

# CONTENTS

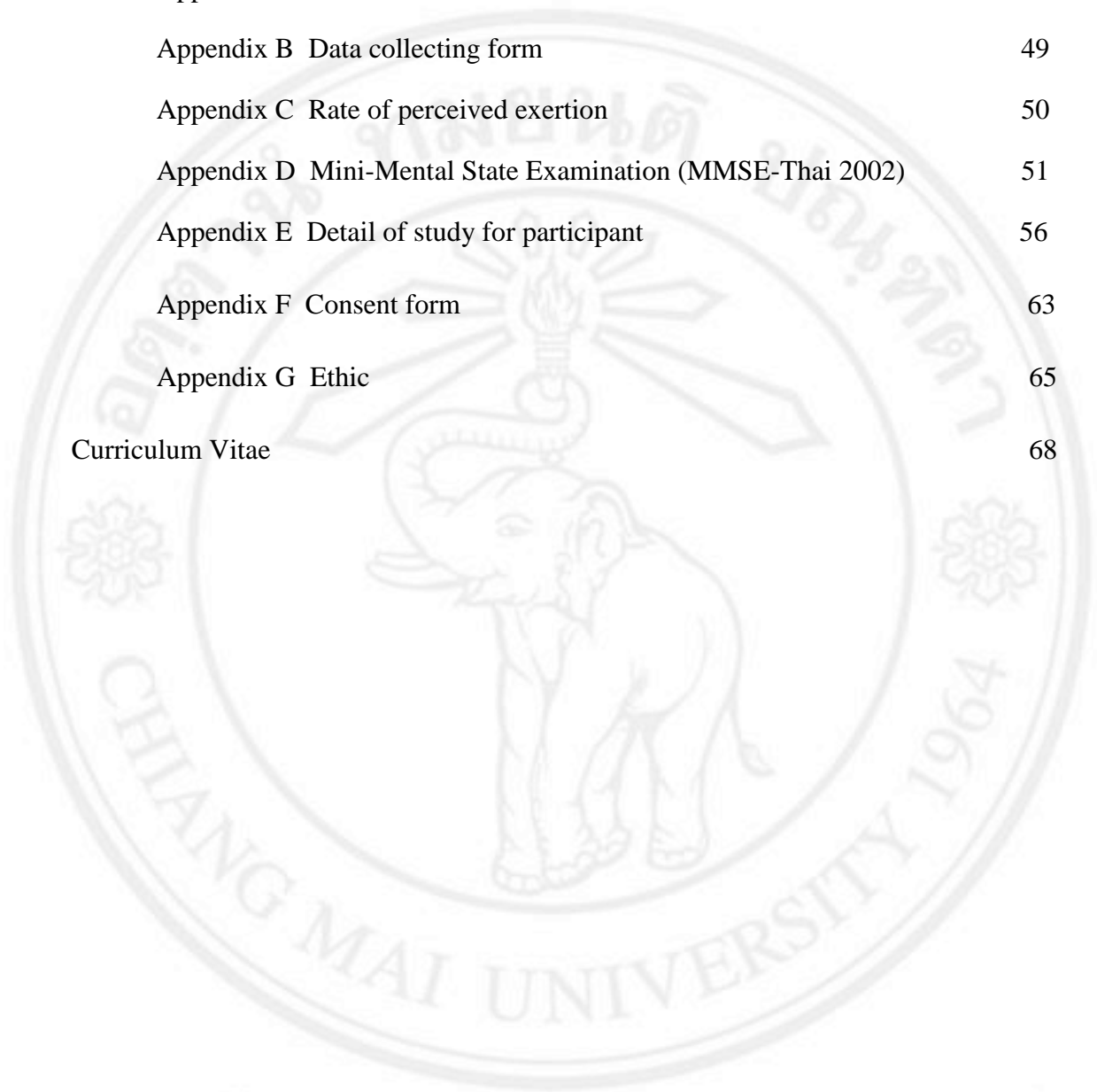
	Page
Acknowledgement	d
Abstract in Thai	e
Abstract in English	g
List of Tables Page	l
List of Figure Page	m
List of Abbreviations Page	n
Chapter 1 Introduction	
1.1 Rationale	1
1.2 Purposes and hypotheses of the study	4
Chapter 2 Literature review	
2.1 Chronic kidney disease	5
2.2 Complication of chronic kidney disease	6
2.3 Management of chronic kidney disease	8
2.4 Restless legs syndrome	10
2.5 Physical performance	16

Chapter 3 Methods	
3.1 Subjects	19
3.2 Equipment	21
3.3 Procedures	22
3.4 Independent and dependent analysis	23
3.5 Location	25
3.6 Statistical analysis	25
Chapter 4 Results	26
Chapter 5 Discussion	
5.1 Muscle performance	32
5.2 Cardiopulmonary fitness	33
5.3 Conclusion	35
5.4 Clinical application and future study	35
5.5 Limitations and suggestions	36
References	37

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่  
Copyright© by Chiang Mai University  
All rights reserved

## Appendix

Appendix A Personal data collection form	47
Appendix B Data collecting form	49
Appendix C Rate of perceived exertion	50
Appendix D Mini-Mental State Examination (MMSE-Thai 2002)	51
Appendix E Detail of study for participant	56
Appendix F Consent form	63
Appendix G Ethic	65
Curriculum Vitae	68



ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่  
Copyright© by Chiang Mai University  
All rights reserved

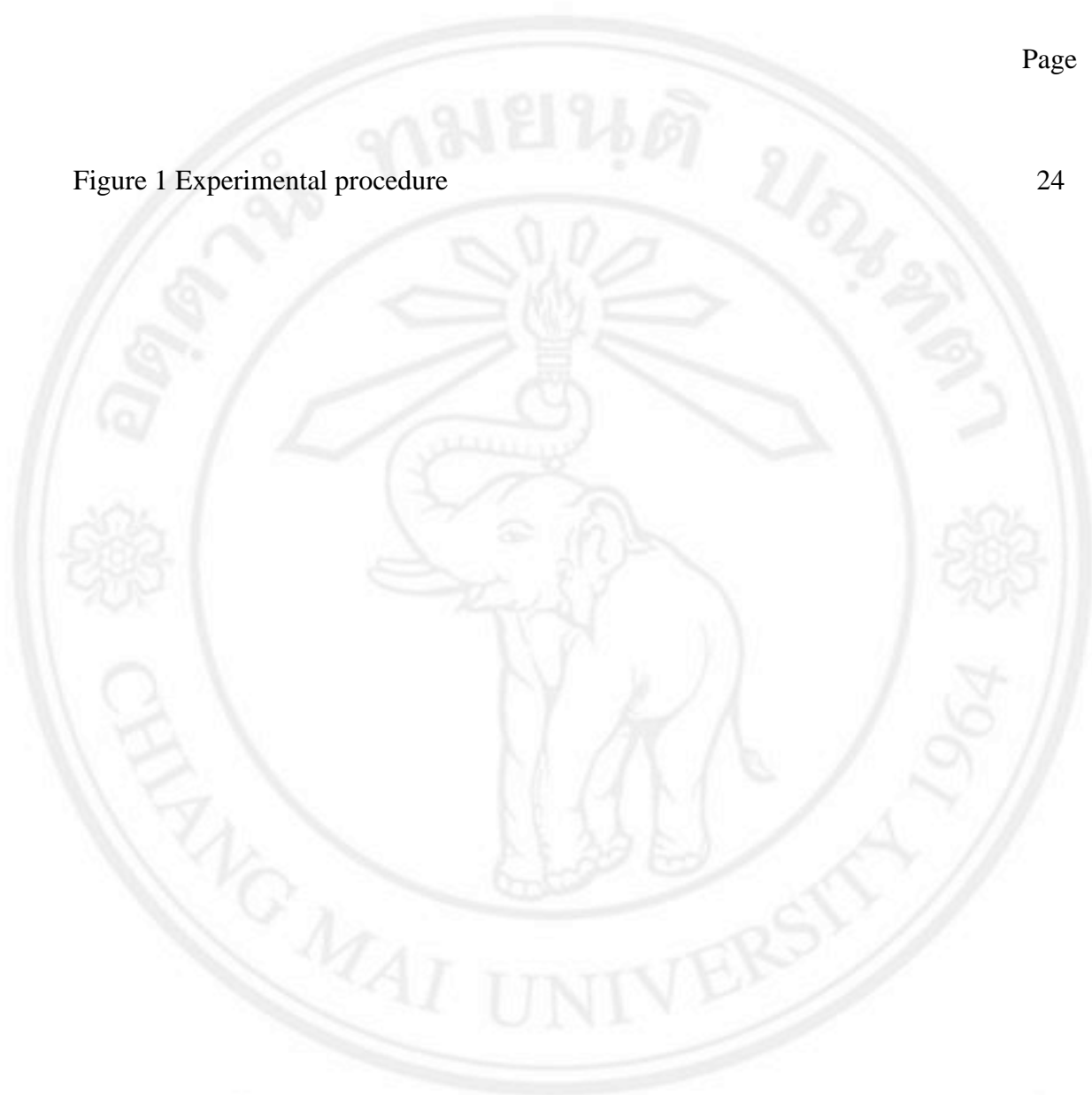
## LIST OF TABLES

	Page
Table 1 The demographics data of subject	27
Table 2 Muscle performance	29
Table 3 Cardiopulmonary parameters before and immediate after performed the 6MWT	31

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่  
Copyright© by Chiang Mai University  
All rights reserved

## LIST OF FIGURE

	Page
Figure 1 Experimental procedure	24



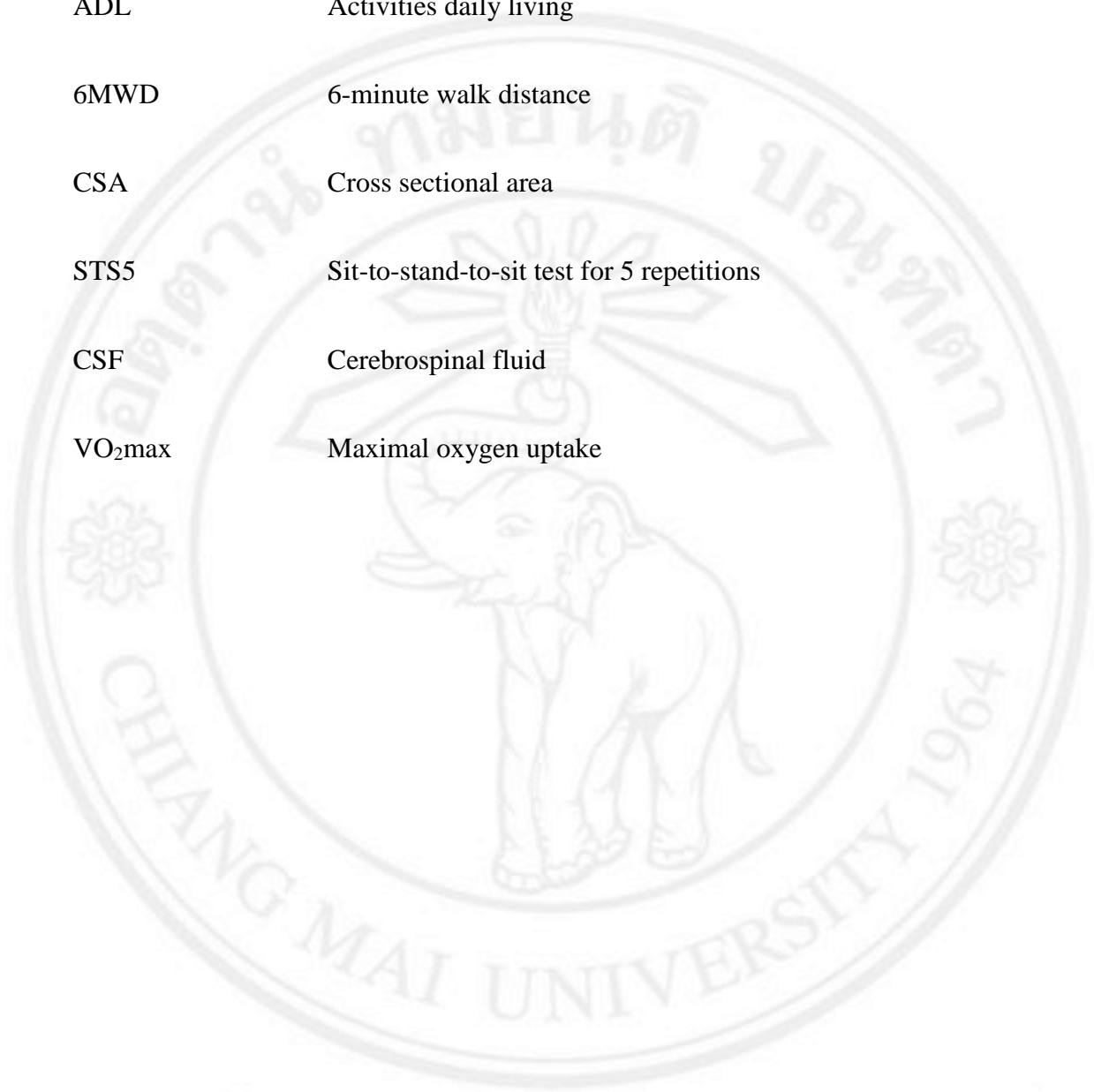
ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่  
Copyright© by Chiang Mai University  
All rights reserved

## LIST OF ABBREVIATIONS

GFR	Glomerular filtration rate
CKD	Chronic kidney disease
RLS	Restless legs syndrome
HRQOL	Health-related quality of life
VO <sub>2</sub>	Oxygen uptake
BMI	Body mass index
HDL	High density lipoprotein
LDL	Low density lipoprotein
ESRD	End-stage renal disease
ATPase	Sodium-potassium adenosine triphosphate
PTH	Parathyroid hormone
ESA	Erythrocyte stimulating agents
FGF	Fibroblast growth factors
CNS	Central nervous system
PNS	Peripheral nervous system
RRT	Renal replacement therapy

PET	Positron emission tomography
MRI	Magnetic resonance imaging
IRLSSG	International restless legs syndrome study group
PSG	Polysomnography
SIT	Suggested immobilization test
EMGs	Surface electromyograms
PLMs	Presence of periodic leg movements
6MWT	6-minute walk test
STS	Sit-to-stand-to-sit
STS10	Sit-to-stand-to-sit test for 10 repetitions
STS60	Sit-to-stand-to-sit test for 60 seconds
MMSE	Mini-Mental State Examination
ICC	Interclass correlation coefficient
HR	Heart rate
SpO <sub>2</sub>	Oxygen saturation
SBP	Systolic blood pressure
DBP	Diastolic blood pressure
BP	Blood pressure

RR	Respiratory rate
ADL	Activities daily living
6MWD	6-minute walk distance
CSA	Cross sectional area
STS5	Sit-to-stand-to-sit test for 5 repetitions
CSF	Cerebrospinal fluid
VO <sub>2</sub> max	Maximal oxygen uptake



ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่  
Copyright© by Chiang Mai University  
All rights reserved