

Meanwhile, for urine specimen the main bacteria causing infection was *K. pneumoniae* (4/7). In the antibiotic susceptibility test, the results showed Carbapenem Resistant Organisms (CRO), namely *A. baumannii* 89.5% (17/19), *K. pneumoniae* 76.3% (29/38), *P. aeruginosa* 40% (4/10), and *E. coli* 20% (1/5) with positive ESBL presentation are 15.8% in *K. pneumoniae* and 40% in *E. coli*. **Conclusion:** We found that the most common risk factor for HAI was the use of medical devices. Most of HAI infections that occurred in all specimens we took were caused by *Klebsiella pneumoniae*. Antibiotic resistance results show that many organisms that cause HAI are also resistant to Carbapenem antibiotics with variations in resistance genes (gene CTX-M, CTX-M-1, SHV, or TEM).

Keywords: Healthcare associated infection; Intensive care unit; risk factor

Antimicrobial Stewardship & Healthcare Epidemiology 2025;5(Suppl. S1):s16–s17

doi:10.1017/ash.2025.123

Nationwide survey of importance-performance analysis on infection control and prevention practices at the tertiary hospitals in South Korea

Yeon Hee Woo¹, Jae Sim Jeong², Hye Ran Choi² and Jae Geum Ryu^{3,*}

¹Korea Disease Control and Prevention Agency, ²Ulsan University and ³DongA University

Objectives: This study was conducted to define the classification of the infection control and prevention (IPC) practices through task analysis method, and to perform importance-performance analysis (IPA) on IPC tasks, consequently providing operational guidelines for the department of IPC. **Methods:** To define the tasks of the IPC practices, the draft was developed through the legal and literature reviews, and the final IPC tasks were confirmed by content validity test. The IPC tasks were assessed by IPA method. The national surveys were conducted by the institutional and individual level from October to November, 2023. The institutional questionnaire was distributed nationally to the IPC director/manager of the tertiary hospitals, and IPC practitioners assessed the IPA of IPC task. **Results:** Two thirds (30/45) of the IPC director/manager responded the institutional questionnaire. A total of 135 IPC practitioners (32 physicians and 103 nurses) completed the IPA survey. The average beds of hospitals participated in this study were 1,060±436. The ICP staffing met the legal requirements in all hospitals. The IPC tasks were consisted of 11 categories and 38 items including surveillance and ICP planning. According to IPA, at a 1st quadrant (high in frequency and importance) surveillance, infectious patient management, health management and action planning of health-care associated infection were placed. At a 2nd quadrant (high in importance but low in frequency), annual IPC planning was positioned. At a third quadrant (low in frequency and importance), ICP training, policy-making, general hygiene, and ICP staffing were placed. There was nothing at a 4th quadrant (high in frequency but low in importance). **Conclusion:** Most of IPC tasks are consistent in degree of importance and frequency except IPC planning. Based on IPA, priority-based task distribution should be considered to maximize the work efficacy and effectiveness.

Antimicrobial Stewardship & Healthcare Epidemiology 2025;5(Suppl. S1):s17

doi:10.1017/ash.2025.124

Evaluation of the compatibility from antibiotic use with the Gyssens plot in community acquired pneumonia patients in RSUP DR Wahidin Sudirohusodo

Hasliyawati Hasan, Sudirman Katu and Risna Halim

Division of Tropical Infection, Department of Internal Medicine, Faculty of Medicine Hasanuddin University

Objectives: Pneumonia is the leading cause of morbidity and mortality worldwide, eighth rank in the United States. The use of antibiotic for pneumonia therapy contribute the highest rate compared to the usage of antibiotic therapy for other diseases. Antibiotic resistance can occur due to the irrational use of antibiotics. World Health Organization (WHO) predicts that by 2050 there will be 10 million people per year who die due to drug

resistance. The Gyssens method is a tool to evaluate the quality of antibiotic use that has been widely used in various countries. The purpose of this study was to assess the compatibility of antibiotic use based on Gyssens plot categories in pneumonia patients. **Methods:** This study used descriptive-observational with a cross-sectional study in pneumonia patients at Dr. Wahidin Sudirohusodo Hospital on periode from July-December 2023. The compatibility of antibiotics was assessed using the Gyssens flow. **Results:** This study involved 116 subjects, 70 males, 46 females. In this study, found that the use of rational antibiotics is 58% and irrational 42%. From irrational group we obtained category IV (3%), IIIa (31%), IIIb (8%). The most often antibiotic that used are ceftriaxone (26,8%) and azithromycin (26,3%). **Conclusions:** The use of antibiotic in pneumonia patients assessed using the gyssens method in the Inpatient Installation of Dr. Wahidin Sudirohusodo Hospital from July to December 2023 found that the usage for antibiotic is rational for 58%, of the total patient and irrational use was 42% of the total patient during the research study.

Key words: antibiotic use; gyssens plot; community acquired pneumonia

Antimicrobial Stewardship & Healthcare Epidemiology 2025;5(Suppl. S1):s17

doi:10.1017/ash.2025.125

Infection control measures in response to detection of carbapenem-resistant enterobacterales in neonatal intensive care unit

Hee Jeong Wang¹, Ji Yeoung Yim¹, Na Yoon Kim¹, Go Eun Kim¹, Ji Eun Park¹, Yun Ah Choi¹, Seo Young Yoo¹, Young Hwa Choi² and Hyun Joo Jung³

¹Infection Control Office Ajou University Hospital, Suwon, Korea, ²Department of Infectious Diseases Ajou University Hospital, Suwon, Korea and

³Department of Pediatrics and Adolescents Ajou University Hospital, Suwon, Korea

Objectives: Neonatal intensive care unit (NICU) admits premature babies and neonates with acute illness who are under high infection risk due to immature immune response system. Infections caused by carbapenem-resistant Enterobacterales (CRE) is a serious threat to such patient population. A single case of CRE infection occurred in 36-bed NICU on July 2023. Infection control measures were put in place to prevent further CRE infection within the NICU. **Methods:** A neonate delivered at gestational age of 23 weeks and 6 days with birth weight of 650g was under mechanical ventilator care. On 35th day of life, CRE (*Escherichia coli*, New Delhi metallo-beta-lactamase-1 positive) was isolated from this neonate's endotracheal suction material. After discussion with infection control physician, the bacterial culture was determined to have been resulted from colonization or localized infection, rather than invasive infection. Five measures were taken to prevent additional infection within the NICU. One, contact precaution was issued for CRE-infected baby, and an isolation ward and a designated nurse was assigned for the baby to prevent cross infection. Two, adherence to hand hygiene and personal protective equipment (PPE) application was monitored for medical personnel and visitors entering the NICU. Three, a checklist was designed specifically for disinfection of NICU isolation ward, and the designated cleaner and assistants were educated on the checklist. Four, testing with fluorescent markers was performed to validate cleaning. Five, the infectious disease specialist and the pharmacy analyzed the prescription pattern of broad-spectrum antibiotic among patients in NICU for systematic antibiotic regulation. **Results:** The following results were obtained after 2 weeks of infection control measures. 57 subjects underwent hand hygiene monitoring, on which 15.8% (9 case) of the subjects inadequately passed. Immediate feedback was provided upon these detections. Cleaning validation detected a single cases of inadequate disinfection (door to isolation ward), for which re-cleaning and education was performed. An increasing trend in consumption of 3rd generation cephalosporin (8.96% in April 2023 to 21.21% in June 2023) was found, and the neonatology department was advised to be more selective in prescription of broad-spectrum antibiotics. **Conclusions:** There was no CRE infection for 6 months following infection control measures. This case was determined to be an isolated case of CRE infection, and no further surveillance culture was obtained. Proactive infection control measures, including contact isolation, hand hygiene,

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

Antimicrobial Stewardship & Healthcare Epidemiology 2025;5(Suppl. S1):s17–s18

doi:10.1017/ash.2025.126

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

Choi Jongrim

College of Nursing Keimyung University, Daegu, Republic Of Korea

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

Antimicrobial Stewardship & Healthcare Epidemiology 2025;5(Suppl. S1):s18

doi:10.1017/ash.2025.127

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

Zhao Xia¹, Zhao Huijie¹, Yang Yang¹, Zhao Zhongjing¹, Ma Wenhui¹, Hanxu¹, Wang Yuncong¹ and Wang Wei¹

¹Xuanwu Hospital Capital Medical University, Beijing, 100053

Corresponding author: Zhao Xia, Email: 13810632810@163.com

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

Antimicrobial Stewardship & Healthcare Epidemiology 2025;5(Suppl. S1):s18

doi:10.1017/ash.2025.128

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

Chng H.Y.P.¹, Doctor S.D.², Tan B.C.B.¹ and Lee K.K.²

¹Nursing Administration and ²Medical Services

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.

Antimicrobial Stewardship & Healthcare Epidemiology 2025;5(Suppl. S1):s18

doi:10.1017/ash.2025.129

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

Peh Yee Lee¹, Jiancong Wang², Siti Nur Zulydiana Binti Abang Ahmad¹, Alicia Ak Juan³ and Yew Fong Lee^{1,3,4}

¹Infection Prevention and Control Unit Sarawak General Hospital, Ministry of Health, Malaysia, ²Institute of Biometry and Epidemiology, The German Diabetes Center, Heinrich Heine University Düsseldorf, Düsseldorf, Germany,

³Deputy Director's Office, Sarawak General Hospital Ministry of Health, Malaysia, ⁴School of Medical and Life Sciences Sunway University, Kuala Lumpur, Malaysia and ⁵Emergency and Trauma Department Sarawak General Hospital, Ministry of Health, Malaysia

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