

## **A REVIEW OF ANTIMICROBIAL STEWARDSHIP PROGRAMS IN THE HOSPITAL WARDS BASED ON THE INTERVENTIONS AND THE PATIENTS' OUTCOMES**

<sup>1</sup>Ovais Ullah Shirazi<sup>1</sup>, **Norny Syafinaz Ab Rahman**<sup>1,2</sup>, Che Suraya Zin<sup>1,2</sup>

<sup>1</sup>Department of Pharmacy Practice, Kulliyyah of Pharmacy, International Islamic University Malaysia (IIUM), 25200 Kuantan, Pahang, Malaysia

<sup>2</sup>Big Data Research in Drug Utilization Research Group, Kulliyyah of Pharmacy, International Islamic University Malaysia (IIUM), 25200 Kuantan, Pahang, Malaysia

Corresponding author's email: [norny@iium.edu.my](mailto:norny@iium.edu.my)

### **ABSTRACT**

The overuse of antibiotics has led to various healthcare problems such as the emergence of resistance in infectious microbes and mortality due to antibiotic resistant nosocomial infections. An antimicrobial stewardship (AMS) program is the set of interventions used worldwide to rationalize the antimicrobial practice for the hospitalized patients. The objective of this review is to describe the characteristics of the implemented AMS programs in various hospitals of the world, mainly to highlight the AMS interventions and the resultant patients' outcomes determined through various study designs. The literature about AMS programs was searched through various databases such as PubMed, Google Scholar, Science Direct, Cochrane Library, Ovid (Medline), Web of Science and Scopus. In this review the literature pertaining to the AMS programs for hospitalized patients is sorted on the basis of various interventions that are categorized as formulary restriction (pre-authorization), guideline development, clinical pathway development, educative interventions and prospective audit. Moreover, a clear emphasis is laid on the patient outcomes obtained as a result of these interventions namely the infection control, decline of readmission rate (RR), mortality control, resistance control and the control of an overall cost of antibiotic treatment obtained mainly by curbing the overuse of antibiotics within the hospital wards. AMS program is an efficient strategy of pharmacovigilance to rationalize the antimicrobial practice for hospitalized patients as it prevents the irrational use of antibiotics, which ultimately retards the health threatening effects of various antibiotics.

**Keywords:** Antimicrobial Stewardship (AMS) Program; Interventions; Patient outcomes; Study designs

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