

Conclusions: The antibiotic restriction policy using for the ASP successfully decreased the cost of antimicrobials, DDDs and antibiotic resistance rate; and is highly recommended for implementation in other hospitals.

OS 10-8

APPLICATION OF COMPUTER NETWORK IN ANTIBIOTIC STEWARDSHIP FROM 2005 TO 2014

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Purpose: In order to improve the rational use of antibiotics, we utilized the hospital computer network to manage the using of antibiotics.

Methods: Software was designed to obtain the accurate data of the perioperative use of antibiotics from hospital information system (HIS). After statistical analysis of monitoring data, feedback was given to the Division Director in 2007. Limiting and reminding system about perioperative antibiotics was designed to intervene the perioperative use of prophylactic antibiotics including the level and days of medication in 2008. The requirements of antibiotics use, the problems in using the antibiotics drugs and the monitoring results were presented online for clinical staff in 2009. Application and checking system of special level antibiotics was online in 2010. Dedicated software was designed to manage departments where intervention was not carried out well in 2014.

Results: From 2005 to 2007 when the computer network was not enabled, the median of the shortened days in perioperative use of prophylactic antibiotics was 1 day. After the computer network management system was enabled, the median of the shortened days was 2 days. Comparing the perioperative antibiotics using days of 2006 and 2008, there were significant differences, T value was 6.612, $p < 0.0001$. Significant differences were also found when comparing 2008 and 2014, T value was 20.226, $p < 0.0001$. Statistic data demonstrated that the computer network in managing antibiotics using was effective.

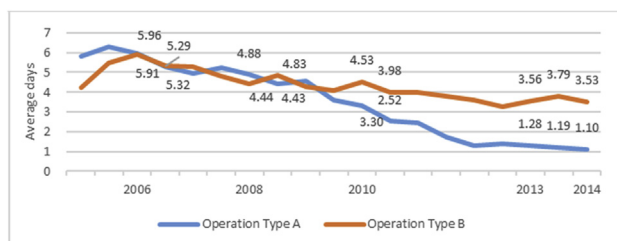


Figure Average days of prophylactic antibiotics use in peri-operation (2005 – 2014)

Conclusions: With the application of computer network, antibiotic stewardship can be done more accurately, efficiently and effectively in managing antimicrobial drugs use. Meanwhile it can help doctors to use antibiotics rationally.

OS 10-9

ANTIANTIBIOTIC STEWARDSHIP FOR LAPAROSCOPIC CHOLECYSTECTOMY

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Background and purpose: Laparoscopic cholecystectomy (LC) with its smaller wounds, heal faster, and shorter hospital staying days than

traditional open abdominal surgery is a naval operation technical for the treatment of gallbladder disease. According to Taiwan National Health Insurance Administration definition of LC as a clean operation and included in the diagnosis related group (DRG). Antibiotics stewardship for LC surgical prophylaxis was established on December 2013 by Center for Infection Control. In this study, we compared the effects of antibiotics utilization for in-patients length of stay (LOS) in the hospital between before and after intervention.

Methodology: LC cases were included between January 2013 and September 2014 in this study. Cases were divided into pre-intervention and post-intervention group to assess the antibiotics utilization appropriately, including number of LOS, bacterial culture, and complications. Student T-test was performed in the study for the statistical analysis.

Results: The total LC cases of pre- and post-intervention were 164 and 138, respectively. Patients' age were 53.95 ± 15.86 and 53.57 ± 15.43 , respectively. The LOS of pre- and post-intervention were 4.35 ± 2.24 days and 4.85 ± 2.41 days ($P = 0.06$). LOS without complications were 4.17 ± 1.49 days and 4.55 ± 1.84 days ($P = 0.06$). Based on the bacterial culture to use antibiotics (third generation Cephalosporin, Carbapenem and Fluoroquinolone), the appropriate rate increased from 36.36% to 62.5% and cost rate of antibiotics, after intervention, dropped to 47.87% from 59.55%.

Conclusions: In this study, LOS of patients have no significant different from pre- and post-intervention statistically. However, the appropriateness of the antibiotic utilization rose to 62.5% and the medication cost of antibiotics dropped to 47.87%. The importance of antibiotics stewardship is to improve the utilization appropriateness, to reduce misusing of antibiotics, and to reduce the antibiotic medication expenses.

OS 11-1

ADVANCEMENT OF INFECTION CONTROL PRACTICE THROUGH IMPROVING HAND HYGIENE COMPLIANCE AMONG HEALTHCARE WORKERS AT A COMMUNITY BASED HEALTHCARE SETTING

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Purpose: Hand hygiene (HH) is a primary measure for the control of Health care-associated infections (HAIs). According to WHO, HH reduces HAI and is considered to be the single most effective method of infection control. This study was conducted to determine the HH compliance rate as well as to enhance HH compliance among healthcare workers (HCWs) by building awareness through education, training and performance feedback.

Methods: A one year pretest-posttest multimodal interventional study was conducted at a secondary level hospital in Bangladesh. The study included a baseline survey, pretest-posttest with preformed questionnaire, intervention through classroom and hands-on training and a post-training survey. The compliance rate was assessed by covert observation using a checklist. Total 238 respondents participated in the study that included physicians and nurses as they are the most in contact with the patients.

Results: After execution of the programme, overall HH compliance among HCWs increased significantly from 12.8% to 55.8% ($p < 0.0001$), along with significant improvement in HH adherence before (physician 42%, nurse 56.3%) and after (physician 44.9%, nurse 66.7%) patient contact ($p < 0.0001$). Nurses achieved higher compliance rate (61.5%) than physicians (43.5%). HH adherence was found to have increased also in low (8.5%), medium (34.6%) and high risk (44.2%) activities ($p < 0.0001$). Other remarkable findings were development of protocols and availability of alcohol based hand rub at each point of patient care (increased 85%), that largely contributed in improving HH compliance.

Conclusions: This study denotes that despite the significance of HH in preventing infection, HCWs compliance with HH recommendations is poor. Study results also illustrates that an infection control initiative, consisting of education, awareness building program and frequent performance feedback resulted in sustained improvement in compliance with HH, which eventually will reduce HAIs as well as assist in advancement of infection control practice and improve patient outcomes.