caregiving situation and the caregiver. This suggests that even in situations where the illness is fairly mild, and the disability is low, caregivers without adequate supports, or who don't have good control over their situation may experience depression and need help", said Cameron.

Findings

- Caregivers' average age: 53
- Gender: 70% female
- Role: 61% caring for a spouse
- Depression symptoms:
 - 67% at 7 days
 - 43% at 1 year

 Improvement in depression symptoms: 84% The next phase will focus on developing models of rehabilitation for patient recovery and a programme for caregivers to better prepare. Dr. Cameron said that many interventions have been developed and tested for different caregiving populations. She added: "We may be able to identify those caregivers most in need of support and target them for specific support. This would allow the healthcare system to make the best use of available resources and still meet the needs of those caregivers who need more support."

Reference

Cameron JI, Chu LM, Matte A et al. for the RECOVER Program Investigators (Phase 1: towards RECOVER) and the Canadian Critical Care Trials Group (2016) One-year outcomes in caregivers of critically ill patients. N Engl J Med, 374: 1831-41



PERSISTENT CRITICAL ILLNESS - THE 5 PERCENT

A study of over 1 million ICU patients has found that just 5 percent of patients account for 33 percent of ICU bed days. The researchers, led by Theodore Iwashyna, MD, Associate Professor of Internal Medicine at the University of Michigan (U-M) Health System and a member of the VA Center for Clinical Management Research and the U-M Institute for Healthcare Policy and Innovation, have identified these patients as having the condition of persistent critical illness (PerCI) (Iwashyna et al. 2016). The research team based their work on data from patients treated in 182 ICUs across Australia and New Zealand between 2000 and 2014.

Findings

Of the million patients 51,509 were found to have PerCI. PerCI patients spent more than a million days in ICU beds, and more than 2.2 million days in the hospital overall. Nearly onequarter of the patients with PerCI died in the ICU. Just under half were able to go directly home from the hospital - compared with threequarters of non-PerCI ICU patients.

The researchers looked at the patients' hospital records to see how well each patient's eventual outcome could be predicted. They found that after about 10 days in the ICU, the usual clinically-based prediction tools lost their power to predict risk of death. Who the patient was before he or she came to the hospital mattered more to their chance of dying. This point signals transition to PerCI, say the researchers.

Dr. Iwashyna confirmed that PerCI is a separate state that patients transition into: "you're there because you're there, stuck in this cascade that we can't get you out of," he said. He added: "The reason why these patients came in to the hospital in the first place doesn't matter nearly as much anymore - what matters is that they've been there, and some aspects of how well their body worked before they came in, such as age. These [patients] are the ones where no matter how hard we try, we can't get them balanced."

Next Steps

Carol Hodgson, PhD, a Monash University ICU physiotherapist and second author, explained that PerCI focuses on different characteristics of patients than other efforts used to describe long-stay patients, such as 'failure-to-wean'. "That label focuses the care team on the particular details of respiratory mechanics," she said. "Our clinical experience and our data suggest instead that the problem may be that PerCI patients may never even reach the point where ICU doctors are able to try to get them off a ventilator - they just keep cascading from new problem to new problem. These patients need particular strategies that may prevent or reduce PerCI within the ICU, and additional



resources to facilitate safe discharge from the ICU and hospital, with only 50% able to be discharged home."

Senior author Professor Rinaldo Bellomo commented that better understanding of PerCI could assist ICU teams in discussing prospects for patients who have been in the ICU a long time. "We need to help the fraction who are inevitably going to die do so with dignity, and at the same time help those who are not fated to die to get better treatment," he said.

Reference

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Theodore J Iwashyna TJ, Hodgson CL, Pilcher D, Bailey M, van Lint A Chavan S, Bellomo R [2016] Timing of onset and burden of persistent critical illness in Australia and New Zealand: a retrospective, population-based, observational study. Lancet Respir Med, published online May 4, http://dx.doi.org/10.1016/ S2213-2600%2816%2930098-4.



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Around Day 10 of an ICU stay, patients enter a state called persistent critical illness, or PerCI, where the reason they entered the hospital becomes less important than who they were before they became ill or injured

DEDICATED RESUSCITATION UNIT IMPROVES TRANSFER TIMES



Lewis Rubinson

critical care resuscitation unit (CCRU) at the University of Maryland Medical Center (UMMC) has significantly improved transfer times for non-trauma critically ill patients, according to a recent study (Scalea et al. 2016).

In its first full year of operation, for the subset of adult patients admitted for critical care, transfers increased 64.5 percent compared to a previous year (2,228 vs. 1,354), with a 93.6% increase in critically ill surgical patients. Of the 2,228 patients, 1,318 (59.2%) were transferred to the CCRU; the remaining 910 patients were transferred directly to a UMMC ICU. More transfer patients required an opera-

tion during their hospital stay (46 percent vs. 31.1 %) and a higher percentage were in the operating room within 12 hours of arriving (41 % vs. 21.4 %). For patients requiring operations, median time to arrival and operating room (118 vs 223 minutes and 1,113 vs 3,424 minutes, respectively) and median hospital length of stay (13 vs 17 days) were reduced significantly. Patients arrived in nearly half the time (129 vs. 234 minutes). The CCRU also significantly decreased the percentage of lost admissions from 25.7 % to 14 % in this subset. Co-author Lewis Rubinson, MD, PhD, Asso-

ciate Professor of Medicine at University of Maryland School of Medicine, said in an email to ICU Management & Practice: "We believe this is a game changer. We have begun to emulate the trauma system for non-trauma time-sensitive critical care and believe this is a logical and powerful way for academic centres to coordinate all of their time-sensitive transfers rather than having them occur haphazardly."

Dr. Rubinson added: "Direct transfer to ICUs makes sense to reduce another round of handoffs. The dilemma is that availability for admissions must be 24/7. Workflow in ICUs works contrary to admissions when there are many patients to round on—either rounding gets short changed or the admission does not receive all hands on deck. When rounds are over, direct transfers could receive more attention but there is not always bed availability. In addition, most ICUs are not set up to take the referring facilities' information and establish a pre-arrival readiness posture to be able to optimise immediate evaluation, resuscitation and intervention for patients. Lastly, if we directly admitted to each specialty ICU than each would require 24/7 open staffed available beds to be able to meet emergent demand. We have 7 adult specialty ICUs and the amount of resources which would be required to make sure each individually is always ready for an emergent admission would be tremendous. Also, the different ICUs would not have optimal capability to take a patient outside of their specialty. The ability to move patients from receipt and resuscitation allows for an ongoing readiness posture to take the next patient."

Reference

Scalea TM, Rubinson L, Tran Q et al. (2016) Critical care resuscitation unit: an innovative solution to expedite transfer of patients with time-sensitive critical illness. J Am Coll Surg, 222(4): 614-21.