

TABLE OF CONTENTS

TITLE PAGE	i
APPROVAL PAGE	ii
AUTHENTICITY STATEMENT	iii
PREFACE	iv
TABLE OF CONTENTS	vi
LIST OF TABLES	ix
LIST OF FIGURES	x
LIST OF APPENDICES	xi
LIST OF ABBREVIATIONS	xii
ABSTRACT	xiii
<i>INTISARI</i>	xiv
CHAPTER I INTRODUCTION	
A. Background	1
B. Problem Formulation.....	9
C. Study Objective	9
D. Study Originality	10
E. Study Benefit	11
CHAPTER II LITERATURE REVIEW	
A. Literature Review	12
1. Breast Cancer	12
2. Breast Cancer Treatment.....	18
3. Blood Component	19
4. Lymphocyte	20
5. Lymphocyte on Breast Cancer	22
6. Erythrocyte Sedimentation Rate (ESR)	23

7. Blood Absorbance with Spectrophotometer	25
8. Zeta Potential	26
B. Theoretical Framework	29
C. Conceptual Framework	30
D. Hypothesis	31
CHAPTER III RESEARCH METHODOLOGY	
A. Study Design.....	32
B. Time and Study Setting.....	32
C. Study Population and Subjects.....	32
D. Sample Size.....	33
E. Sampling Method	34
F. Study Variables	34
G. Operational Definitions of Variables	34
H. Study Material and Tools.....	35
I. Study Procedure	35
1. Lymphocyte Analysis Method.....	36
2. Measuring ESR Method.....	37
3. Blood Absorbance Measurement Method	37
K. Data Analysis Method	37
L. Ethical Consideration	39
CHAPTER IV RESULT AND DISCUSSION	
A. Result	40
1. Subject Characteristics.....	40
2. Lymphocyte Count.....	41
3. Erythrocyte Sedimentation Rate	42
4. Blood Absorbance and Phlogistic Zone Border (Pzb) Pattern.....	43
5. Deterministic and Stochastic Parameter on Absorbance Pattern	45

6. Deterministic and Stochastic on Pzb Pattern	47
7. Correlation Between Lymphocyte Count with Deterministic and Stochastic Parameter on Absorbance Pattern.....	48
8. Correlation Between Lymphocyte Count with Deterministic and Stochastic on Pzb Pattern	50
B. Discussion	51
C. Limitations	60
CHAPTER V	
A. Conclusions.....	62
B. Recommendations	63
REFERENCES.....	64
APPENDICES	69

LIST OF TABLES

Table 1. Subject Characteristics Result.....	40
Table 2. Lymphocyte Numbers Result of Normal and Breast Cancer Subjects	41
Table 3. ESR Result of Normal and Breast Cancer Subjects.....	42
Table 4. Deterministic and Stochastic Parameter on Absorbance Pattern of Normal and Breast Cancer Subjects.....	46
Table 5. Deterministic and Stochastic Parameter on Pzb Pattern of Normal and Breast Cancer Subjects	47
Table 6. Correlation Between Lymphocyte Count with Deterministic and Stochastic on Absorbance Pattern of EDTA blood towards t (time)	49
Table 7. Correlation Between Lymphocyte Count with Deterministic and Stochastic on Pzb Pattern of EDTA blood towards t (time).....	50

LIST OF FIGURES

Figure 1. Blood Components	19
Figure 2. Lymphocyte Morphology	20
Figure 3. Westergren method of ESR observation.....	24
Figure 4. Absorbance reading scheme with a spectrophotometer	26
Figure 5. Pzb Patterns of EDTA Blood of Normal and Breast Cancer Subject with Lymphocyte Maximum and Minimum Count	44
Figure 6. Absorbance Patterns of EDTA Blood of Normal and Breast Cancer Subject with Lymphocyte Maximum and Minimum Count	45
Figure 7. Quadratic functions of deterministic and stochastic approaches	59

LIST OF APPENDICES

Appendix 1. Informed Consent of Subjects Research	69
Appendix 2. Research Ethical Clearance	72

LIST OF ABBREVIATIONS

nm	: Nano meter
μL	: Micro liter
λ	: Wavelength
BC	: Breast Cancer
EDTA	: Ethylenediaminetetraacetic acid \rightarrow anticoagulant
ESR	: Erythrocyte Sedimentation Rate
PZB	: <i>Batas Zona Flogestika</i> / Phlogestic Zone Border
ZP	: Zeta Potential
IEP	: Isoelectric Point