

10th International Congress of the Asia Pacific Society of Infection Control 2022 (APSIC 2022) Abstracts

Subject Category: Antibiotic Stewardship

Abstract Number: SG-APSIC1059

Impact of a single intervention as part of an antimicrobial stewardship in a surgical unit of a tertiary-care referral center for neurosurgery

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Background: Antimicrobial resistance is a worldwide problem leading to increasing deaths due to intractable infections, especially in postoperative patients who have extended stays in ICUs due to other surgical complications. Carbapenem and colistin resistance has been increasing here; hence, it was decided to monitor and control antibiotic use. In the neurosurgery unit of a quaternary-care hospital in South India, surgical prophylaxis was chosen as less problematic area in which to implement antibiotic stewardship. **Objective:** To study the difference in the antibiogram pattern of isolates from neurosurgery postoperative patients, before and after the introduction of a surgical antimicrobial prophylaxis policy from the UK National Health Service (NHS). **Methods:** After the implementation of a new surgical prophylaxis protocol taken from the UK NHS guidelines, we studied its impact by analyzing the antibiogram before implementation (period 1 from January 1, 2020, to December 31, 2020) and after implementation (period 2 from April 1, 2021, to September 30, 2021). This period corresponded to the same number of isolates as the earlier period. **Antibiogram criteria:** All clinically relevant infections due to the ESKAPE pathogens were included in the antibiogram. The antibiotics analyzed included β -lactams, cephalosporins, β -lactam-lactamase combinations, carbapenems, aminoglycosides, colistin and tigecycline for gram-negative bacilli and penicillin, oxacillin, aminoglycosides, vancomycin, and linezolid for gram-positive cocci. For analysis, the difference was deemed significant according to the criteria stated in CLSI document M39-A4 (4th edition, January 2014). **Results:** In period 1, 170 isolates were tested, and in period 2, 162 isolates were tested. Among the isolates, *Enterococcus* spp and *Enterobacter* spp were too few in number for a comparison. For the gram-negative bacilli, *E. coli*, *Klebsiella pneumoniae*, and *Acinetobacter baumannii*, the differences were significant for the β -lactam-lactamase combinations, carbapenems, and amikacin, with higher susceptibility in period 2. For *Staphylococcus aureus*, oxacillin, erythromycin, and clindamycin showed a significant increase in susceptibility in period 2. Relevant tables and a graph will be included in the presentation with detailed discussion. **Conclusions:** Controlled surgical prophylaxis strictly implemented can lead to a significant change in the antibiotic susceptibility pattern among isolates causing healthcare-associated infections among postoperative patients in intensive care units.

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Engaging inpatients in antibiotic stewardship efforts: The need to enhance knowledge and increase involvement in their antibiotic therapy

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Objectives: In tertiary-care settings, up to 50% of patients are prescribed at least 1 antibiotic. However, patients are often not proactively provided with information nor involved in shared decisions regarding their antibiotic therapies. Understanding inpatients' knowledge and the extent of their involvement in antibiotic therapy help reduce inappropriate or unnecessary antibiotic use. **Methods:** A cross-sectional survey was conducted from March to December 2021 in a 1,600-bed, adult, acute-care, tertiary-care hospital. Patients prescribed antibiotics for the past 1 week during their hospital stay were surveyed. Ten questions assessing patients' knowledge of their antibiotic therapy and 3 questions adapted from the NHS Care Quality Commission Inpatient survey (2013) were included in the survey questionnaire. **Results:** Among the 323 patients surveyed, 88% knew that they had been given antibiotics, and 80% felt that it was important to be informed of the reason, 76% felt that it was important to be informed of side effects, 74% felt that it was important to be informed of duration, and 72% felt that it was important to be informed of dosing frequency. However, only 71% knew the dosing frequency, 54% knew the side effects, 37% knew the duration, and 13% knew the name of the antibiotic agent administered. Of those unaware of the antibiotic name, 59% had indicated their desire to know. Among those aware of their antibiotic therapy, 85% had trust in their doctors but only 42% felt that they always received answers to their questions on antibiotics in an understandable manner from their doctors. Furthermore, 41% felt that they were often or always not given enough time to question their doctors. To raise their awareness on antibiotic use, 73% of respondents felt that having protected time with the doctors to understand more about their antibiotic therapy would be effective. **Conclusions:** Most inpatients lacked knowledge of details of their antibiotic therapy, and fewer than half were involved in it. Allocation of protected time with doctors to understand their antibiotic therapy can be a potentially effective strategy to increase patient engagement to enhance hospital antibiotic stewardship efforts.

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Virulence factors and antimicrobial resistance in coagulase-negative staphylococci isolated from blood of neonates

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Objectives: To determine virulence genes and sensitivity to antibacterial drugs of *Staphylococcus epidermidis* isolated from blood cultures of newborns. **Methods:** A study of coagulase-negative *Staphylococcus* (CoNS) from newborns with sepsis was conducted in the regional perinatal center in Karaganda, Kazakhstan. Blood-culture identification was performed using MALDI-TOF MS. Virulence factors were determined on primers (*sdrG*, *sdrG*, *atl*, *lip*, *nuc*, *ebh*, *hnb*, *sspA*, *sspB*, and *gehD*) with PCR (Bio-Rad CFX 96). Susceptibility to antibiotics determination was carried out using the disc-diffusion method. Testing with cefoxitin was used to detect methicillin resistance in staphylococci. **Results:** Overall, 18