**Annexure B 4 Nurse-sensitive indicators in adult ICU with definitions and formular**

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| **INDICATOR** | **FORMULA FOR CALCULATION** | **INDEX** | **METHOD OF COLLECTION** |
| **Respiratory system** |  |  |  |
| Ventilator associated pneumonia | (Number of patients who had ventilator-related pneumonia ÷ Total days of patients using the ventilator) x 100 | % | Patient chart |
| Length of mechanical ventilation | Number of ventilator days |  | Patient chart |
| Unplanned endotracheal tube extubation | (Number of cases of unplanned extubation following endotracheal intubation ÷Total duration of endotracheal intubation [Days]) ×1000 | Per 1000 | Patient chart |
| Re-intubation | Endotracheal tubes repositioned and retied every 12 hours |  | Patient chart |
| **Cardiovascular system** |  |  |  |
| Central line associated blood stream infections (CLABSI) | (Number of CLABSI ÷ Number of central line days) x 1000 | Per 1000 | Patient chart |
| Accidental removal of IV catheters |  |  | Patient chart |
| Implementation rate of DVT prevention | (Number of patients who received DVT prevention ÷Number of patients in the ICU) ×100 | % | Patient chart |
| **Neurological system** |  |  |  |
| Evaluation of delirium | (Number of patients who underwent evaluation for delirium ÷ Number of patients in the ICU) ×100 | % | Patient chart |
| Evaluation of the level of sedation | (Number of patients who underwent evaluation for sedation ÷ Number of ICU patients who took sedative drugs) × 100 | % | Patient chart |
| Evaluation of analgesia | (Number of patients responding very satisfied ÷ Number of patients in the ICU) ×100 | % | Patient chart |
| Use of restraints | (Number of days using restraints ÷ Number of ICU patients’ total hospitalization days) ×100 | % | Patient chart |
| Prescription/consent for restraints use |  |  | Patient chart |
| **Gastrointestinal system** |  |  |  |
| Upper GI bleeding |  |  |  |
| Implementation of enteral nutrition | (Number of eligible patients who receive enteral nutrition within 24 hours of admission ÷ Total number of patients who received enteral nutrition at the same period) × 100 |  | Patient chart |
| Nasogastric tube removal due to obstruction and re-positioned |  |  | Patient chart |
| Management of blood glucose level | (Total number of time with blood glucose level reaching 8–10 mmol/L ÷ Total number of blood glucose measurements performed for critically ill patients) × 100 | % | Patient chart |
| **Integumentary system** |  |  |  |
| Pressure ulcers | (Number of patients who had pressure ulcer during the period under consideration ÷ Number of ICU patients’ total hospitalization days) x 100 | % | Patient chart |
| Incontinence associated dermatitis | (Number of patients who had incontinence-associated dermatitis ÷ Number of ICU patients’ total days of hospitalization) ×1000 | Per 1000 | Patient chart |
| **Infection control** |  |  |  |
| Implementation of early appropriate broad-spectrum antibiotic | (Number of patients who had a serious infection or septic shock treated with broad spectrum antibiotics within 1 hr after definite diagnosis ÷ Number of patients who had a serious infection or septic shock) × 100% | % | Patient chart |
| Implementation of hand hygiene | (Frequency of implementation of qualified hand hygiene during the observation period ÷ Frequency of hand hygiene implementation at the same period) × 100 | % | Unit report |
| Use of personal protective equipment |  |  | Unit report |
| **Urinary system** |  |  |  |
| Catheter related urinary tract infection | (Number of patients who experienced an infection related to a catheter ÷ Number of catheter days) x 1000 | Per 1000 | Patient chart |
| Use of urinary tract bundles | Most frequently used urinary tract bundle |  | Patient chart |
| **Patient safety** |  |  |  |
| Potentially inappropriate medications | PIM is a medication having potential risks that outweigh its potential benefits |  | Adverse events report |
| Medication administration errors | (Number of reported medication errors within the statistical period÷ number of dispensed doses during the statistical period) x 1000 patient days | Per 1000 | Adverse events report |
| Outgoing transport related accidents | (Number of cases with outgoing transport-related accidents ÷Number of transported patients) ×1000 | Per 1000 | Unit report |
| Patient falls | (Number of patients who experience an unplanned descent to the floor ÷Number of patient days) x 1000 | Per 1000 | Patient chart |
| Inappropriate turn-off of alarms |  |  |  |
| **Nursing processes** |  |  |  |
| Implementation of discharge planning process |  |  | Patient chart |
| Failure to rescue | (Number of deaths ÷ Number of deaths resulting from complications of care such as pneumonia, deep vein thrombosis/pulmonary embolism, sepsis, acute renal failure, shock/cardiac arrest, or gastrointestinal haemorrhage/acute ulcer) |  | Adverse events report |
| **Work-load** |  |  |  |
| Nursing staff turnover rate |  |  | Personnel data |
| Number of continuous hours worked | Nursing care hours per patient day |  | Unit report |
| Professional nurse per ICU bed | (Number of ICU nurses registered during the period of research ÷ ICU beds at the same period) ×100 | % | Unit report |
| **Training and experience** |  |  |  |
| ICU nursing staff with ACLS | (Number of ICU staff who had completed the advanced cardiac life support training ÷ Number of registered ICU nurses at the same period) × 100 | % | Personnel data |
| Nurses who worked in ICU for < 3 years | (Number of nurses who had worked in the ICU for more than 3 years ÷ Number of registered ICU nurses at the same period) ×100 | % | Personnel data |
| Composition of care teams |  |  |  |
| Falls/ falls with injury |  |  |  |
| **Institution related** |  |  |  |
| Length of stay | mean ICU length of stay (days) |  | Unit report |
| ICU readmission | Number of patients readmitted to the ICU within 30 days |  | Unit report |
| Cost of treatment | Hospital cost per patient |  | Hospital data |
| ICU mortality | 30-day mortality |  | Monthly report |
| Do not resuscitate/ end of life care |  |  |  |