Pharmacist Involvement in Antimicrobial Stewardship

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Aim

The World Health Organization ranks misuse and inappropriate use of antibiotics as one of the three greatest threats to human health. Encourage pharmacist involvement in optimizing antimicrobial use in a regional hospital without an infectious disease physician.

Introduction

Infections can result in prolonged hospital stays, poor patient outcomes, higher mortality rates and higher treatment costs. The Centers for Disease Control and Prevention (CDC) and Infectious Disease Society of America (IDSA) recognize pharmacists as key partners in antimicrobial prescribing, selection and dosing in an effort to improve patient outcomes and minimize emergence of resistant organisms.

Methods of Data Collection

- Chart review
- Culture and sensitivity reports from Microbiology
- SENTRI 7 reports
  - culture surveillance
  - bug-drug mismatch
  - antimicrobial use surveillance
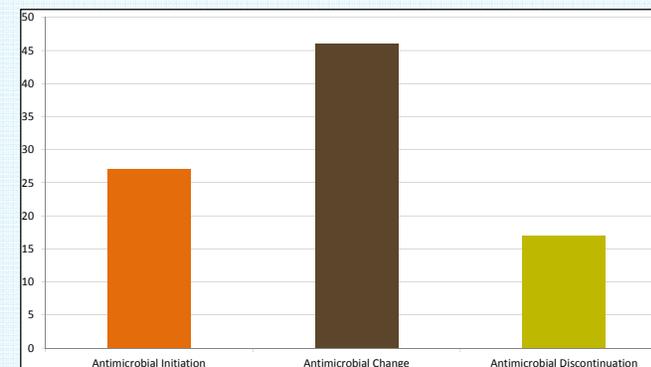 - length of antibiotic therapy

Lynn Hanish, RPh and Kiran Narreddy, MD – members of the Antimicrobial Stewardship Committee at UPH Fort Dodge.

Description

Over a 9 month period (June 2014 through February 2015) there were 90 documented cases of pharmacist involvement in antimicrobial therapy selection. 56 of these interventions were pharmacist initiated while 34 were physician initiated. 79 of the 90 pharmacist recommendations were accepted by the prescriber (88% of the time).
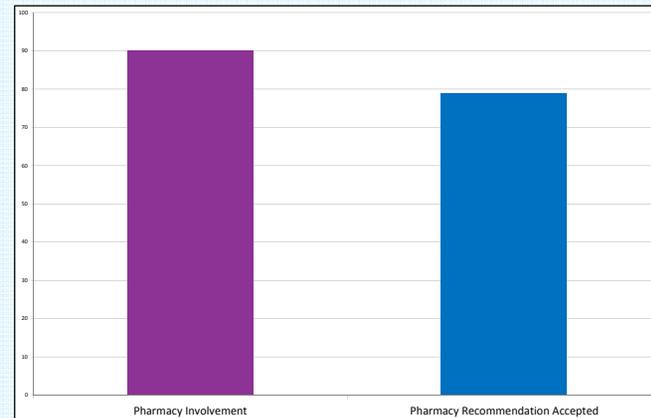
The 90 cases of pharmacist intervention in antimicrobial therapy selection were categorized as follows: 27 cases of antimicrobial initiation, 46 cases of change in antimicrobial therapy and 17 cases of discontinuation of antimicrobial therapy.

Case Study #1

An 80 year-old male admitted for treatment of bacteremia as well as a urinary tract infection (UTI). The physician consulted the pharmacist for a recommendation for initial antibiotic therapy. The preliminary blood culture was reported as coagulase positive staphylococcus while the preliminary urine culture was reported as gram negative rods resembling Escherichia coli. The patient is allergic to penicillin (rash). The pharmacist recommended vancomycin to treat the bacteremia and levofloxacin to treat the UTI, then streamline therapy as needed when the sensitivity report is available.

Case Study #2

An 86 year-old female admitted to the hospital with a working diagnosis of a urinary tract infection (UTI). Intravenous piperacillin-tazobactam was started empirically. Two days later the culture and sensitivity report returned showing growth of Enterococcus faecalis in the urine. The pharmacist spoke with the hospitalist who agreed to change therapy from piperacillin-tazobactam to ampicillin.

Future

Need for further education. Many patient situations are complex. Is the pharmacist always confident in the recommendation? Is it always the best recommendation possible? Secure funding for pharmacists to become certified in Antimicrobial Stewardship through The Society of Infectious Disease Pharmacists.

References

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