Results
2013 online review of inpatient antibiotic approved withdrawal rate (4.12%) lower than 2012 (4.69%). Batch reason to retire 'should be used first-line antibiotics' the majority. Non-regulatory irrational use of antibiotics, hospital pumpe rate in 2014 Q1 = 13.5% more than 2013 Q4. Analyze the reasons for a 'long time' majority. Conference resolution, hospital antibiotic single opening set number of days from 14 days to 7 days. Preoperative first time an abnormal rate of administration: 6.2% (10/161) in May 2014, compared with the previous two months rose. After long use of >24 hours ratio: 12.4% (20/161) in May 2014, compared with the previous two months rose.

Figure 1Antimicrobial isolation rate in 2013.

Conclusions: 2012 and 2013 of isolation rate of resistant bacteria found in the statistical analysis, ORSA, VRE, CRAB, CRKP isolated rate of decline (Figure 1). CRPA separation rate rose because the patients are mostly respi- rator users and more patients into nursing homes or other respiratory care units CRPA the same in 2014. Of antibiotics by hospital management experience sharing, let rationalize antibiotic use even more robust mechanism.

**PS 2-321**

EVALUATE THE MOST APPROPRIATE ORAL ANTIBiotics FOR TREATING BACTERIAL INFECTIONS OF RESPIRATORY TRACT IN SOUTHERN TAIWAN

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**Purpose:** In theory, *Streptococcus pneumoniae* and *Haemophilus influenzae* are the most important pathogens resulting in bacterial infections of respiratory tract; hence, empiric oral antibiotic should have activity against both. In clinical practice, amoxicillin, amoxicillin-clavulanate, and levoflox- acin are most frequently used. This study was conducted to explore that which is the appropriate empiric antibiotic among these three oral antibiotics.

**Methods:** This was a retrospective study in a regional hospital in southern Taiwan. From May 2012 to April 2014, all *S. pneumoniae* and *H. influenzae* reported from clinical microbiology laboratory were enrolled. Antimicrobial susceptibility testing was performed by using the Phoenix system (BD, Sparks, MD, USA) for *S. pneumoniae* and a standard disk diffusion method for *H. influenzae*. The results were interpreted according to the criteria recom- mended by the Clinical Laboratory Standards Institute. All intermediate results were regarded as resistant in this study.

**Results:** A total of 40 isolates of *S. pneumoniae* and 73 isolates of *H. influenzae* were enrolled. Of all isolates of *S. pneumoniae*, the susceptibility rates of amoxicillin, amoxicillin-clavulanate, and levofloxacin were 67.5% (*n* = 27), 67.5% (*n* = 27), and 75% (*n* = 30), respectively. Of all isolates of *H. influenzae*, those were 27.4% (*n* = 20), 82.2% (*n* = 60), and 49.3% (*n* = 36), respectively.

**Conclusions:** As a result of this study, oral amoxicillin-clavulanate had a higher susceptibility rate for *H. influenzae*. In addition, three antibiotics had a similar susceptibility rate for *S. pneumoniae*. Accordingly, among the three oral antibiotics, oral amoxicillin-clavulanate may be the appropriate empiric antibiotic for treating bacterial infections of respiratory tract in southern Taiwan.

**PS 2-322**

ENDOPHYTE BACTERIA SHOWED INHIBITION BIOFILM ACTIVITY AGAINST ENTEROTOXIGENIC ESCHERICHIA COLI

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**Antibiotic stewardship**

**Purpose:** Bacterial biofilm can develop producing chronic infections. Enterotoxigenic *Escherichia coli* (ETEC) is one of the important pathogen that causing gastrointestinal infections. New treatment that focus on a biofilm approach, could serve as an alternative strategy to conventional procedures. The aims of this study to characterize endophytic bacteria from Indonesian herbal plants for their in vitro antibiotic activity against ETEC alone or in combination with nalidixic acid.

**Methods:** The crystal violet assay was used to screen and determine the inhibitory effect of crude extracts on biofilm of ETEC. Identification using 16S rRNA gene and DNA sequencing analysis were used to characterize of endophytic isolates.

**Results:** A total of 28 supernatants of endophytic bacteria were found to exhibit against ETEC biofilm. The result demonstrated that four isolates (AF3, BELF3 BELF5, AF2) had the highest activity to inhibit the biofilm. Supernatants of AF3, BELF3, and AF2 isolate had polysaccharide as the bioactive compound, whereas BELF3 had nucleic acid and polysaccharide as bioactive compound. AF2 showed similarity with *Staphylococcus haemolyticus*, AF3 showed similarity to *Citrobacter freundii*, BELF3 showed similarity to *Bacillus subtilis*, and BELF5 showed similarity to *Escherichia hermanii*.

**Conclusions:** Current study for the first time shows inhibition biofilm activity of *Staphylococcus sp.*, *Citrobacter sp.*, and *Escherichia sp.* from endophytic bacteria. Further evaluation is needed to determine whether these novel findings can be used in treating biofilm infections.

**PS 2-323**

IMPLANTATION OF ANTIMICROBIAL STEWARDSHIP PROGRAM TO IMPROVE INCIDENCE DENSITY OF HEALTHCARE-ASSOCIATED INFECTION

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**Purpose:** Antimicrobial stewardship programs (ASP) have been proved to reduce the antibiotic consumptions effectively, but the impact on the antibiotic resistance in healthcare-associated infection (HAI) was controversial. In this study, the correlation between defined daily dose per thousand pa- tient-days (DDD), the incidence density of HAI, and the proportion of resis- tant pathogens in the HAI were analyzed.

**Methods:** Since Jan. 2014, ASP was scaled up in a 900-bed regional hospital. Multidisciplinary teams included clinical pharmacists, infectious diseases physi- cians, infection control nurses, microbiologists, information technologists, and administration officers. Clinical pharmacists optimized the dosage and reviewed drug-drug interactions. ID physicians audited target antimicrobials prospectively. Infection control nurses did active surveillance of HAI and pro- moted the isolation precautions including hand hygiene programs. Microbiolo- gist speeded up culture reports and the physicians were asked to de-escalate therapy when susceptibility reports available. DDD, the incidence density of HAI, and the proportion of resistant pathogens in the HAI before (B, Jan.-Dec. 2013) and after (A, Jan.-Jul. 2014) the campaigns were analyzed.

**Results:** During study period, total antimicrobial DDD/1000 inpatient-days decreased from 987.7(B) to 916.6(A). The incidence density of HAI changed from 3.29‰ (B) to 2.65‰ (A). The proportion of resistant pathogens in the HAI decreased from 31.8% (B) to 19.9% (A). Linear regression analysis showed