

UNIVERSITI TEKNOLOGI MARA

**UTILIZATION OF ANTIMICROBIAL AT
HAEMATOLOGY WARD IN AMPANG HOSPITAL**

NORIDAYU BINTI TUMIRAN

Master in Pharmacy Practice

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AUTHOR'S DECLARATION

I declare that the work in this dissertation was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the result of my own work, unless otherwise indicated or acknowledged as referenced work. This dissertation has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA (UiTM), regulating the conduct of my study and research.

Name of Student : Noridayu Binti Tumiran
Student ID.No. : 2013417736
Programme : Master in Pharmacy Practice.
Faculty : Pharmacy
Dissertation Title : Utilization of Antimicrobial at Haematology Ward in Ampang
Hospital
Signature of Student :
Date : June 2015

ABSTRACT

Introduction: Antimicrobial are among the most utilized drugs where yearly expenditure increased is parallel with usage and could lead to antimicrobial resistance (AMR). Drug utilization review is the recommended method to provide an insight on the pattern of use, determinants of use, quality of use and outcome of use.

Objectives: The objective of the study is to describe the patterns of use of selected antimicrobial prescribing among haematology patients in Ampang Hospital. The specific objectives are to examine the prescribing of antimicrobials is in concordance to the current guideline, to determine the rational of antimicrobials prescribed by estimating the defined daily dose (DDD), to describe the pattern of usage and to identify factors that influence pattern of antimicrobial usage.

Method: This is descriptive retrospective drug utilization study of antimicrobials among haematological patient in Ampang Hospital. The study was conducted on haematology patients because of their differences in health background, such as immunocompromised, compromised state, and others hematologic patient condition. Patient data who were antimicrobial user were extracted from electronic system namely e-HIS system. The defined daily dose (DDD) was applied in the analysis and the comparison data.

Results and discussion: A total of 152 patients data were evaluated with the mean age of 46 years old (SD 16.9). There were 40 antibacterial, 8 antifungal and 2 antiviral agents. The low cases of antifungal and antiviral drug used were because it as an adjunct therapy for patients with fever neutropenic sepsis, stem cell transplants procedure and common fungal and viral infection. Majority of patients received antimicrobial agents within 7 days of treatment. Regardless of age category, gender, race, and diagnosis, there is no difference of antimicrobial prescribing generally, most of the antimicrobial prescribed adhered to the current guideline. Statistically significant association were between diagnosis and prescriber category and CNS result with antibacterial only versus a combination of antimicrobial ($p < 0.05$). Based on the DDD the most prescribed antimicrobials were cefepime injection (222), meropenem injection (96.31) and piperacillin/tazobactam injection (51.39) for the antibacterial, fluconazole capsule (53.79) for antifungal and acyclovir tablet (8.74) for antiviral drugs. VEN analysis showed that the highest usage for antibacterial, antifungal and antiviral were linezolid injection, caspofungin injection and acyclovir tablet respectively.

Conclusion: The results of this study showed that antimicrobial agents patterns of use at the haematology wards are in accordance with standard therapy guideline.

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