

EVALUATING AND COMPARING THE IMPACT OF AN ENHANCED ANTIMICROBIAL STEWARDSHIP PROGRAMME IN A DISTRICT SPECIALIST HOSPITAL: A TWO-YEAR RETROSPECTIVE STUDY

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ABSTRACT

Antimicrobial stewardship (AMS) programme is established to optimise use of antibiotics and to contain antibiotic resistance. This single centre, cross sectional retrospective study aimed to evaluate and compare the impact of an enhanced AMS programme in 2019 with data obtained in 2018 before its implementation. Types of interventions made by the AMS team, acceptance rate of AMS recommendations, antibiotic usage (DDD/1000 patients-days) and expenditure (antibiotic usage cost, RM) of 14 antibiotics under national surveillance were reviewed. Our study demonstrated non-significant reduction in total antibiotic usage (mean 188.25 versus 183.94; $p = 0.523$). Nonetheless, significant decline in prescribing of cefoperazone either alone or in combination with sulbactam, ciprofloxacin and meropenem was observed. There was a significant reduction in total usage cost (mean RM80,070.39 versus RM70,858.81; 95% confidence interval (CI):1519.48, 16903.69; $p = 0.022$) contributed in part by decreased third generation cephalosporins, meropenem and ciprofloxacin prescriptions. During enhanced AMS period, total AMS cases (45 versus 358), frequency of rounds (12 versus 37) and ward pharmacist-initiated AMS interventions were increased. The most common intervention and recommendation encountered were inappropriate choice and de-escalation of antibiotic, respectively. There was an improvement in overall acceptance rate in 2019 (67% versus 78%; $p = 0.081$). In conclusion, the enhanced

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programme resulted in decreased overall antibiotic prescription and expenditure, besides greater acceptance of AMS recommendations.

Keywords: Antimicrobial stewardship programme, Antibiotic usage, Antibiotic cost, Acceptance rate