

**RECOMMENDATIONS OF DIET TO PREGNANT WOMAN  
WITH ANAEMIA USING ANALYTICAL HIERARCHY  
PROCESS**

**ANIS SURAYA BINTI AHMAD FAUZI  
FATIN BINTI ADZMI**

**Thesis Submitted In Fulfillment of the Requirement for  
Bachelor of Science (Hons.) Computational Mathematics in the  
Faculty of Computer And Mathematical Sciences  
Universiti Teknologi Mara**

**July 2019**

## DECLARATION BY CANDIDATE

We certify that this report and the research to which it refers is the product of our own work and that an idea or quotation from the work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the discipline.



ANIS SURAYA BINTI AHMAD FAUZI

Date: 11/7/2019



FATIN BINTI ADZMI

Date: 11/7/2019

## ABSTRACT

Anaemia is a serious health condition that caused primarily by deficiency of iron in the body and malnutrition is said to be the cause of iron deficiency. In Malaysia, it has been discovered that the rate of anaemia in pregnant women is between 42.5% and 47.5%. Anaemia can be treated by recommending the most appropriate diet plan containing all the nutrients needed in the right amount. This situation leads to a difficulty to choose the most appropriate diet plan. Therefore, this research was conducted to determine the best diet plan to pregnant women who suffered anaemia. The Analytic Hierarchy Process (AHP) method that involved nine steps was implemented. The critical factor was determined followed by conducting a survey with a group of nutrition experts. Four nutrients chosen were Iron, Vitamin B12, Vitamin C and Folic Acid and three diet plan were proposed. It is shown that the first diet plan was recorded in the first rank followed by diet plan two and diet plan three. As a conclusion, the suitable diet plan is very important to pregnant women who suffered anaemia to improve their health conditions.

# TABLE OF CONTENT

	<b>Page</b>
DECLARATION BY SUPERVISOR	i
DECLARATION BY CANDIDATE	ii
ABSTRACT	iii
ACKNOWLEDGEMENT	iv
LIST OF TABLES	viii
LIST OF FIGURES	x
CHAPTER 1: INTRODUCTION OF RESEARCH	1
1.1 Introduction	1
1.2 Background of Study	1
1.3 Problem Statement	3
1.4 Objective	3
1.5 Significance of Study	4
1.6 Scope of Study	4
1.7 Definition of Terms and Concepts	5
1.8 Literature Review	6
CHAPTER 2: METHODOLOGY	10
2.1 Introduction	10
2.2 Fundamental of Study	10
2.2.1 Analytical Hierarchy Process	10
2.3 Research Step	11

2.4	Conclusion	18
CHAPTER 3: IMPLEMENTATION OF THE RESEARCH		19
3.1	Introduction	19
3.2	Research Data	19
3.3	Tabulated Data	20
3.3.1	Identify the Critical Factor and Design the Questionnaire	20
3.3.2	Collecting Data	23
3.3.3	Calculation of Synthetic Pairwise Comparison	24
3.3.4	Calculate the Sum and Obtain the weights	27
3.3.5	Ranking Order of Criteria	34
3.4	Conclusion	35
CHAPTER 4: RESULT AND DISCUSSION		36
4.1	Introduction	36
4.2	Result of final reliability index and ranking order	36
4.3	Discussion of study	37
4.4	Conclusion	38
CHAPTER 5: CONCLUSION AND RECOMMENDATION		39
5.1	Introduction	39
5.2	Conclusion	39
5.3	Recommendation	40
REFERENCES		42
APPENDICES		45