incidence of errors. Sterilization monitoring indicators are automatically uploaded and intercepted to uphold patient safety.

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Healthcare-associated urinary tract infection: epidemiology, burden of disease, and related factors at a teaching hospital in Ho Chi Minh City, Vietnam 2017–2022

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Introduction: Urinary tract infection (UTI) is a common healthcare-associated problem. UTI has a lower mortality prevalence than other infections, but it is at high risk of leading to sepsis and increased treatment costs. Therefore, the objective of the study is to describe the epidemiology and burden of disease and determine factors associated with healthcare-associated UTI in the intensive care units (ICUs). **Methods:** A cross-sectional study was conducted on 4.028 patients admitted to the ICU, Neuro Surgical ICU, and ICU - Cardiovascular Surgery Department at a teaching hospital in Ho Chi Minh City from 2017 to 2022. The study collected secondary data through electronic medical records, including age, gender, diagnosis, department, urinary catheter use, urinary catheter retention time, treatment, and urine test results. **Results:** The prevalence of UTI in ICUs was 4.0%, of which CAUTI accounts for the highest prevalence, with the typical pathogen being *E. coli*. The Neuro Surgical ICU had the highest incidence and catheter-used prevalence in ICUs. UTIs were concentrated in people over 80 years old, females, and brain diseases. The length of the hospital stay was long, and the cost of the hospital stay was unaffordable, up to hundreds of millions of VND. The study found factors associated with the prevalence of UTI, such as age, gender, department, diseases, and urinary catheters. Patients with urinary catheters have a 10.98 times higher prevalence of UTI ($p < 0.001$; PR = 10.98, 95% CI 4.87–24.76) compared to patients without urinary catheters. **Conclusions:** The results of the study demonstrated that UTI remains a burden on the healthcare system, especially in ICUs. Implementing a UTI prevention package for patients with catheters is important. Besides, it is necessary to maintain continuous training for healthcare workers to properly and timely insert, remove, and replace catheters.

Keywords: Urinary tract infection; Intensive care unit; Healthcare-associated infection

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The difference in latent tuberculosis prevalence among medical personnel in negative and non-negative pressure TB isolation ward at Kandou General Hospital, Manado

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Background: Negative-pressure isolation room was considered the standard for Tuberculosis (TB) isolation ward, but it tends to be high in cost and maintenance. Alternatively natural ventilation with the combination of mechanical ventilation (exhaust fan) room were more commonly used in resource-limited settings. However, its efficacy to prevent TB to the medical staffs are unknown. **Objective:** To compare the prevalence of latent TB among medical staffs that works in negative-pressure isolation ward against natural ventilation isolation ward at Kandou General Hospital Manado. **Methods:** An cross-sectional study involving 20 medical personnel that have worked for more than 6 months in negative -pressure isolation ward and natural ventilation isolation ward at Kandou General Hospital Manado, North Celebes, Indonesia. Exclusion criteria were history of TB disease or TB latent, immunodeficiency and long term steroid uses. Fischer exact test and regression analysis was used to evaluate the differences between variables. **Results :** There were 7 medical personnel (35%) from the negative-pressure isolation ward compared to 11 medical personnel (55%) in natural ventilation isolation ward that were positive for Interferon Gamma Release Assay (IGRA). There were no significance differences between the type of isolation room and the prevalence of latent tuberculosis ($p = 0.341$). There were also no significant correlations between room type ($p = 0.633$), work duration ($p = 0.181$), and the prevalence of latent TB ($R^2 = 0.06$). **Conclusion :** There is no significant difference between latent TB prevalence among medical presonnel in negative- pressure isolation room and natural ventilation isolation room. Natural ventilation room could be used as an alternative to negative-pressure isolation room.

Keywords: Latent tuberculosis; health care workers; negative pressure room

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Shelf life of sterilized packed items stored in CSSD of a Vietnam University Medical Center

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Background: In University Medical Center Ho Chi Minh City (UMC), shelf life of sterilized packed items has been followed by time-related principle. However, duration of sterility has not been based on strong scientific evidence. **Objectives:** To determine the most appropriate shelf life for sterilized products according to packaging material and sterilization methods. **Methods:** All the experimental and the control samples (surgical instruments and linen) were prepared by four types of packaging materials (peel pouch, nonwoven, linen, and rigid container) and three types of sterilization methods (steam, Hydrogen Peroxide, Ethylene Oxide). After sterilization, sterilized samples were stored at CSSD's storage and tested for microbial contamination in 07 periods: after 07 days, 14 days, 01 month, 03 months, 06 months, 12 months, and 18 months. Identification of the storage environment (shelf location, temperature, and relative humidity) were recorded as the same time collected samples. **Results:** Positive microbial cultures were seen in 0.44% (07 samples) of 1,574 samples. Up to 18 months, no organisms was cultured from any sample of (1) autoclaved surgical instrument packages wrapped in peel pouches, nonwoven, linen, (2) Hydrogen Peroxide sterilized surgical instrument packages wrapped in nonwoven, (3) Ethylene Oxide sterilized surgical instrument packages, and (4) autoclaved linen packages wrapped in nonwoven. Organisms detected were both Gram–Positive and Gram-Negative bacteria. Just only approximately 17% control samples grew bacteria. There was no any statistically significant relationship between positive experimental samples and packaging materials, sterilization methods, or storage conditions. **Conclusions:** Based on results of this experiment, shelf life of sterilized packed items should be still followed by time-related principle in UMC. However, the currently shelf life can be extended to reduce unnecessary costs and increase the usage rotation.

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