

Quest of Knowledge and Perceived Barriers toward Early Mobilization of Critically Ill Patients in Intensive Care Unit: A Continuing Journey!

Anuradha A Daptardar 

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Critically ill patients require intensive management before they can recover. Management is even more challenging if they need mechanical ventilation. Early mobilization (EM) in the intensive care unit (ICU) is a physical activity performed as early as the second to fifth day after ICU admission to bring about physiological changes.^{1,2}

EM is defined as mobilization within 72 hours of ICU admission, which is feasible and well-tolerated by most patients once they are stable. It has been difficult to interpret the therapeutic effects of EM due to variations in study populations, interventions, and outcome measures. It has been estimated that up to 46% of ICU patients acquire ICU-acquired weakness, which includes polyneuropathy, myopathy, and/or muscular atrophy during their stay.^{3,4} This may have a detrimental effect on the patient's long-term physical and cognitive functions. Many studies have reported range of motion (ROM) exercises to combat this. The European Society of Intensive Care Medicine has recommended early physical rehabilitation for ICU patients. This has been associated with improved physical function.⁵ Other studies have reported a variety of benefits of EM, which includes reduced mechanical ventilation days, reduced length of ICU stay, reduced hospital length of stay, and improved functional outcomes.⁶⁻⁸

In spite of its potential benefits, EM is not widely performed in the ICU as seen from many international multicenter studies on EM in the ICU, which portrays a low prevalence of out-of-bed mobilization, especially among patients on mechanical ventilation.^{9,10} The reason for this may be that mobilizing patients in the ICU is a complex task and is associated with a lot of risks. Equipment and catheters attached to patients can become dislodged causing injury. Critically ill patients who are hemodynamically unstable can also be adversely affected due to mobilization.

A growing body of evidence shows the long-term benefits of EM on patient safety, feasibility, functional capacity, strength, duration of mechanical ventilation, ICU length of stay, hospital length of stay, and mortality.^{11,12} However, most studies detected considerable barriers to the EM of critically ill adult patients admitted to the ICU which included availability of staff, equipment, oversedation, and lack of education regarding feasibility and safety of EM.

In this issue of the journal, a study conducted in the ICU of Tertiary Health Care Academic Institute of Central India, the authors found that majority of members of the multiprofessional team agreed and viewed EM under mechanical ventilation as important and beneficial.¹³ They were knowledgeable

Department of Physiotherapy, Tata Memorial Hospital, Mumbai, Maharashtra, India

Corresponding Author: Anuradha A Daptardar, Department of Physiotherapy, Tata Memorial Hospital, Mumbai, Maharashtra, India, Phone: +91 9324342736, e-mail: aadaptardar@yahoo.com

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about EM and agreed that the benefits of EM outweighed the risks to patients under MV. Similar results were reported in a previous study that analyzed the knowledge and attitudes of multiprofessional healthcare members working in the ICU and delivering care to critically ill patients.¹⁴ The multiprofessional participants in the present study identified several barriers to EM on three levels: (1) Patient-related, such as patient symptoms and conditions, excessive sedation, endotracheal tubes, monitors, and catheters. (2) Provider level barriers, such as limited human and technical resources, limited staffing, and insufficient training. (3) Institutional level barriers related to the ICU culture, lack of proper guidelines, lack of coordination, conflicts of timings of different procedures, and lack of rules for the distribution of tasks and responsibilities.¹³ Similar barriers were also detected in the previous study.¹⁵ In the present study three fourth of the physicians agreed that ROM exercises were sufficient to maintain muscle strength whereas more than half of the physiotherapists and nursing staff disagreed with this. More than half of the physicians were willing to modify the patient level barriers by altering the ventilator settings and reducing sedation to facilitate EM. Although EM was shown to be safe and feasible for patients, there is no information about the staff safety, which was evident by the majority of nursing staff and physiotherapists showing concerns regarding the risk of injuries to the ICU staff during EM. They also reported work stress and long working hours, which might also constitute a considerable barrier to EM in the ICU.¹³

The present study confirms that while knowledge continues to advance, practice always remains a step behind, and hence,

there is a wide gap between evidence-based knowledge and its application in clinical practice. The study had a small sample size resulting in a selection bias and provided a baseline from one institution only, thus not reflecting the views of other institutions and disciplines. Hence, a multicentre research with a larger sample size or randomized controlled trials is needed to study and evaluate the effects of EM in the ICU using a standardized protocol to determine the optimal timing, intensity, duration, exercise dosage, and progression of mobilization to optimize patient's physical condition during critical illness.¹⁶

ORCID

Anuradha A Daptardar  <https://orcid.org/0000-0003-4606-7983>

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