Adapting an ICU Multidisciplinary Early Mobility Program for Nursing Implementation

Introduction

Implementing early mobility programs in the Intensive Care Unit (ICU) decreases ICU length of stay by up to 20% and prevents loss of functional mobility. Multidisciplinary early mobility teams consisting of physical therapy, occupational therapy, respiratory therapy, and registered nurses are optimal for mobilizing high acuity patient populations, but funding hinders widespread adoption of critical care multidisciplinary mobility teams.

Background

- Global challenge to establish multidisciplinary early mobility teams as only 40% of ICUs worldwide have dedicated mobility resources.
- Nearly 50% of ICU patients remain sedentary with 65% reporting generalized weakness without early mobility initiatives.
- Medical ICU (MICU) at a community hospital has a unit-dedicated multidisciplinary early mobility team, but mobility resources are limited to the MICU.
- Cardiac ICU (CICU) at the same institution has no formal mobility team, leading to fragmented and inconsistent mobility efforts.
- Mobility in CICU is reliant on nursing discretion and motivation, with a lack of clear expectations or structured mobility approach.
- Nursing can fill a crucial role in patient mobilization efforts in the absence of a formal multidisciplinary mobility team to improve patient outcomes.

Aims

- Aim 1: By September 2021, > 80% of the CICU nursing staff will attend one early mobility education session with the CICU project coordinator.
- Aim 2: The collective HLM scores for CICU patients will increase by December 2021.
- Aim 3: The collective ICU LOS for CICU patients will decrease by December 2021.

Methods

- **Design:** pre-post intervention
- **Setting:** 12-bed non-surgical Cardiac Intensive Care Unit at an urban mid-Atlantic community medical center
- **Sample:** 298 participants admitted to CICU over a 20-week period
  - Pre-intervention group (n = 132) admitted 7/11/21 to 9/18/21
  - Intervention group (n = 166) admitted 9/19/21 to 11/27/21

Intervention Group Demographics

| Age, mean (SD) | 63.17 (15.719) |
| Sex, n(%) | Male 99 (59.6%), Female 67 (40.4%) |

Admitting Diagnosis

- Pulmonary 37 (22.3%)
- Cardiac 77 (46.4%)
- Gastrointestinal 5 (3%)
- Endocrine 11 (6.6%)
- Renal 6 (3.6%)
- Other 30 (18.1%)

Intervention

1. **Staff Education:** CICU nurses received education on tool application and documentation. Pre-post intervention Qualtrics surveys were distributed to assess nursing opinions regarding patient mobility.
2. **Application of CMPPR and JH-HLM Tools:**
   - Nurses screened patients daily for early mobility eligibility with the CMPPR to identify patients at risk for adverse events during mobilization.
   - Applicable exclusion criteria were documented. If no exclusions, patients were mobilized based on their JH-HLM mobility level.
   - Twice-daily mobility goal for eligible patients.
   - Data recorded on individual patient mobility logs.

Conclusions

- **Aim 1:** 100% of CICU staff nurses received mobility education by the end of September 2021.
- **Aim 2:** Unable to draw conclusions on change in nursing opinions towards early mobility given poor response rate (14.29% pre-intervention, 2.86% post-intervention).
- **Aim 3:** Significant increase in ICU LOS from 4.44 days to 4.79 days for the early mobility intervention group (U = 1918.5, p = 0.016), but further study is needed to assess influencing factors (lack of floor beds, disparities in acuity between participant groups, etc.).

References

- **Note:** The collective HLM scores for CICU patients will increase by December 2021.

- **Note:** The collective ICU LOS for CICU patients will decrease by December 2021.