



اَوْنِيُوْزِ سِيْتِيْ بَاتِيْكَوْ لُوْ كِيْ مَارَا
UNIVERSITI
TEKNOLOGI
MARA

**PREVALENCE OF ANTI A AND ANTI B TITER AMONG
BLOOD GROUP O DONORS**

By

ALIA MAISARAH BINTI MOHD AZLI

**Thesis Submitted in Partial Fulfilment of the Requirements for
Bachelor of Medical Laboratory Technology (Hons.),
Faculty of Health Sciences,
Universiti Teknologi MARA**

2019

AUTHOR'S DECLARATION

I hereby declare that this thesis is my original work and has not been submitted previously or currently for any other degree at UiTM or any other institutions.

Signature:

Name: Alia Maisarah Binti Mohd Azli

Students ID: 2015609874

Date: 10 July 2019

ACKNOWLEDGEMENT

First and foremost, I would like to express my gratitude towards Allah s.w.t for all His Mercy and protection that He has bestowed upon all my friends and me through the durations of completing our final year research project.

Additionally, I have to thank my research supervisors, Dr Mazura Bahari. Without her assistance and dedicated involvement in every step throughout the process, this research project would have never been accomplished.

This study could not have been successful without the helpful and supportive lecturers especially to Dr Siti Nor Ismalina Isa and staff members from Faculty of Health Sciences that lent me a hand all the way. Besides, I would also like to show gratitude to valuable assistance from staffs Department of Medical Laboratory Technology and Postgraduate Department. Appreciation gratefully extended to Mrs. Khairussulhi Jalil, En. Nazihan and others who kindly assisted me with the lab management and was very patient with my knowledge gaps in the area.

Not forgetting my group members, Wan Nur Izyani, Lailatul Ainaa Amirah and Muhammad Khairul Amri, that have been unwavering in their personal and professional support during the time to finish this thesis.

Most importantly, none of this could have happened without my family. My parents, Mohd Azli bin Mahmood and Mimi Aliza binti Khatib who offered their encouragement and support through phone calls every day. This dissertation stands as a testament to your unconditional love and encouragement.

TABLE OF CONTENTS

TITLE	PAGE
TITLE PAGE	i
AUTHOR'S DECLARATION	ii
INTELLECTUAL PROPERTIES	iii
ACKNOWLEDGEMENT	vi
TABLE OF CONTENTS	vii
LIST OF TABLES	ix
LIST OF FIGURES	x
LIST OF SYMBOLS	xi
LIST OF ABBREVIATIONS	xii
ABSTRACT	xiii
 CHAPTER 1: INTRODUCTION	
1.1 Background of the study	1
1.2 Problem statement.....	3
1.3 Objectives of the study.....	4
1.4 Research hypothesis	4
1.5 Significance of the study.....	4
 CHAPTER 2: LITERATURE REVIEW	
2.1 Overview of blood	5
2.2 Universal donors	7
2.3 Anti A and Anti B	8
2.4 Titration method.....	11

ABSTRACT

PREVALENCE OF ANTI A AND ANTI B TITER AMONG BLOOD GROUP O DONORS

Blood group O is known as universal donors. However, some of the antibodies which are anti A and anti B, may cause hemolysis of red blood cells recipient's if present in sufficient high titer. Therefore, this pilot study was conducted to determine the prevalence of anti A and anti B titer among the blood group O donors. This study was carried out on 30 originated from leftover samples. All the samples from blood group O donors had been chosen randomly. Anti A and anti B antibody titration using the conventional tube technique had been done. Pearson Chi-square and Fisher's Exact test was used to compare the association between titration value and types of antibody. This study showed that the prevalence of anti A and anti B titer among blood group O donors is 90.0% at the titer lower than 128. Moreover, the critical value of 'high-titer' is also at the titer lower than 128. The result showed that there is no significance association between titration value and types of antibody ($p > 0.05$). In conclusion, the blood group O donors can be accepted as the universal donors and can be released as safe O when the titer is lower than 128.

Keywords: Blood, Group O, Anti A, Anti B, Titration.