**UNIVERSITI TEKNOLOGI MARA**

# ASSESSING RETROSPECTIVE DATA IN ANTIBIOTIC STEWARDSHIP PROGRAMS (ASP) AT HOSPITAL KAJANG, SELANGOR

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Dissertation submitted in partial fulfillment of the requirements

for the degree of

**Bachelor of Pharmacy (Hons.)**

FACULTY OF PHARMACY

JUNE 2015

# ACKNOWLEDGMENT

Alhamdulillah, praised to Allah SWT , the Most Gracious, the Most Merciful, for his blessing, I am able to complete this thesis . First of all, I would like to take this opportunity to express my gratitude to my supervisor, Mrs Hanis Hanum bt Zulkifly, for her guidance, monitoring and constant support throughout the course of this thesis.

I would also like to express my gratitude to the Director of Hospital Kajang, Dr Kuldip Kaur A/P Prem Singhfor giving me permission to do this research in the hospital as well as pharmacist in Outpatient Pharmacy Hospital Kajang, Mrs Chin Shin Chee as a co-supervisor that help me a lot in order to understanding ASP.

My deepest gratitude goes to my beloved parents, who have been constant source of inspiration during the preparation of this research and also to my sibling for their endless love, prayers and encauragement.

I would like to extend my thanks to all my faculty members and everyone that involve directly or indirectly in this research. I have taken efforts in this research. However, it would not have been possible without the support and help of many individuals and organizations. I would like to extend my sincere thanks to all of them.

Nur Hidayah binti Mohd Razif

# ABSTRACT

**Introduction**: Antibiotic Stewardship Program (ASP) is systematic program that reduce expenditure of drugs, prevent medication errors and enhance therapeutic outcomes. Locally, there is no recent study that has been conducted to describe the pattern of prescribing antibiotic by physicians after the implementation of ASP.

**Aim:** The aims of this study are to observe the trend of antibiotic usage in Hospital Kajang in terms of types of antibiotics, systems involved in the diagnosis of infection, indication of antibiotics and its diagnosis, dosage adjustment, proportion of patient using antibiotic more than 4 days and proportion of patient who convert to oral antibiotic from parenteral antibiotic dosage form. This study also aims to identify the percentage of antibiotic order forms being completely filled by the prescriber.

**Method:** Retrospective data was collected from January 2014 to Jun 2014. Data from Antibiotic Order Forms were collected from the Inpatient Pharmacy, Hospital Kajang.

**Results:** The Antibiotic Order Form of 1958 admitted patients were reviewed. Majority of the used antibiotic is Ceftriaxone (43.8%). Respiratory system, 175(38.7%) ranked as the most frequent use of system in ASP. There are 63(92.6%) renal impairment patient who had their antibiotic dose adjusted. There were only 452(23.3%) out of 1936 forms were completely filled and available for analysis.

**Conclusion:** The highest usage antibiotic in this program is Ceftriaxone and it is recommmended by National Antibiotic Guideline 2008 as first line treatment for infection in Intensive Care Unit. Majority of physician were aware of dose alterations of ASP antibiotic except for Ceftriaxone. However, the compliance of physicians towards this program is poor as low percentages of completely filled Antibiotic Order Form by the prescribers.

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# CHAPTER ONE

# INTRODUCTION

From the hospital to community setting, antibiotics have a greater extent to be prescribed in treating infections (Ministry of Health, 2008). From the data of Malaysian Statistic on Medicines 2008, antibacterial for systemic use in Malaysian hospital are in top 30 groups of drugs by utilization in defined daily dose/1000 population on 2008 (Pharmaceutical Services Division and Clinical Research Centre, 2013). As the application of antibiotic is widely exaggerated, it is crucial to have a basic understanding of anti-infective therapy for creating optimal outcome of antibiotic and consequently, decrease the possibility of the development of antimicrobial resistance (Ministry of Health, 2008). However, there is increasing emergence of antibiotics resistance because of uncontrolled and improper practice of antimicrobial agents (Bérdy, 2012; Fatokun, 2014).

The definition of antimicrobial resistance made by the World Health Organization (WHO) is the ability to withstand the intervention of antimicrobial medicines by the microorganisms that cause the disease (WHO, 2014c). Alexander Fleming, the founder of the miracle penicillin, had warned to stop the overuse of penicillin in his interview with New York Times in 1945 to slow down the development of resistance (Spellberg, Bartlett, & Gilbert, 2013). However, in 2013,