

High Intensive Care readmission rates, risk factors and possible solutions, Quality improvement Project, Lancashire teaching hospital

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Background

It is well known that early readmission to intensive care during the same hospital admission is associated with increased mortality, morbidity, and increased length of stay in Intensive care and over all hospital stay. Due to its drastic consequences on patient outcomes and financial burden, the early intensive care readmission rates are used as surrogate markers of quality of care in the intensive care unit(1).

Methodology

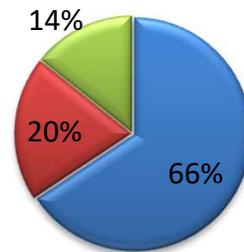
I collected the number of patients who were readmitted within 48 hours to Intensive care between August 2020 and August 2021 from the ICNARC database (35 patients). My primary objective was to look for the factors associated with this alarming rate of readmission(2%) and to prevent the preventable (2).For each patient I deeply investigated the documentation behind the decision-making process and reason for the first admission, clinical interventions, and communications with the other specialties during the Intensive Care admission and after discharge in addition to the cause of readmission .

Findings

The majority of patients (46%) who were readmitted to intensive care during that period of time were aged 50 year or less, compared to 17% aged 70 years old or above. Patients admitted in an emergency setting were found to have high risk of readmission compared to the elective admitted patient, 94 % vs 6 % respectively. The percentage of patients who had a high NEWs score (6 or above), one hour before discharge was approximately 70% compared to 40% when the patient was seen earlier by a consultant during the ward round. Approximately 30% had high levels of CRP and WBCs 24 hours before being discharged to the ward. There was poor communication and hand over to the ward as 86% of the discharged patients were not handed over to the ward doctor. In addition to that there was no proper escalation plan regarding readmission if the patient had deteriorated. Interestingly, length of stay was less than 7 days in 71% during the first admission and 66% after the readmission. The majority of those patients were discharged successfully from Intensive care (86%) compared to 14% who died in ICU.

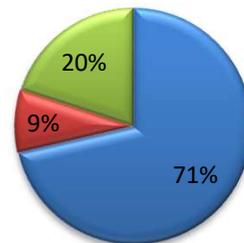
Re-admission length of stay

■ < 7 days ■ 7-14 days ■ More than 14 days



NEWs at discharge

■ Worsening > 6 ■ Fluctuating 4-5 ■ Static



Conclusion

Early unplanned Intensive care readmission is associated with high mortality rate, long hospital and intensive care stay and increased financial burden on the trust. In our intensive care, the majority of the readmitted patients were successfully discharged within the first week of readmission which indicates that the cause of readmission may be preventable, and the discharge may be premature. Some important simple and achievable interventions like: NEWs score 1 hour before discharge(3), 24 hours and inflammatory markers checks before discharge and proper hand over using the SmartPage can decrease the rate of intensive care readmission but cannot totally prevent it. We are planning to do further cycles to check the effect of implementing the above changes on the readmission rates.

References

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