



Service Priorities and Programmes
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Multi-disciplinary Antimicrobial Stewardship Programme: Our Commitment to Always Use Antimicrobials Appropriately and Safely

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Introduction

Antimicrobials are invaluable life-saving treasure. However, their effectiveness is being threatened by over and improper use, which inevitably leads to antimicrobial resistance (“AMR”). As advocated in the Antibiotics Resistance Threats in the United States 2013, and Hong Kong Strategy and Action Plan On Antimicrobial Resistance 2017-2022, Antimicrobial Stewardship Programme (“ASP”) is a single most important measure to reduce inappropriate prescribing, thereby slowing down AMR emergence, and enhancing financial savings.

Objectives

This programme aims at optimizing and promoting judicious use of broad-spectrum antimicrobials in in-patient wards at Tseung Kwan O Hospital.

Methodology

An ASP team, comprising a microbiologist, physicians and pharmacists, was deployed in May 2016. Pharmacists prospectively reviewed the use of antimicrobials and presented cases to team members twice weekly. Concerted efforts were taken to evaluate antimicrobial therapy based on patient’s clinical conditions. Timely written feedback and advice to optimize regimens was provided to prescribers. Number of inappropriate cases, feedback acceptance rate, consumption of targeted antimicrobials (expressed as Defined Daily Dose [DDD]/1000 Bed Day Occupied [BDO]), and financial savings were measured.

Result

Between 1st May 2016 and 31st Dec 2017, 839 cases were reviewed. In 340 (40.5%) cases, feedback were provided, including inappropriate choice of therapeutic agent (14.1%), inappropriate indication (5.0%), suboptimal duration (8.0%) and dosing

(1.5%), failure to de-escalate according to culture and sensitivity result (5.1%), IV to oral switch (3.9%) and miscellaneous issues such as assumption of first line antibiotic treatment failure and suggestion on additional septic workup (7.6%). The compliance of interventions was very encouraging (70.3%).

Comparing implementation (May 2016- Dec 2017) and pre-implementation periods (May 2014 – Dec 2015), the reduction of drug expenditure of carbapenems was consistently substantial, HKD\$233,166 per year on average (26.1% reduction); and the consumption of carbapenems also markedly decreased after implementation (19.1 vs 23.9 DDD/1000 BDO).

The medical and societal costs of infection by AMR organisms are high and our ASP team is committed to alleviate them. It is suggested that prospective ASP can effectively monitor and significantly reduce inappropriate use of antimicrobials, thereby suppressing AMR emergence, controlling medical expenses and improving patient outcomes.