

**1598. Perceptions among Pediatric Staff Nurses on Their Role and Confidence in Performing Antimicrobial Stewardship Activities**

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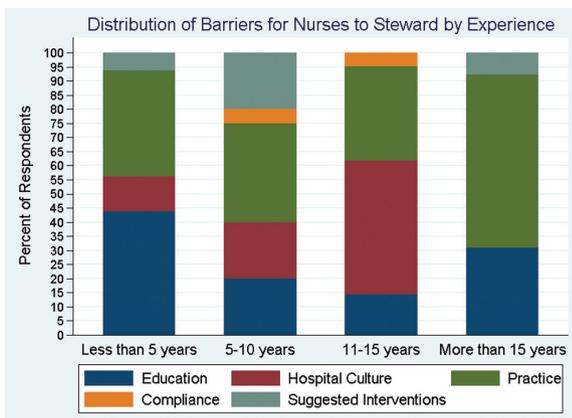
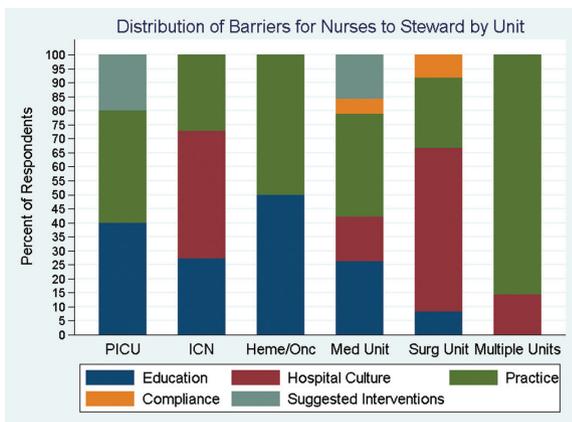
**Background.** Development of comprehensive, interdisciplinary antimicrobial stewardship teams is essential. Recently, nurses are being asked to become meaningfully engaged in stewardship yet little is known about their understanding and confidence in this undertaking.

**Methods.** Children's Mercy is a 354-bed freestanding, Midwestern children's hospital which since 2008 has an ASP utilizing prospective audit and feedback with over 26,000 reviews of care led by infectious disease physicians and pharmacists.

To identify the correlation between nurse perception of role and confidence in performing stewardship functions, we employed a self-developed Likert-scaled survey with optional comments. A web-based survey about the nurses' role and confidence in 10 ASP functions was linked to 11 clinical distribution lists and was sent three times by our Chief Nursing Officer to 1098 inpatient nurses responsible for direct clinical care. Demographics were stratified by the nurses' unit, years of experience, and years of practice at the institution. Free comments were analyzed and grouped into themes: education, hospital culture, practice, compliance, and practice recommendations.

**Results.** Responses were received from 180 (16.4%) nurses. Nurses were most confident in their role in obtaining cultures prior to antibiotics (93%), assessing an adverse drug reaction history (94%), notifying providers of dosing errors (81%), and participation in parent/patient education (91%). They were least confident in reviewing microbiology results to determine antibiotic appropriateness (38%). Identified barriers to nursing participation in ASP included: nursing not included in rounds, cultural barriers related to the nurses' role as a steward not being well-defined, and nursing input not actively sought. The need for further education and a mechanism to integrate nurses into ASP was identified.

**Conclusion.** Nurses have the requisite knowledge and skills to participate in ASP functions as a member of an interdisciplinary team. Findings confirm the need for strengthening system design that broadens the infrastructure for ASP, develops interdisciplinary collaborative practices, and establishes metrics to evaluate the nurses' contribution to improve clinical outcomes.



**Disclosures.** All authors: No reported disclosures.

**1599. Cefoxitin vs. Piperacillin/Tazobactam for Acute Appendicitis in Pediatric Patients**

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**Background.** Appendicitis is a medical emergency that usually necessitates surgery and antibiotics in pediatric patients. There is a lack of consensus regarding optimal antibiotics for pediatric appendicitis, with varying recommendations in guidelines and literature. Recent studies have shown that narrow-spectrum and broad-spectrum antibiotics produce similar outcomes in the treatment of pediatric appendicitis. At our institution, cefoxitin has replaced piperacillin/tazobactam for the management of pediatric appendicitis. We compared patient outcomes, including readmission rates, among patients treated with cefoxitin or piperacillin/tazobactam for surgically managed appendicitis.

**Methods.** We retrospectively reviewed medical charts of surgically managed pediatric appendicitis patients between the ages of 3 to 18 years who received piperacillin/tazobactam or cefoxitin. Those who received piperacillin/tazobactam from 2014-2015 were compared with those who received cefoxitin from 2015-2016. Patients were excluded if they received antibiotics for other indications or if they were initiated prior to hospital admission. Data collection included age, gender, race, days of antibiotics, length of stay, days of fever and readmission within 30 days. The primary outcome was treatment failure defined as inpatient readmission for any complication within 30 days of discharge. Secondary outcomes were hospital length of stay and days of fever.

**Results.** After screening 564 patient charts, 315 were included in the study with 174 in the piperacillin/tazobactam and 141 in the cefoxitin arm. Similar rates of perforations were observed in both groups. In the piperacillin/tazobactam group, there were 4 patients readmitted within 30 days of discharge compared with 2 in the cefoxitin arm, which was not statistically significant. Longer hospital length of stay and days of antibiotics in the piperacillin/tazobactam arm compared with cefoxitin was found to be statistically significant.

**Conclusion.** Cefoxitin was found to be non-inferior to piperacillin/tazobactam for the treatment of surgically managed acute appendicitis in pediatric patients at our institution.

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**1600. Mycoplasma pneumoniae Macrolide Resistance in Children in Central Ohio Detected by Sequencing**

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**Background.** *Mycoplasma pneumoniae*(Mp) is one of the most common causes of LRTI in school aged children, with estimates of up to 20% of cases of community-acquired pneumonia (CAP). Macrolides are the drug of choice for treating Mp infections, but in the last 2 decades there has been emergence of resistance worldwide. Reported rates in USA vary from 3.5 up to 10.8%, but rates in Ohio are unknown. Currently there is no well-established, standardized method for detecting macrolide resistance and antibiotic treatment is empiric because of these limitations. Our goal was to determine the frequency of macrolide resistance in children with Mp respiratory infections in central Ohio.

**Methods.** A convenience sample of Mp positive PCR identified by our laboratory-developed assay, obtained from both inpatient and outpatient settings, were selected. These were then cultured using Remel's SP4 glucose broth and then incubated at 35°C until isolates grew, or for a maximum of 4 weeks. All samples that yield positive cultures were then sequenced for the domain V of the 23S rRNA (nucleotide 1937-2154, accession no. X68422) using Sanger methods and sequences were compared with corresponding region of wildtype reference strain (ATCC 15322).

**Results.** For the period of October 2015-March 2017, culture was attempted in 433 PCR-positive samples, and 347 (80%) yield an isolate. Sequencing was performed in those 347 samples and was successful in 334 (96%). A macrolide resistance mutation was detected in 10 samples (3%). From the 10 mutations detected, 7 (70%) were the A2063G mutation, and 3 (30%) were A2064G. We also detected a deletion in A2065 of unknown significance in 3 samples (0.9%).

**Conclusion.** In this pediatric population, culture was successful in 80% of PCR positive samples, thus providing isolates for sequencing to be able to assess our local resistance. Our overall Mp resistance was 3%, suggesting that empiric treatment with macrolides is still appropriate in Central Ohio. Additional studies are needed to correlate the presence of these resistance mutations with phenotypic susceptibility testing and clinical outcomes.

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