

UNIVERSITI TEKNOLOGI MARA

**UTILIZATION OF ANTIBIOTICS IN
PRIMARY HEALTHCARE SETTING**

SHAFINAZ BINTI SHAMSUDDIN

Dissertation submitted in partial fulfilment of the
requirement for the degree of
Master in Pharmacy Practice

Faculty of Pharmacy

January 2015

CONFIRMATION BY PANEL OF EXAMINERS

I certify that a panel of examiners has met on 15 January 2015 to conduct the final examination of Shafinaz Binti Shamsuddin on her Master in Pharmacy Practice thesis entitled "Utilization of Antibiotics In Primary Healthcare Setting" in accordance with Universiti Teknologi MARA Act 1976 (Akta 173). The Panel of Examiners recommends that the student be awarded the relevant degree. The Panel of Examiners was as follows:

Mohamed Mansor Bin Manan, PhD
Professor
Faculty of Pharmacy
Universiti Teknologi MARA
(Supervisor)

Long Chiau Ming, PhD
Senior Lecturer
Faculty of Pharmacy
Universiti Teknologi MARA
(Internal Examiners)

Mumtaz Hussain, PhD
Senior Lecturer
Faculty of Pharmacy
Universiti Teknologi MARA
(External Examiners)




AISHAH BINTI ADAM, PhD
Professor
Dean
Faculty of Pharmacy
Universiti Teknologi MARA
Date:

AUTHOR'S DECLARATION

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

I, hereby, acknowledge that I have been supplied with Academic Rules and Regulations for Post Graduate, University Technology MARA, regulating the conduct of my study and research.

Name of Student : Shafinaz Binti Shamsuddin
Student I.D No : 2013256042
Programme : Master in Pharmacy Practice
Faculty : Pharmacy
Dissertation Title : Utilization Of Antibiotics In Primary Healthcare
Setting 
Signature of Student :
Date : January 2015

ABSTRACT

Background : In the primary settings, oral antimicrobial drugs feature consistently in the top leading therapeutic classes of drugs, in terms of frequency of use and cost. This trend is similar in the managed care environment. It is thus imperative to monitor the trend of usage patterns to determine its impact on the managed health care system. Nowadays awareness of the rational use of medicine is increasing among healthcare professionals. The fundamental step on supporting the rational use of medicine is by collecting information on patterns of drug prescriptions and on factors influencing prescribing decisions

Objective : To describe the pattern of use of selected antibiotic prescribing for acute infectious diseases among adult in the primary care settings of PKD Klang.

Method : This was a retrospective study of the utilization of selected antibiotics in three (3) government health clinics under in Selangor. The Information identified from electronic Clinic Management System (e-CMS) from January to December 2013. The prescribed medicine, frequency and dose were recorded for each patient to obtain the drugs' Defined Daily Dose (DDD) per 1,000 inhabitants per day. We referred Malaysian CPG on the National Antibiotic Guideline 2008 to evaluate the quality of prescribing.

Result : A total of 735 patient encounters was analysed. females were significantly higher as compared to males (60.4% versus 39.6% $\chi^2= 8.8, p = 0.01$). Patients aged between 18 to 30 years old was the highest (n=304, 41.4%). However, age range between patients were similar ($\chi^2= 3.5, p = 0.48$). The mean age (SD) was 36.11 (12.66). From the expenditure data in 2011-2013, Amoxicillin 250mg cap showed the highest purchased and usage item. Total antibiotics used for the 3 clinics is 2.675 DID. The five most utilized antibiotics was Amoxicillin (1.36 DID) followed by Cloxacillin (0.68 DID), Erythromycin (0.32 DID), Cephalexin (0.11 DID) and Bacampicillin (0.13 DID). The Pandamaran health clinic showed the highest utilized Amoxicillin which is (1.49 DID). There was no significant difference between gender and age range. Indian patient consumed the most Amoxicillin 250mg cap (35.8%) followed by Malay (34.8%) and Chinese (33.1%). Amoxicillin 250mg cap is mainly prescribed for respiratory infections (54.2%).

Table of Contents

CONFIRMATION BY PANEL OF EXAMINERS	i
AUTHOR'S DECLARATION	ii
ABSTRACT.....	iii
ACKNOWLEDGEMENT	v
LIST OF TABLES	ix
LIST OF FIGURES	x
LIST OF ABBREVIATION	xi
CHAPTER 1	1
INTRODUCTION.....	1
1.1 Background.....	1
1.2 Problem Statement.....	7
1.3 Research Objective	7
1.4 Research Question	8
1.5 Significance of the study	8
1.6 Rational/Aims of the study	8
CHAPTER 2	9
LITERATURE REVIEW	9
2.1 Antibiotic usage and prescribing patterns	9
2.2 Drug Utilization.....	11
2.3 Importance of Drug Utilization Study (DUS)	18
2.4 Drug Procurement Evaluation	19
2.5 Antibiotics and its utilization in Malaysia	22
CHAPTER 3	25
METHODOLOGY	25