

environment cleaning, and regulation of broad-spectrum antibiotics, are necessary to prevent secondary infections that may follow an index CRE infection in the NICU.

Key words: Carbapenem-resistant Enterobacterales; Neonatal intensive care unit

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Evaluating competency and influential factors among infection control nurses in South Korean healthcare settings

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Objectives: The competency of infection control nurses (ICNs) plays a pivotal role in enhancing the quality of healthcare facilities. This descriptive study aimed to assess the competency level of ICNs in South Korea and identify influencing factors. **Method:** An online self-administered questionnaire survey was conducted through an announcement on the Korean Infection Control Nurses Association website. An online self-administered questionnaire was distributed via the Korean Infection Control Nurses Association website, garnering responses from 199 participants out of 450 approached. Statistical analyses, including descriptive statistics and multiple regression analysis, were conducted using SPSS/WIN 27.0 software. **Result:** Analysis reveals that participants had an average age of 34.8 (± 8.4) years and an average of 5.0 (± 4.7) years of experience in infection control. The competency score for infection control was 3.6 out of 5. Competency levels varied across domains, with the highest scores observed in employee safety and infection control domains, while the lowest scores were in infectious disease identification and communication domains. Significant variables affecting competency, as identified through univariate analysis, included awareness of infection control competency, age, education level, ICN experience, position, and possession of an infection control specialist license. Ultimately, factors influencing ICN competencies were determined to be awareness of infection control competencies, attainment of a master's degree or higher, over 5 years of ICN experience, and age over 50, collectively explaining 45.6% of the variance. **Conclusion:** Enhancing the competency of ICNs is crucial for effective infection control in medical settings. Strategies to improve awareness of infection control competencies and provision of continuous education support and career development programs for ICNs are essential to achieve this goal.

Keywords: Competency; Infection Control Nurse; Influencing factors

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Carry out case-based scenario teaching in medical students to improve skills of occupational protection against infectious diseases

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Objective: Optimized teaching methods in medical students to improve skills of occupational protection against infectious diseases and reduce the risk of developing infectious occupational exposure in clinical practice. **Methods:** Establish a database of infectious occupational exposure cases in clinical practice based on monitoring data. Teaching guided by cases and videos-based scenario was carried out in the experimental group and traditional theoretical teaching was carried out in the control group in medical students. And then conducted a questionnaire survey on knowledge and skills of occupational protection against infectious diseases and observed the frequency and the prescriptive disposal measures of infectious occupational exposure in clinical practice in two groups. **Results:** The infectious occupational exposure database included a total of 95 typical cases in 6 categories, including various sharp weapon injuries and mucosal exposure.

There were 116 medical students involved in the study across the course of 12 months. The incidence of infectious occupational exposure in medical students during clinical practice internships was 18.9%. Compared with the control group, the awareness rate of knowledge and skills of occupational protection against infectious diseases significantly increased (91.8% vs 87.0%, $P < 0.05$), the incidence of infectious occupational exposure during clinical internships has decreased (15.6% vs 23.1%, $P < 0.05$), and the implementation rate of prescriptive disposal measures after exposure has increased (91.7% vs 83.3%, $P < 0.05$) in the experimental group in medical students. **Conclusion:** The case-based scenario teaching in medical students improved skills of occupational protection against infectious diseases and decreased the incidence of infectious occupational exposure during clinical internships. The effect of the optimized teaching methods was significant which is recommended to carry out widely.

Keywords: Occupational Protection; infectious Diseases; Case-based Scenario Teaching; Medical Students

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Trial-Off-Catheter (TOC) protocol at Yishun community hospital

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Background/Aim: Early removal of indwelling urinary catheters (IDC) is an effective strategy to prevent catheter-associated urinary tract infection (CAUTI). We hypothesized a standardized Trial-Off-Catheter (TOC) protocol would reduce catheter utilisation and CAUTI rates in a community hospital. We aim to reduce catheter utilisation ratio and CAUTI rate per 1000 catheter days by 10% over a period of three months (post-intervention) in three pilot wards with the highest catheter usage. **Methods:** An IDC review board and a TOC protocol were designed collectively as a team in Yishun Community Hospital based on literature reviews. Roadshows were conducted at the three pilot wards and implemented over 2 months. 2-weekly audit was conducted by Infection Control Nurses on 3 process measures, (1) IDC were reviewed appropriately with IDC review board, (2) Appropriate usage of TOC protocol, (3) Compliance with TOC protocol. **Results:** Within three months' post-intervention, IDC utilisation ratio reduced by 18%, CAUTI rate per 1000 catheter days reduced by 45%, percentage of IDC reviewed appropriately increased to 91%, zero CAUTI event related to the use of protocol and 77% successful catheter removal with TOC protocol. **Conclusion:** CAUTI prevention require continuous effort with multimodal strategies and support from various stakeholders. A standardized TOC protocol can reduce variation in practices among physicians/ nurses with different levels of experience with TOC. A standardized care process ensures efficient utilization of resources to achieve the desired clinical outcomes for patients.

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Sustainability of hand hygiene compliance in a crowded emergency and trauma setting within a public tertiary healthcare facility

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Introduction: Crowded Emergency and Trauma Department (ETD) have been associated with adverse patient outcomes and higher mortality rates. Crowding and lack of alcohol-based hand rubs (ABHRs) have been found

to correlate with lower compliance to hand hygiene (HH) protocols among healthcare workers (HWs). This project aimed to improve and sustain HH compliance (HHC) among HWs in the ETD by adapting to the World Health Organization (WHO) HH Multimodal Improvement Strategy. **Methodology:** This is a cross-sectional study in ETD, Sarawak General Hospital, a university-affiliated, public tertiary-care hospital in Malaysia. It spanned 12 months, from Jan 2023 to Jan 2024. The intervention involved installing wall-mounted automated ABHR dispensers at multiple fixed locations in ETD. Pre-, during, and post-12 weeks intervention HHC audit were conducted according WHO's gold-standard direct observation method. We conducted a sequential trend analysis and compared proportions across these periods using a linear logistic regression model to assess the improvement and sustainability of HHC. **Results & Discussion:** Mean HHC improved from 66% (383/579) (95% confidence interval [CI], 62.1%-70.0%) in the pre- intervention period to 81% (321/397) (95% CI, 76.6%-84.6%) in the intervention period, and further sustained at 85% (302/352) (95% CI, 81.7%-89.3%) in the post-intervention period (P value<0.05). The positive coefficient of 1.13 in the model, when moving from the pre- to the post-intervention period indicates a positive trend in HH compliance. The availability of adequate wall-mounted automated ABHR dispensers at multiple fixed locations at ETD created easy accessibility of ABHRs for HWs and acted as visual reminders for good HH behavior at the ETD. **Conclusions:** Having wall-mounted automated ABHR dispensers in various fixed locations proved effective in promoting good HH among HWs in emergency settings. It's essential to have fixed ABHR dispenser placement in crowded - areas like the ETD to improve and sustain HHC among HWs.

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Risk factors associated with continuous ambulatory peritoneal dialysis-related infections in chronic kidney disease patients at Dr. Kariadi Hospital Semarang

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Introduction: Continuous Ambulatory Peritoneal Dialysis (CAPD) is a treatment method for Chronic Kidney Disease (CKD) that allows patients to undergo dialysis therapy at home. Although CAPD provides benefits in terms of flexibility, efficiency, and comfort, patients undergoing CAPD are at high risk of infections, including exit site infections, tunnel catheter infections, and Peritoneal Dialysis (PD) peritonitis. This study aims to identify risk factors associated with CAPD infections in CKD patients at Dr. Kariadi Hospital, Semarang, Indonesia. **Methods:** A retrospective cross-sectional study design was applied to adult CKD patients undergoing CAPD at Dr. Kariadi Hospital between January 2022 and March 2024. Data were collected from patients' medical histories and records, then analyzed using SPSS 21. A p-value less than 0.05 was used to determine statistically significant variables. **Results:** This study involved 81 adult patients undergoing CAPD with 58% male subjects. There were 23 (31.9%) subjects who experienced CAPD infections. Subjects who had infections experienced exit-site infections (10.5%) and peritonitis (89.5%). The most dominant microorganism in infected patients was *Staphylococcus epidermidis*. Diabetes mellitus (p = 0.03) contributed as significant risk factors for infection, while hypoalbuminemia and overweight were not significant risk factors (p > 0.05). **Conclusion:** In conclusion, the incidence of CAPD-related infections was high with a predominance of *Staphylococcus epidermidis*. Diabetes mellitus is considered a contributing factor to the infection.

Keywords: Continuous Ambulatory Peritoneal Dialysis-Related Infections; Risk factors

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Correlation of serum albumin concentration with length of stay in Surgical Site Infection (SSI) patient at Rspad Gatot Soebroto, Jakarta, 2019-2022: a quantitative study

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Background: The prevalence of surgery in Indonesia is increasing every year and may increase the prevalence of surgical site infection (SSI). SSI is an infection in the surgical site organ or space that occurs after surgery. Complex treatment of SSI has a significant impact on patient outcomes due to increased length of stay. There are a variety of risk factors, both endogenous and exogenous, that can affect the length of stay of SSI patients, especially the concentration of serum albumin before and after surgery. Albumin is an important component of proteins. Albumin plays a role in promoting inflammation, so tissue repair is done more quickly, and without albumin, the body is more difficult to carry out cell regeneration. This study aimed to determine the relationship between pre- and post-operative concentrations of albumin and duration of stay in SSI patients. **Method:** The study design used a quantitative study using cross-sectional secondary data from the medical records of 40 patients diagnosed with SSI at Gatot Soebroto Army Hospital. All SSI patients met the inclusion criteria. **Results:** The results showed that patients had moderate hypalbuminemia before surgery (35%) and after surgery (35%), long-term stay (50%), 19-60 years (77.5%), women (52.5%), comorbidities (50%), malnourished nutrition (60%), ASA score 2 (52.5%), clean surgical wound type (60%), abdominal or vaginal hysterectomy (17.5%), and showed that it has the characteristics of a normal operation period. (65%) Bivariate analysis using assay chi-squared shows a relationship between pre-operative serum albumin (p-value = 0.005; PR=7.207; 95% CI=1.09-47.55) and post-operative (p-value=0.016; PR=3.857; 95% CI=1.05-14.08) with duration of stay in SSI patients. Concentration. Multivariate results indicate serum albumin preoperative concentration (p-value = 0.049). **Conclusion:** It can be concluded that serum albumin preoperative concentration is the only variable that greatly affects the length of stay of SSI patients.

Keywords: Surgical Site Infection (SSI); Albumin Concentration; Length of Stay, Indonesia

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Effect of wearing particulate respirators on physiological changes of healthcare workers in isolation room

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Introduction: The use of Personal Protective Equipment (PPE) for healthcare workers must be addressed, especially for procedures that generate aerosols. A standard N95, FFP2 or FFP3 particulate respirator mask is