

TABLE OF CONTENT

Title.....	I
Ratification Page.....	ii
Approval Page	iii
Authenticity Statement	iv
Preface	v
Table of Content	vi
List of Table	x
List of Pictures	xi
List of Appendix	xii
List of Acronyms.....	xiii
CHAPTER I INTRODUCTION	1
1.1. Background.....	1
1.2 Summary of Problem.....	3
1.3. Study Objective.....	3
1.4. Originality of Study.....	4
1.5. Benefit of Research.....	9
CHAPTER II LITERATURE REVIEW	10
2.1 Epilepsy	10
2.1.1. Definition of Epilepsy	10
2.1.2. Epidemiology of Epilepsy	11
2.1.3. Etiology of Epilepsy	12
2.1.4. Epilepsy Classification	14
2.1.5. Neurophysiology and Pathology of Epilepsy	18

2.1.6, Diagnosis of Epilepsy	25
2.1.7. Epilepsy Management	27
2.2. Intractable Epilepsy	31
2.2.1. Definition of Intractable Epilepsy	31
2.2.2. Epidemiology of Intractable Epilepsy	31
2.2.3. Risk Factor for Intractable Epilepsy	33
2.2.4. Pathogenesis of Intractable Epilepsy	36
2.2.5. Characteristics of Intractable Epilepsy	39
2.2.6. Management of Intractable Epilepsy	43
2.3 Theoretical Framework.....	50
2.4 Conceptual Framework.....	51
CHAPTER III RESEARCH METHOD	52
3.1 Research Design.....	52
3.2 Subject.....	52
3.3 Tools	53
3.4 Materials.....	53
3.5 Procedure.....	53
3.6. Time and Place.....	54
3.7. Ethical Research.....	54
3.8. Variables and Operational Definitions.....	55
3.9. Study Analysis.....	59
3.10. Research Schedule.....	60
CHAPTER IV RESULT AND DISCUSSION.....	61
4.1. Result and Discussion.....	61
CHAPTER V CONCLUSSION AND RECOMMENDATION.....	81



5.1. Conclusion.....	81
5.2. Suggestion.....	81
References	82
Appendix.....	85

List of Tables

Table 1. Table of previous studies regarding characteristics of intractable epilepsy in children	4
Table 2. Risk of recurrent after first unprovoked seizure	28
Table 3. Guideline for discontinuing antiepileptic drugs.....	30
Table 4. Epilepsy syndrome and other conditions with a high risk of intractable epilepsy	32
Table 5 Characteristic Intractable Epilepsy (n=41)	40
Table 6. Seizure manifestations of intractable epilepsy	42
Table 7. EEG features of intractable epilepsy patients	42
Table 8. Localization of epileptiform activity on the EEG and seizure manifestations of intractable epilepsy patients	43
Table 9. Operational definition	55
Table 10. Planned schedule for the proposed research	60
Table 11. Characteristics of Intractable epilepsy patients.....	62
Table 12. Clinical Seizure manifestation of Intractable Epilepsy patients.....	74

List of Pictures

Picture 1. Epilepsy Classification Framework based on ILAE 2017 (Scheffer et al., 2017)	14
Picture 2. Classification of Seizure Types based on ILAE 2017 (Fisher et al., 2017)	15
Picture 3. Structure of the Hippocampal Region Involved in Epilepsy (Ümit Sayin, 2017)	19
Picture 4. Conductance of Voltage-gated Channels (Stafstrom and Rho, 2018)	22
Picture 5. Abnormal Neuronal Electrical Discharge (Stafstrom and Rho, 2018)	25
Picture 6. Epilepsy management options (Marcdante, 2021)	29
Picture 7. Potential mechanisms of intractable epilepsy	37
Picture 8. Theoretical Framework	50
Picture 9. Conceptual Framework	51
Picture 10. Research flow	54
Picture 11. Research flow result of study.....	61
Picture 12. Characteristics of EEG.....	71
Picture 13. Comorbidities in Intractabel epilepsy,.....	76
Picture 14. Result of Imaging in Intractable Epilepsy.....	79

List of Appendix

Appendix 1. Form questionnaire	66
---	-----------

List of Acronyms

AED	: Anti Epileptic Drugs
ADEAF	: Autosomal Dominant Epilepsy with Auditory Feature
ADNFLE	: Autosomal Dominant Nocturnal Frontal Lobe Epilepsy
AMPA	: α -amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid
BECTS	: Benign Epilepsy with Centrotemporal Spikes
BFNS	: Benign Familial Neonatal Seizures
CI	: Confidence Interval
CSWS	: Continuous spike and wave during slow wave sleep
CT Scan	: Computed Tomography Scan
EEG	: Electroencephalogram
EME	: Early Myoclonic Encephalopathy
GABA	: Gamma-aminobutyric acid
GTP	: Guanosine Triphosphate
HIV	: Human immunodeficiency virus
ILAE	: International League Against Epilepsy
LGII	: Leucine-rich glioma-inactivated 1
MRI	: Magnetic Resonance Imaging
MTLS	: Mesial temporal lobe sclerosis
NMDA	: N-Methyl-D-aspartate receptor
OR	: Odds ratio
PDS	: Paroxysmal depolarization shifts