

## Role of Nurse-to-Nurse Familiarity on Mortality



Nursing teams play an important role in providing safe and adequate care to critically ill patients in the ICU. The patient-to-nurse ratio significantly impacts patient outcomes, and teamwork is also crucial.

A recent study emphasises the need for effective communication, collaboration, and a shared sense of responsibility among the nursing team to ensure optimal patient care. The authors suggest that investing in nursing education, training, and development can improve ICU patient outcomes and overall quality of care.

In particular, familiarity between nursing team members can impact teamwork functioning and patient outcomes. Working familiarity has been suggested to play an important role in operating rooms and emergency departments.

Familiarity between nursing team members is important not only for patient outcomes but also for reinforcing the meaning of their work and reducing difficulties in the workplace. Improving familiarity among nursing teams can help to minimise the shortage of nursing team members in healthcare systems.

The study investigated whether nurse-to-nurse familiarity within the same ICU could affect the risk of unplanned patient deaths, independent of other potential factors such as patient case mix, workload, and ICU attributes. The study was conducted on patients admitted to adult ICUs in Lyon, France, and explored the impact of nurse-to-nurse familiarity on patient outcomes.

The primary outcome was a shift where at least one inpatient death occurred, excluding deaths of patients for whom a Do-Not-Resuscitate Limitation of Support Therapy (DFLST) was made. The secondary outcomes were a shift where at least one inpatient death occurred within 12 hours of ICU admission and a shift where at least one inpatient death occurred regardless of DFLST.

The study included 43,479 ICU patients over a period of 6 years. The total length of stay was 6,612 days. The ICU mortality rate was 15%, with 8% of inpatient deaths occurring without a DFLST order. The mean patient-to-nurse and patient-to-assistant nurse ratios were 2 and 4, respectively, with a mean patient turnover of 14% and 20% of patients in isolation. Before every shift, nursing team members had already worked an average of 430 shifts in the ICU and had collaborated an average of 53 shifts with other team members. A low nurse-to-nurse familiarity was found on 51% of shifts.

The study found 3,101 shifts (9%) in which at least one death occurred without a DFLST during the ICU stay. Low nurse-to-nurse familiarity was associated with an increased risk of patient mortality in the ICU. Specifically, shifts with low nurse-to-nurse familiarity over three consecutive shifts and suboptimal patient-to-nurse and patient-to-assistant nurse ratios had an ICU risk of death increased by a factor of 2.40. The risk of death also increased with several other types of suboptimal staffing characteristics.

Overall, these findings show that the risk of a shift with a death increased with low nurse-to-nurse familiarity during that shift and previous shifts and with suboptimal patient-to-nurse and patient-to-nurse assistant ratios.

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