MEDICATION ADHERENCE AND ASSIOCIATED FACTORS AMONG EPILEPTIC PATIENTS ON FOLLOW UP CLINICAT JIMMA TOWN PUBLIC HOSPITALS, JIMMA, SOUTH WEST, ETHIOPIA, 2019.

BY: ISMAEL AHMED

A THESIS SUBMITTED TO JIMMA UNIVERSITY, INSTITUTE OF HEALTH, FACULITY OF HEALTH SCIENCE, SCHOOL OF NURSING AND MIDWIFERY FOR PARTIAL FULFILLMENT OF MASTERS OF SCIENCE IN ADULT HEALTH NURSING.

JUNE, 2019

JIMMA, ETHIOPIA

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ABSTRACT

***Background**: Epilepsy results in multidimensional and long term effect on the patients and society at all. Adherence to therapeutic medication is critical for epileptic patient so far, the issue of adherence still considered as secondary treatment gap and the most important cause of poorly controlled epilepsy in developing countries particularly in Ethiopia.*

***Objective: -** To assess medication adherence and associated factors among epileptic patients on follow up at Jimma town public hospitals, 2019.*

***Methods: -**Institution based cross-sectional study was conducted from April 08 to May 20/2019. Data was collected usingStructured interviewer administered questionnaire and data extraction checklist. Simple random sampling technique was used to select a total of 301 study participants. Data was entered to EPI data version 3.5.3 and exported to SPSS version 23 for analysis. Variables with p-value <0.25 on bivariate analysis were candidated for multivariate analyses. Factors with p value < 0.05 on multivariate analyses were considered as statistically significant.*

***Result.** A total of 297 study participants were included in the study giving a response rate of 98.7%. Of study participants 151(50.8%) of them were adhere toAnti-epileptic medication.Source of medication [AOR=0.404, 95% CI: 0.240-0.678, P- .001], felt stigma [AOR=0.495, 95% CI: 0.298-0.822, P-.007], seizure frequency [AOR=0.220, 95% CI: 0.069-0.679, P- .010] and medication concern belief [AOR=1.652, 95%CI: 1.005-2.717, P-.048] were significantly associated with adherence to Anti-epileptic medication.*

***Conclusion and Recommendation**: -This study found that half of the study participants were adherence to anti-epileptic medication.Source of medication,felt stigma,seizure frequency andmedication concern belief were factors contributed for low adherence. Therefore, particular consideration should be given to these factors contributed for low adherence to antiepileptic medications. Intervention strategies focused on educating the patients to better understand of illness and importance of adherence to prescribed medications might be useful in improving adherence to medications.*

***Key words: -** Adherence, epileptic patients, antiepileptic drug (AED), Jimma University, Ethiopia.*

ACKNOWLEDGEMENTS

First of all, I would like to forward my deepest gratitude to Jimma University for favoring all the conditions to prepare this research paper. Next,I would like to forward my heartfelt gratitude to Mr. Abebe Abera and Sr. Tigist Demeke for their valuable suggestions, comments and concerns by spending their time and energy for my paper. I also forward my thanks to respective data collectors and staff of chronic clinic of Jimma University medical center and Shenan Gibe Hospital for their supports. Finally, I would like to thank my dear friends and colleagues those who giving me feedback and advice in the development of this research paper.

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ACRONYMS

BMQ –Beliefs Medicine Questionnaires

CNS- Central nerve system

EEG-Electro Eco gram

JS- Jacob scale

JUMC - Jimma University Medical Center

MMAS- Morisky medication adherence scale

PCT – Primary center trust

PI –Principal Investigators

PLWE- People living with epilepsy

SGH= Shenan Gibe Hospital

SPSS- Statistical Package for Social Science

US- United State

USA- United States of America.

WHO- World Health Organization

CHAPTER ONE: - INTRODUCTION

1.1. Back ground.

Epilepsy is the most common chronic neurological disorder characterized by recurrent and unprovoked seizure. It resulting in brief episodes of involuntary movement that may involve one part of the body or the entire body. It affects about 50 million people of worldwide and almost 80% of them living in developing countries (1, 2).

On the basis of manifestations during seizure attack and EEG feature between attacks International League against Epilepsy classifies epilepsy aspartial seizures, generalized seizures and unclassified seizures. This classification is important for understanding of underlying etiology, selecting appropriate treatment and understanding the prognosis of seizure types(1, 3).

The primary causes of epilepsy is exactly unknown but congenital anomalies, perinatal injuries, intra cranial tumors, CNS infection, vascular and metabolic abnormalities are secondary cause of epilepsy and most of the causes of secondary epilepsy are preventable and treatable (1, 2). Symptom of Epilepsy is successfully treated with one or more antiepileptic medication even though 50% of them manifest mild to moderately severe adverse effects. The current available anti-epileptic drugs can control seizure around 70-80% in patients with new onset epilepsy (1,2,4).

Epilepsy is the common wide-reaching public health problem with 0.6% of global burden disease that has great impact on less developed countries where epilepsy incident is 10 times more common than the developed world.It results significant economic impacts in terms of health care need, premature death and loss of work productivities(2).

Different scholars can define Adherence as “the extent to which an individual's behavior regarding taking medications, following a diet, and performing lifestyle changes, follows agreed recommendations from a health-care provider.” Adherence to medication increase if the patients and their families are involved in treatment chose as well as mutual agreement between the health provider. Adherence to anti-epileptic medication result in decrement of relapses, minimizing frequency of seizures, decrease cost of health care, increase the therapeutic benefits and better patient outcomes (5, 6, 7).Factors like forgetfulness, number of medications prescribed, dosing frequency, type ofseizure and duration of illness arecommonly influence medication adherence among epileptic patients (6, 8).

1.2. Statement of problem

Epilepsy is the second most burdensome neurologic disorder worldwide in terms of disability-adjusted life years and with lifetime prevalence of 7.60 per 1,000 persons (2, 8).

It affects an estimated of 2.3 million adults in the US and more than 200,000 new cases per year (9, 10). The World Health Organization (WHO) estimates that 80% of PLWE live in developing countries with higher incidence and prevalence than high-income countries with median prevalence of 9.5/1,000 compared to 8/1,000 in Europe even although the prevalence varies widely among countries (11, 12).

In Africa around 10 million people are directly affected by epilepsy and in addition to its high prevalence there is wide treatment gaps in Africa to 100% in some communities(13). In Ethiopia prevalence of epilepsy was 5.2/1000 populations with annual incidence of 64 per 100,000 populations(14).

Epilepsy results in variety of medical, social, psychological and economic impact particularly in un developed countries in which its incidence and prevalence is highly increasing (2, 15). Worldwide social stigma and discrimination to ward epileptic patients and their families make it difficult to overcome the disease since it results in lack of social support or experience social isolation, embarrassment, fear and discrimination, and some parents may also feel guilty (15, 16).

Individuals with epilepsy are significantly more likely to have medical or psychiatric comorbidities than those without epilepsy, and these comorbidities strongly correlated with negative impacts on subjective health status and quality of life (17, 18).

Worldwide, mortality of epilepsy is two to three times higher than in the general population and it is thought to be higher in developing than developed worldparticularly in Sub-Saharan Africa. Low socioeconomic status, other comorbidity like cerebrovascular diseases and neoplasms in epilepsy patients increase risk of death from epilepsy in Sub-Saharan Africa than in developed countries. Having epilepsy and receiving antiepileptic drug has a clear impact on self-esteem and Even today, many epileptic patients find themselves stigmatized and marginalized. Due to the negative attitudes to epileptic patients from others makes an individual with epilepsy to be excluded socially, drop from school and left without employment (17, 19, 20).

The treatment gap, (i.e., the difference between the number of people with active epilepsy and the number whose seizures are being appropriately treated,) is high in low and middle income countries with overall 56% remain untreated.Study reports high proportion of epileptic patient(80- 90%) in resource-poor countries are no receive appropriate treatment for their condition and many of them discontinue initiated treatment soon due to medication or non-medication related problems like inadequacy, side effects of medication or poor adherence that may result in decreased quality of life, increases burden of health care, mortality, death and challenging its management(2, 14).

Adherence to medication is vital in preventing or minimizing the frequency of seizures and their increasing impact on everyday life and increase effectiveness of antiepileptic drugs(21). Non-adherence to AED is considered as a secondary treatment gap and is an additional burden to the high treatment gap (22). The most important cause of poorly controlled epilepsy is poor adherence to drug regimen. The magnitude of low adherence to AEDs range from 26.0% to 79%, with increased prevalence in developing countries(21).

Unlike some other chronic medical conditions, for which missing several doses of medications may have little or no effect even a single missed dose can cause treatment failure and trigger seizures(23). Patient related factors like forgetfulness and stigmatization, medication-related factors such as cost, side effects, number of medications prescribed, dosing frequency and disease related factors like seizure type and severity and duration of illness are common factors that influence medication adherence among epileptic patients(22).

Non-adherence to AED result in significant worsening of disease, increasing of- treatment failure, morbidity, mortality, health care costs, time of hospitalization, burden of inpatient and emergency department services and it also affects the family members socially, economically, and psychologically (21, 24).

Non adherent to AED regimen result in recurrence of seizure which further result in poor quality of life, reduce productivity, feeling of helpless and seizure related joblessness. The mortality rate of none-adherent patients was three times higher than that of adherent patients(25). Poor adherence to a viable AEDS introduce to the more complex treatments involving greater toxicity with uncertain prognosis(26)and has significant impact on reduction of mental and emotional wellbeing, including impaired cognition(20).

Even though Epilepsy is a widely recognized health condition, it is poorly understood, even among people who know someone with the disorder. Adherence to therapeutic medication is critical for epileptic patient so far, the issue of adherence is still considered as secondary treatment gap and the most important cause of poorly controlled epilepsy particularly in developing countries.To the best of researcher knowledge even though stigma surrounding the diseases is high which contributes for significant impact on patient's adherence to medication there is limited study on medication adherence and associated factors in developing countries particularly in Ethiopia. Therefore, this study aimed to assess medication adherence and associated factors among epileptic patients on follow at Jimma town public hospital.

1.3. Significance of the study

The identification of gaps in the areaof adherence to AED among epileptic patients may be input for policy makers to give emphasis and develop programs that play a key role in controlling far-reaching impacts related to poor adherence to medication. It mayhelp to direct the direction of health care intervention which further recommends healthcare professionalsto consider the potential valueof adherence to medication.

The findings of this study will benefit the patients and general public as a whole either in the study area or other parts of Ethiopiaby identifying the existing gap on adherence to medicationand providing suggestion on existing gaps. To the best of researcher knowledge studyon medication adherence and associated factors in developing countries is limitedparticularly in Ethiopia. Therefore, this study could be used as a baseline for future studies on the area of adherence to medication.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

Globally about One billion people are affected by neurological disorders, of which epilepsy accounts 50 million with80% of them live developing countries. Around 40 million peoples living with epilepsy are not receive appropriate treatment (7, 8). About 10% of the whole world population living a normal life span can have at least one epileptic seizure. The magnitude of non-adherence toAEDs range from 26.0% to 79%, with increased prevalence in developing countries (5, 21).

2.2. Prevalence of adherence to AEDs and associated factors

A study conducted to assess adherence to antiepileptic drugs and beliefs about medication among epileptic patients in USA revealed that 63% of the study participants were adherence to Anti-epileptic drugs. It also shows that there was a significant association between increased seizure frequency, belief about medication and adherence (27). The study conducted at Neurology Clinic at the University of Michigan in USA reports that self-reported adherence was correlated with polytherapy but none of the socio-demographic variables were significantly associated with adherence (28) .

A cross-sectional study conducted at Kansas, reports that being employed and educational attainment were significantly associated with adherence whereas no significant association between duration medication, no of medications taken, daily doses of medication and adherence (29).The study examined psychosocial correlates of medication adherence in a socio-economically and racially diverse sample of patients with epilepsy at Bellevue Hospital in USA shows that prevalence of adherence to AEDs was 64%. It reports that poor social support were significantly correlated with adherence to AEDs while beliefs about medications were not associated with adherence(30)

Study conducted at Southampton General Hospital in United Kingdom states that 41% of study participants were adherence to anti-epileptic drugs and it also revealed that a negative correlation between adherence and frequency of seizures (31). Another study conducted at United Kingdom reports that 63% of the respondents were adhere to AEDs(32). Systematic

review conducted on identifying the barriers to antiepileptic drug adherence in Ireland identifies the adherence to AEDs in Brazil, United States of America and China was 34%, 64% and 60 % respectively. It also showed that being a women, types of epilepsy, frequency of seizure in last month, social support medication belief (and being on monotherapy where significantly associated with AED adherence (32). But study conducted at Chinareports that there were no significant association between types of epilepsy, frequency of seizure, social support, medication belief and being on monotherapy and adherence(33).

Study conducted at Paris in France revealed that 79% of respondents were adherence AEDsand occupational status was negatively associated with AEDs(26). A cross-sectional study carried out in Palestine, showed that the magnitude of high, medium and low adherence to AEDs were 14.7%, 49.3%and 36% respectively. It reports that Adherence to AEDs was positively and significantly correlated with age and duration of illness however, drug regimen and sex of respondents were not significantly associated with adherence to AEDs (34).

A Study conducted at Riyadh National Hospital in Saudi Arabia states that 38.3 % of the study participants were adhere to AED and number of administered drugs, social support, seizure frequency, stronger belief in the necessity of medication and felt to be stigmatized were the most important factors that were significantly associated with adherence while, Stronger concerns about adverse consequences of taking the prescribed medication were not (35).

A Study conducted in Malaysia found high prevalence of non-adherence to AED therapy 64.1% and it reports that duration of epilepsy, medication beliefs (uncertainty about the necessity for AEDs) and age of respondents were significantly associated with adherence while, there were no significant association between gender, educational status and frequency of seizures and adherence (36). The same study carried out atKuala Lumpur Hospital of Malaysia also found that high prevalence of non-adherence 49.3% and it revealed that seizure frequency and Payment for medication were significantly associated with medication adherence(37).

Study in Bangalore in India states that 72.3% of respondents were adhere to AEDs andadherence to AEDs was significantly associated with economic status and type of epilepsy. while, there were no significant association between age, gender, marital status, epilepsy duration, number and type of AEDs and adherence (7). Another study in Indian

revealed that 90.10% of participants were adherent to AED and monthly cost of the medications was the main factor that influence medication adherence while, Other treatment-related, socioeconomic, and psychosocial variables were not found to be significant associated with adherence to AED (38).

A study conducted in Chinashows there were no significant difference in socio- demographic, clinical and treatment characteristics between the low adherent group and the moderate-to-high adherent group(33) but, a study conducted in India revealed that age, education status, marital status and polytherapy had a statistically significant association with self-reported adherence (39).

A cross-sectional study carried out in China reports that 51.9%of respondents were adhere to AEDs and adherence was positively and significantly correlated with duration of illness. While, there was no significant association b/n gender, seizure type, residence and adherence (20). Other study conducted in China shows66.7% of respondents were adherence to AEDs and there was significant difference in seizure types and number of AEDs and Social support between the non-adherent and adherentgroup while, there was no a significant relationship between other demographic characteristics and adherence(40).

A systematic review conducted in China reported that the prevalence of adherence to AED among 18 studies varies from 22.1% - 96.5% and it reports that social support was significantly associated with adherence, while age, the frequency of seizure, type of seizures, type of medication and the number of administered drugs were not significantly associated with adherence (41). But study conducted in capital city of South East Asia reports that illiteracy, being on monotherapy and experiencing fewer seizures where significantly associated with adherence to AEDs(22).

Retrospective cohort Study conducted at General Hospital of Beijing People's Liberation Army shows that 72.9% of the study participants were adhere to AEDs and they found that number of tablets taken daily was significant associated with adherence while, no significant association between adherence and socio demographic and clinical variables (21).

A cross-sectional study conducted among the rural Population of Kolar indicates that 50% of epileptic patients were adherent to AEDs and Gender, social support, educational status, occupation of the patient and no of tablet taken per day where significantly associated with adherence to AEDs(42). In Kenya study revealed that the adherence to AED was 46% and adherence was significantly associatedwith duration of treatment (43).

A study conducted at Dilla University Referral Hospital showed that rate adherence to AEDs was 61.9% and it reports that ways of getting medication, social support and duration oftreatmentwere found to be significantly associated with antiepileptic drug adherence (25). A study conducted in Northwest Ethiopia (Debre Markos Referral Hospital and Finote Selam District Hospital) revealed that 62.2 % of respondents were adhere to AEDs and duration of treatment, ways of getting medication, social support and stigma were significantly associated with adherence (24).

In general, worldwide the prevalence of chronic disease is increasing alarmingly. Studies conducted in different parts of the world found that the low prevalence of adherence to Anti-epileptic medications. Different studies were identified Several factors influence adherence to medications among epileptic patients in developed countries.

2.4. CONCEPTUAL FRAME WORK

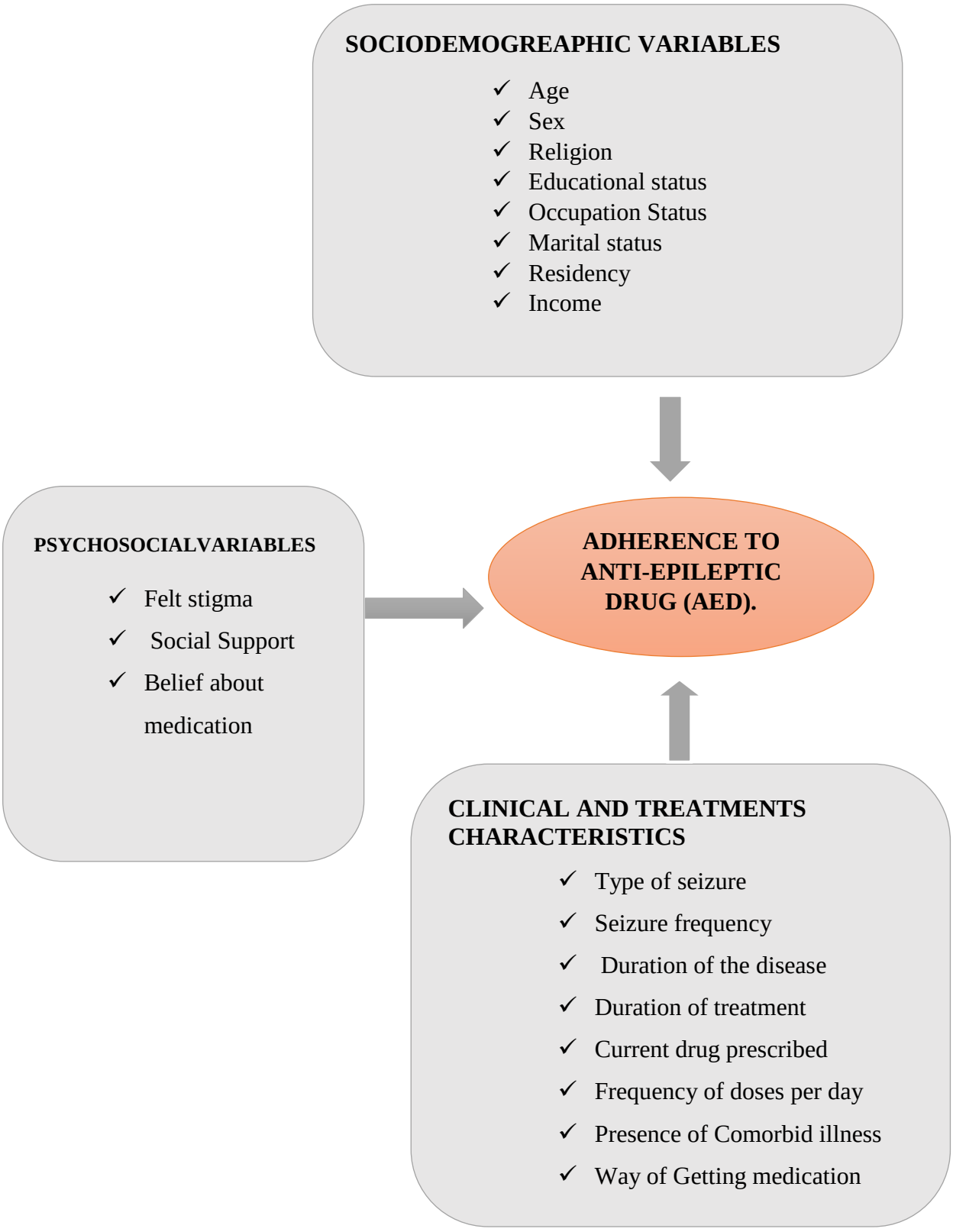


Figure 1:-Conceptual frame work indicating factors related to adherence to AEDs among epileptic patients was developed after reviewing different literature (14, 24, 25, 45, 46).

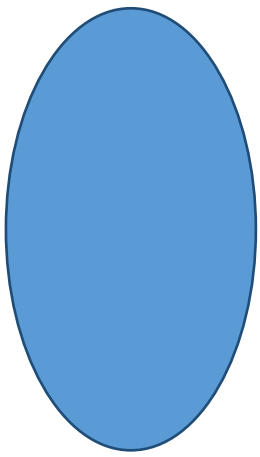
CHAPTER THREE: OBJECTIVE

3.1. General objective

- To assess medication adherenceand associated factors among epileptic patients on follow up clinic at Jimma Town public hospitals, 2019.

3.2. Specific objectives

- To determine level of medication adherence among epileptic patients on follow clinic atJimma Town public hospitals.
- To identify factors associated with medication adherence among epileptic patients on follow up clinicatJimma Town public hospitals.



CHAPTER FOUR: METHODS AND MATERIALS

4.1. Study Area and Period

The study was conducted at two public hospitals of Jimma town, (Jimma University medical center(JUMC) and Shenan Gibe hospital (SGH)) from April 08 /2019 to May 20/2019.Jimma town is located352 km from Addis Ababa in Southwest Ethiopia. SGH and JUMC are the only public hospitals in the town. Both hospitals provide inpatient, out- patient, emergence and delivery service and they have chronic follow clinic. JUMC established in 1930, is one of the oldest public hospitals in the country and it is the only referral hospital in the south western part of the country providing service for more than 18 million people with catchment area of 17,500 km^2whereas SGH is a general hospital serving at district level(46). More than 12,384 and 5832 patients had follow up at chronic clinic of JUMC and SGH respectively. Of them around a total of 750 and 370 were epileptic patients having follow up at chronic clinic of JUMC and SGH respectively andmost of the patients had follow up every one month.

4.2. Study design

Institution based cross-sectional study was conducted.

4.3. Population

4.3.1.Source population

All adult epileptic patients who were on follow up at chronic clinic of JUMC and SGH.

4.3.2.Study population.

All sampled patients who fulfill inclusion criteria.

4.4. Inclusion and exclusion criteria

4.4.1.Inclusion criteria.

All adult epileptic patients on AED therapy at least for three months and no change in AEDs regimen for the past three month were included in the study.

4.4.2.Exclusion criteria.

Patients with incomplete medical record and individuals who are unable to communicate due to serious neurological deficit and other serious illness were excluded from the study.

4.5. Sample size determination and Sampling technique

4.5.1. Sample size determination

The sample size was calculated using the following single population proportion formula

$$n = \frac{Z\left(\frac{\alpha}{2}\right) 2\, P(I - P)}{d^2}$$

Where ***n*** is minimum sample size.

P is prevalence of AED adherence.

$d^2$is margin of error (5%) and **Z α/2**is the 95 % confidence interval.

By considering the assumption of having large sample size increases the representativeness of the study finding p-value of AED adherence was take from study conducted at Dilla University Referral HospitalP=61.9%(25) and substituting the values for each variables in single proportion formula

$n = \frac{1.96\ (\ 0.619(1-0.619)}{0{,}05}$= 362. Since source Population for this study is less than 10,000 correction formula was used nf = $\frac{nc}{1+nc/N}$

Where **nf**is final sample size.

ncis calculated sample size.

Nis source Population (All adult epileptic patient on follow up at both hospitals).

Substituting the values for each variables nf = $\frac{362}{1+362/1120}$= 274. By Considering 10% non-response rate, total sample size is 274+27= 301.

4.5.2. Sampling technique

Sample size was proportionally allocated for both hospitals.Simple random sampling technique wasused to select the study subjects by taking patients medical records as randomization unit.

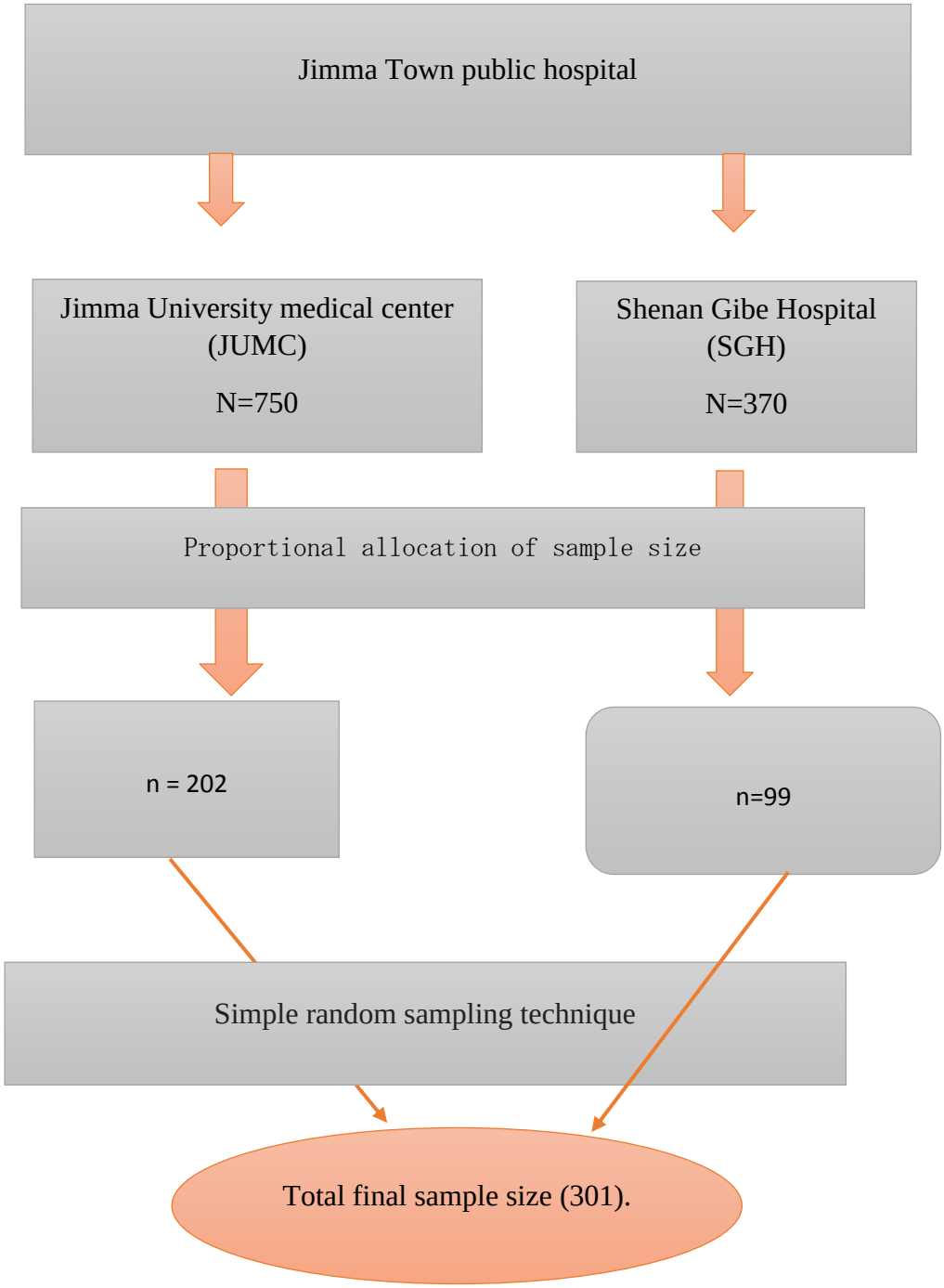


Figure 2:- Schematic presentation of sampling techniques used to select study subjects, Jimma town hospitals , 2019.

4.6. Data Collection procedures and instrument

Structured interviewer administered questionnaire wasused to collect data. The questionnaire was prepared in English andtranslated to the local languages Afaan Oromo and Amharic version by experts who are fluent in both languages and back translated to English to see its consistency. Patients medical records were retrieved using adopted data abstraction checklist from previous study conducted at JUMC (44).

The questionnaire contains four parts: the first part contains socio-demographic variables like age, sex, marital status, religion, educational status, occupation, place of residence - etc. , the second part contain clinical and treatment related factors such as types of AED, duration of treatment, comorbid illness, source of medication, types of seizure and number of medications, the third part contains psychosocial variable like felt stigma, social support and belief about medication and the fourth part contain Morisky 8-item medication adherence scale.

Adherence: - was measured by an adopted eight-item Morisky Medication Adherence Scale (MMAS) - a multi-item questionnaire that is widely used to measure self-reported adherence from study conducted at Dilla University referral hospital. Items 1-7 are yes/no questions, in which a "no" answer receives a score of 1 and a "yes" answer receives a score of 0, except for item 5, which is reverse-scored. Item 8 is measured on a five-point scale. The responses "never", "once in a while", "sometimes", "usually", and "all the time" are scored, 1, 0.75, 0.50, 0.25, and 0, respectively. Total score ranges from 0 to 8.(25)

The felt stigma: -wasassessed with the Jacoby scale (JS) composed of three questions. Each item was a Boolean question (no = 0, yes = 1). The score of the JS was established from the sum of each item (22).

Social support: -wasassessed by using the Oslo 3-items social support scale in which the first item had 4- point Likert scale and the other two items had 5-point Likert scale. The sum score of this scale is ranged from minimum of 3 to the maximum 14 (24).

Beliefs about medication: Patients' belief about their medication was assessed using the belief about medicines questionnaire (BMQ), which has been validated for use in different chronic illness group studies(14). Itcontains 18 questions in two parts (general beliefs and

specific beliefs about drug). In this study specific belief about the drug which contains ten itemswas used. The specific belief explores patients' beliefs about the medications prescribed for a specific condition (epilepsy) and it contains two parts, the first part is **specific- necessity** which assess patients' belief about the necessity of the prescribed medications for controlling their illnessand the second part is their concerns about the potential adverse consequences of taking medication (**specific- concerns)**. Each question was scored based on 5 point Likert scale (1-Strongly disagree, 2-Disagree, 3- No comments, 4-Agree, 5- Strongly agree).

4.7. Data collection methods.

Data wascollected through face to face interview and reviewing of patients medical records. Data was collected by fourB.Sc. and two BSc nurses were assigned as supervisors.

4.8. Variables of the study

4.8.1. Dependent Variable

- ✓ Adherence to AEDs

4.8.2. Independent Variables

- ✓ Socio-demographic factors.
- ✓ Psycho social variables (Social support, felt stigma and Belief about medication).
- ✓ Clinical and treatment characteristics (duration of diseases, types of epilepsy, presence of co morbidity…).

4.9. Operational definitions and definition of terms

4.9.1. Definition of terms

Medication Adherence: - Refers to the extent to which a patient's behavior corresponds with the recommendations of a health professional with respect to timing, dosage, and frequency of medication persistence as the duration of time from initiation to discontinuation of therapy.

Social support: - Is the support gained from family and non-family members.

Felt stigma: - Feeling or perceiving us stigmatized due to the diseases.

Belief about medication(AED): - Patients beliefs and worries about taking medication for their diseased.

Medication concern belief: -Patients beliefs about medication side effects

Medication necessity belief:-Patients beliefs about necessity of taking medication

Un classified seizure: -Seizure that not fit to other categories or if there is no enough information about person's seizure.

4.9.2. Operational Definition

Low adherence: -Patients scores < 6 of 8 item MMAS.

Medium adherence: - Patients scores 6-7 of 8 item MMAS.

High adherence: - Patients scores 8 of 8 item MMAS.

Over all adherence: - Dichotomized as adherent and non-adherent. In this study individual in category of medium adherence and high adherence taken as adherent and low adherence as non-adherent (14).

Poor social support: - Respondents scores3–8 of Oslo 3-items social support scale.

Moderate social support: -Respondents scores9–11of Oslo 3-items social support scale.

Strong social support: - Respondents scores12–14of Oslo 3-items social support scale(24).

Felt stigmatized: -Respondents scores Jacob stigma scale score = 0

Not felt stigmatized: -Respondents scores Jacob stigma scale score > 0(22).

Strong medication necessity belief: -Respondents scores mean and aboveof the five-item medication necessity scale score.

Low medication necessity belief: - Respondents scores below mean of the five-item medication necessity scale score.

Strong medication concern belief: -Respondents scoresmean and above of the five-item medication concern scale score

Low medication concern belief: -Respondents scores below mean of the five-item medication concern scale score (14).

4.10. Data processing and analysis

The collected data was checked for completeness, cleaned and entered in to Epi data version 3.5.3 software, then exported to SPSS version 23.0 software for analysis. Descriptive statistics was used to describe the data. Variables with p-value <0.25 on bivariate analysis

were candidated for multivariate analyses. Factors with p value < 0.05 on multivariate analyses were considered as statistically significant.

4.11. Data quality management

The collected data waschecked for completeness and ratified accordingly. Training was given by principal investigator for data collectors and supervisors on data collection procedures for one day.The Principal investigator closely supervised the data collection process to make sure quality of data.

Pre-test wasdone on 5%(15 patients) of the sample size, at Agaro hospital twoweeks before actual data collection and based on the finding of the pretestthe questionerwas revised.

4.12. Ethical consideration

Ethical clearance was obtained from the Institutional Review Board (IRB) of Jimma University, Institute of Health, Faculty of Health Science. Official letter was written from Research and Postgraduate Coordinating office to JUMC and SGH. Informed consent was obtained from the respondents and the aim of the study wasbriefly explained to the respondents. Participants wereassured that if they want to refuse to participate, their care or dignity would not be compromised in any way since there was no relationship between participation and health or treatment outcome.All information obtained from the patients and records were kept confidential.

4.13. Dissemination plan

The final result of this research will bepresented to the School of Nursing and Midwifery of Jimma University. It will bedisseminated to the library and respective hospitals. Finally, it will be published in peer reviewed internationaljournal for further utilization.

CHAPTER FIVE: - RESULTS

5.1. Socio-demographic characteristics of the study participants.

Out of 301 calculated sample size a total of 297 study participants were included in the study giving a response rate of 98.7%. From a total of the study participants, 169 (56.9%) of them were male. Almost half 145(48.8%) of the study participants were in the age category of 18-25 year followed by age category of 26-33 yearwhich accounts 70(23.6%). A total of 111(37.4%) respondents were farmers. Ninety-five (32%) of the study participants were illiterate. Most of respondent 191 (64.3%) were rural residents. One hundred seventy-five (58.9%) and 91(30.6%) respondents had an income of <500 and >1000 Ethiopian Birr respectively.

Table 1:-Socio-demographic characteristics of study participants on follow up at Jimma Town public Hospitals, June 2019.

Variables	Categories	Frequency	Percent (%)
Sex	Male	169	56.9
	Female	128	43.1
	Total	297	100.0
Age	18-25yr	145	48.8
	26-33yr	70	23.6
	34-41yr	35	11.8
	42-49yr	17	5.7
	>=50yr	30	10.1
	Total	297	100.0
Religion	Muslim	191	64.3
	Orthodox	66	22.2
	Protestant	31	10.4
	Others	9	3.0
	Total	297	100.0
Occupational Status	Government employee	33	11.1
	Farmer	111	37.4
	Merchant	34	11.4
	Daily labor	21	7.1
	Student	73	24.6
	House wife	25	8.4
	Total	297	100.0
Marital status	Single	142	47.8
	Married	133	44.8
	Divorced	12	4.0
	Widowed	10	3.4
	Total	297	100.0
	Illiterate	95	32.0
	Grade 1-8	119	40.1

Educational status	Grade 9-12	53	17.8
	College and above	30	10.1
	Total	297	100.0
Residence	Rural	191	64.3
	Urban	106	35.7
	Total	297	100.0
Monthly income In Ethiopian birr (ref-44).	<500	175	58.9
	500-1000	31	10.4
	>1000	91	30.6
	Total	297	100.0

Religion, Others: - waqefata, Adventist and Catholic

5.2. Clinical and treatment characteristics of study participants.

Majority, 222 (74.7 %) of the study participants had generalized tonic clonic seizures. A total of 128 (43.1%) respondents had disease for more than 10 years. More than one third of the respondents 110 (37.0 %) had treatment for 6-10 years and more than half 172(57.9%) were on mono therapy regimen. Around two third of the study participants 185 (62.3%) were taking Phenobarbital followed by phenytoin which accounts for 87(29.3%). Eighty (26.9%) of respondents were experiencing seizures since their last visit with most of them had experiencing one and two episodes of seizure. One hundred twenty-nine (43.4%) participants were takes their drugs once daily. One hundred eighty-four (62.0%) respondents were getting medication freely. Of total respondents 217 (73.1%) had no co morbid illness.

Table 2:-Frequency distribution of Clinical and treatment characteristics of study participants on follow up at Jimma Town public Hospitals, June 2019.

Clinical and treatment characteristics	Categories	Frequency	Percent(%)
Type of seizure	Generalized tonic clonic seizure	222	74.7
	Complex partial seizure	9	-
	Un classified seizure	13	4.4
	Tonic clonic seizure	29	9.8
	Atonic seizure	7	-
	Clonic seizure	17	5.7
Duration of the disease	<1 year	17	5.7
	1-5 year	78	26.3
	6-10 year	74	24.9
	>10 year	128	43.1
Duration on AED treatment	<1 year	49	16.5
	1-5 year	110	37.0
	6-10 year	83	27.9
	>10year	55	18.5
Treatment regimen	Mono therapy	172	57.9
	Poly therapy	125	42.1
Current AEDs	phenobarbital	185	62.3
	Phenytoin	87	29.3
	Sodium-valproate	13	4.4
	Carbamazepine	8	-
	Valporpic acid	4	-
History of seizure since last visit	Yes	80	26.9
	No	217	73.1
Seizure frequency since last visit	<=2 episode	277	93.3
	>=3 episodes	20	6.7
Frequency of doses per day	Once daily	129	43.4
	Twice daily	168	56.6
Way of Getting medication	Freely	184	62.0
	Payment	113	38.0
Presence of Comorbid illness	Yes	80	26.9

	No	217	73.1

5.3.Psychosocial factors of study participants.

From total of study participants more than one third 109(36.7%) of them were felt stigmatized. About 133(44.8) and 11940.1%) respondents had moderate and poor social support respectively. Around three fourth 220 (74.1%) of the study participants had strong medication necessity belief. Almost half143(48.1%) of the respondents had strong medication concern belief.

Table 3:-Frequency distribution of psychosocial factors among study participants on follow up at Jimma Town public Hospitals, June 2019.

Psychosocial factors	Categories	Frequency	Percent
Felt stigma	Not felt stigmatized	188	63.3
	Felt stigmatized	109	36.7
	Total	297	100.0
Social support	Poor social support	119	40.1
	Moderate social support	133	44.8
	Strong social support	45	15.2
	Total	297	100.0
Belief about medication	Specific concern	Strong medication concern belief 143	48.1
		Low medication concern belief 154	51.9
		Total 297	100.0
	Specific necessity	Strong medication necessity belief 220	74.1
		Low medication necessity belief 77	25.9
		Total 297	100.0

5. 4. Level of medication adherence among study participants.

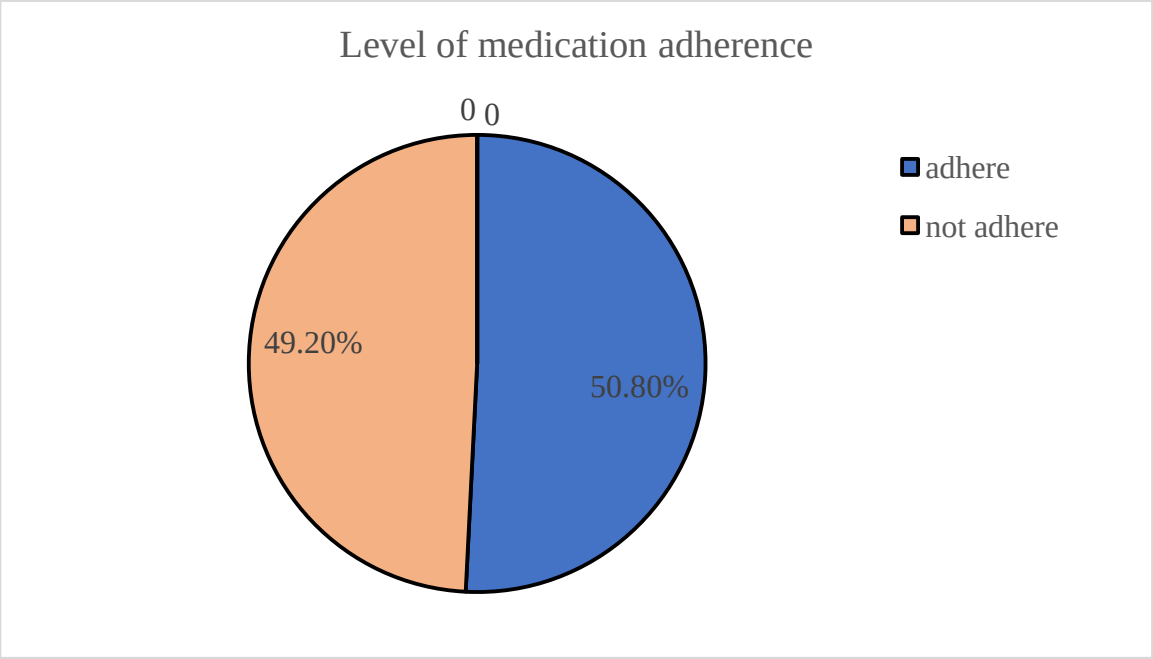


Figure 3:-Level of medication adherence among epileptic patients on follow up at Jimma town public health hospitals, June,2019.

5.4.Bivariate analysisof factorsassociated with medication adherence.

During bivariate analysis variables like age (COR=2.294, 95%CI: 1.062-4.958, P-0.035), educational status (COR=0.579, 95%CI: 0.335-0.998, P-0.049), marital status (COR=5.758, 95%CI:1.218-27.224, P=0.027), frequency of seizure(COR=0.221, 95%CI: 0.072-0.678, P-0.008), source of medication (COR=0.487, 95%CI: 0.302-0.784, P-0.003), felt stigma (COR=0.544, 95%CI: 0.337-0.877, P-0.013), social support (COR=2.039, 95%CI: 1.004-4.142,P-0.049) and medication concern belief (COR=1.361, 95%CI: 1.862-2.149, P-0.186 were candidated formulti variate analysis with p-value < 0.25.

5.5.Multivariate analysis of factors associated with adherence to Antiepileptic drugs

During multivariate analysis of AEDs adherence in relation to the candidate variables for multivariate analysis, source of medication (AOR=0.404, 95% CI: 0.240-0.678, P- .001), felt stigma (AOR=0.495, 95% CI: 0.298-0.822, P- .007), seizure frequency (AOR=0.220, 95% CI: 0.069-0.698, P- .010) and medication concern belief (AOR=1.652, 95%CI: 1.005-2.717, P- .048) were significantly associated with medication adherence.

Study participants who were getting their medication by payment were found to be 59.6% less likely to adhere to AED than those who were getting their medication freely (AOR=0.404, 95% CI: 0.240-0.678, P- .001). Respondents who were felt stigmatized due to their disease were 50.5% times less likely to adhere to AED than those who were not felt stigmatized due to their diseases (AOR=0.495, 95% CI: 0.298-0.822, P- .007). Respondents who had experienced three and more than three episodes of seizure during their last visit were 78% less likely to adhere to AED than those who had experiencing two and less than two episodes of seizure during their last visit (AOR=0.220, 95% CI: 0.069-0.679, P- .010). The study participants who had low medication concerns belief about adverse consequences of taking the prescribed medication were 1.65times more likely to be adhere to AED than those who had strong medication concerns belief about adverse consequences of taking the prescribed medication (AOR=1.652, 95%CI: 1.005-2.717, P- .048).

Table 4:-Multivariate analysis of factors associated with medication adherence among study participants on follow up at Jimma Town public hospitals, June, 2019.

Variable	Category	Adherence		COR	AOR	95%CI		P value
		Adhere (N(%))	Not adhere (N(%))			Lower	Higher	
Age	18-25 yr.	66(45.5)	79(54.5)	1	1			.893
	26-33 yr.	36(51.4)	34(48.6)	1.267	1.134	.550	2.339	.733
	34-41 yr.	23(65.7)	12(34.3)	2.294	1.576	.623	3.986	.337
	42-49 yr.	9(-)	8(-)	1.347	.952	.279	3.241	.937
	50 yr. and above	17(56.7)	13(43.3)	1.565	1.246	.436	3.562	.682
Marital status	Single	66(46.5)	76(53.5)	1	1			.248
	Married	70(52.6)	63(47.4)	1.279	1.280	.777	2.109	.331
	Divorced	10(-)	2(-)	5.758	3.436	.701	16.848	.128
	Widowed	5(-)	5(-)	1.152	.559	.147	2.133	.395
Educational status	Illiterate	56(58.9)	39(41.1)	1	1			.505
	Primary(1-8)	54(45.4)	65(54.6)	.579	.685	.376	1.249	.217
	Secondary(9-12)	23(43.4)	30(56.6)	.534	.612	.294	1.274	.189
	College and above	18(60.0)	12(40.0)	1.045	.921	.381	2.229	.856
Seizure frequency	<=2 episode	147(53.1)	130(46.9)	1	1			**.010***
	3 and above episode	4(-)	16(80.0)	.221	.220	.069	.698	
Source of	Free	106(57.6)	78(42.4)	1	1			

medication	Payment		45(39.8)	68(60.2)	.487	.404	.240	.678	. . .**001***
Stigma	Not felt stigmatized		106(56.4)	82(43.6)	1	1			.**007***
	Felt stigmatized		45(41.3)	64(58.3)	.544	.495	.298	.822	
Social support	Poor		56(47.1)	63(52.9)	1	1			.611
	Moderate		66(49.6)	67(50.4)	1.108	.934	.538	1.619	.807
	Strong		29(64.4)	16(35.6)	2.039	1.368	.621	3.010	.437
Medication Believes	Concern	Strong	67(46.9)	76(53.1)	1	1			
		Low	84(54.5)	70(45.5)	1.361	1.652	1.005	2.717	.**048***

CHAPTER SIX:-DISCUSSION

Adherence to medication is vital in preventing or minimizing the impact of disease on everyday life and increase effectiveness of antiepileptic drugs. This cross-sectional study assessed the level of medication adherence to AED among epileptic patients showed that the 50.8% of study participants were adhere to Anti-epileptic medication.In line tothis study, study conducted in Malaysia (37), China (20), and India (42) found that , 50.7%, 51.9% and 50% of respondents were adhere to Anti epileptic medications respectively.

The finding of this study is lower than study conducted in USA (27), Paris (26), India (7), China (40), United Kingdom (32), Dilla University Referral Hospital (25) and Northwest of Ethiopia (24) which states 63%, 79%,72.3%, 66.7%, 79.5%61.9% and 62.2% of the study participants were adhere to Anti-epileptic medications respectively. This discrepancy in finding may be due to difference insociodemographic status of study participants. It may suggest severity of states non-adherence in this study setting.It might be due to variation in availability of medication and accessibility to health care.

Adherence to AEDs in this studyis higher than study conducted in United Kingdom (31), Brazil (32), Riyadh National Hospital (35), Malaysia (36), and Kenya (43) which shows 41%, 34%,38.3%, 35.9% and 46% of the study participants were adhere to Antiepileptic medications respectively.The discrepancy in the findings may be due to difference in study period and sample size used. It might be also due to difference in cut point of adherence level and inclusion criteria of the study participants.

In this study, ways of getting medication and seizure frequency were significantly associated with adherence to AEDs. In line to this study, study conducted in Malaysia shows that seizure frequency and payment for medication were significantly associated with adherence to AEDs (37). Similarly, study conducted in USA (27), Ireland (32),South east Asia (22) states that frequency of seizure since last month of their visit were significantly associated with adherence. Study carried out in Indian (38) and Northwest of Ethiopia (Debre Markos

Referral Hospital and Finote Selam District Hospital (24) revealed that monthly cost (payment) was significantly associated with adherence. The consistency in finding might be due to the facts that most of developing counties are sharing economic problems which has its own impact on adherence to AEDs related to ways of getting medication. (payments for drug) and increments of seizure frequency since their last visit may hesitate the study participants on the effectiveness of the drug so that they may interrupt regular follow up of the drug.

In contrast to this study, study conducted in China (33, 41), and Malaysia (36)found that frequency of seizure was not significantly associated with adherence to AEDs. Discrepancy in the finding might be due to difference in sample sizeand socio demographic characteristic of the study participants.

In this study felt stigmatized were significantly associated with adherence to AEDs. In line to this study, study conducted in Riyadh National Hospital Saudi Arabia (35) and Northwest Ethiopia (Debre Markos Referral Hospital and Finote Selam District Hospital) (24) revealed that felt stigma were significantly associated with adherence.The consistency in the finding might be due to that, the study participants who were felt stigmatized may fear to regularly follow up their drugs in the presence of others due to fear of judged by others.

In contrast to this study, study conducted in Indian showsno significant association between adherence and stigma (38). The probable reason for difference in the finding may be due to difference in socioeconomic status of study participants and sample size. It might be due to discrepancy in prevalence of stigma surrounding the diseases which had significant impact on adherence to medication.

Medication concern belief of adverse effects of medication were significantly associated with adherence to AEDs. This finding is supported by a study conducted in Ireland which states, medication concern belief of adverse effects of medication was significantly associated with adherence to AEDs (32).The Consistency in the finding might be dueto, study participants who had low medication concerns belief of adverse consequences of medication may regularly follow their drugs without fears of adverse consequences of medication.

In contrast to this study, study conducted in Bellevue Hospital in USA(30), china (32) and Riyadh National Hospital in Saudi Arabia(35) revealed that there were no significantassociation between concern about adverse effect of medication and adherence.The inconsistency in the finding may be due to difference in educational status of study participants.

Strength and Limitation of the study

Strength

- All epileptic patients having follow up at the hospital had equal chance of being included in the study.

Limitation

- The level of adherence may be overestimated or underestimated since the measures relied on self-reporting.
- The cross-sectional design of the study fails to assess patients' adherence behaviors over time, and although this approach is helpful to investigate associations between variables, it cannot attribute cause and effect.
- Another limitation of this study pertains to the fact that there was heterogeneity in the definition of adherence and methods to measure medication adherence and therefore, it is difficult to draw exact comparisons with other studies.

CHAPTER SEVEN: - CONCLUSION AND RECOMMENDATION

7.1. Conclusion

Even though Medication adherence remains an important issue in epilepsy treatment, this study found that adherence to Antiepileptic drugs islow, which highlights the prevalent problematic degree of non-adherence to medications. Payment for medication, felt stigma, having more episodes of seizure and strong medication concern belief of adverse effect of medication were factors contributed for low adherence to AEDs. Providing medication is not enough for epilepsy management rather assessment of medication adherence among epileptic patients should be a routine part of epilepsy management.Moreover, the high rate of non-adherence in this study calls for further researchers to do further large scale longitudinal studies to provide adequate evidence about the cause-effect relationship between the predictor variables and adherence.

7.2. Recommendation

- Federal minster of health andZonal health department should give emphasis on means of providing medication to the patients since most of the patients who were getting medication by payments were less likely adhere to AEDs.
- Hospital administrativeand health care providers should planstrategies to improve medication adherence.
- Health care providers should providecounselling and health information on disease, importance of adherence and adverse effects of medications for the patients since felt stigma and strong medication concern belief contributed for low adherence to AEDs.

- Health care provider should consider the assessment of medication adherence among epileptic patients as a routine part of epilepsymanagement.
- Researchers should do further large scale study to come up with cause-effect relationship between the predictor variables and adherence.

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ANNEXES 1. DATA COLLECTION FORMAT

Information sheet

Hello. My name is _____and I am here on behalf of Ismael Ahmed a post graduate student from Jimma University, Facility of health, Institute of Health Sciences, School of Nursing and Midwifery. I am conducting a study on medication adherence and associated factors among Epileptic patients having following up at this hospital. The result that will come out of this study will be used by the hospital to base their rational decision to develop appropriate strategies to combat this problem. The research is intended to benefit the community including the people that will be participating in this research and will introduce no risk to the participant. The questionnaire requires maximum of 20 minute to complete. Your participation is entirely voluntarily, and you can quit from the study any time you want. You will have no penalty if you fail to show desire to participate. I, however, do hope that you will participate in the study since the data that will come from you will be important for us. Your name and other personal identity will not be used, and hence the information we will collect from you will completely be kept confidential. For any question you want to ask us, you can use the contact address here under.

Now do you agree to participate in the study? Yes _____ No _____.

Thank you very much for your co-operation!

Name of the interviewer _____ Sign. _____ Date _____

Address of the principal investigator

Ismael Ahmed

Tel:0916894811

Email: usmeahmed2005@gmail.com

PART 1 – Socio-demography Tick (√) on the responses from the given alternatives.

1. Card no._____

2.Sex of the respondent 1= Male ☐ 2 = Female ☐

3. Age of the respondent------years

4. Marital status 1. Single ☐ 2. Married ☐ 3. Divorced ☐ 4. Widowed ☐

5. Religion 1. Muslim 2. Orthodox 3. Protestant 4. Others

6. Level of education 1.Illiterate ☐ 2. Primary(1-8) ☐ 3. Secondary(9-12) ☐ 4. College/University ☐

7. Occupational status 1. Governmental employee ☐2. Farmer ☐ 3. Merchant ☐ 4. Daily labor ☐5. Student ☐ 6. House wife _____

8. Residence 1. Rural ☐ 2. Urban ☐

9. Monthly income ------ in Ethiopian birr

Part two: Data abstraction format from patient and medical records on clinical and treatment characteristic

1. Diagnosis (type of seizure) _____
2. Age at the first seizure (years) (duration of disease)? _____months/years
3. When did you start antiepileptic drug(s) treatment (duration of treatment)? _____month /years
4. Was there any seizure since the last visit? Yes _____ No _____
5. If yes, how many times? (Seizure frequency) _____
6. Current antiepileptic drug(s) prescribed? _____

7. Treatment regimen? _____
8. Frequency of doses per day _____
9. Source of medication: free_____ payment_____
10. Diagnosis other than epilepsy (Presence of Comorbid illness) _____

PART THREE. Questionnaires to assess Psychosocial factors.

3.1. Felt stigma (Jacoby scale (JS)). Tick (√) on your responses from the given alternatives

1. I feel some people are uncomfortable with me No ☐ Yes ☐
2. I feel some people treat me like an inferior person No ☐ Yes ☐
3. I feel some people would prefer to avoid me No ☐ Yes ☐

3.2. Social support (Oslo 3-items social support scale). Circle on your responses from the given alternatives

1. How easy can you get help from neighbours if you should need it?
1.very difficult. 2.Difficult 3. Possible 4. Easy 5. Very easy
2. How many people are so close to you that you can count on them if you have serious problems?**1.** None **2**. 1-2 **3.** 3-5 **4**. 5+
3. How much concern do people show in what you are doing?
1. No concern and interest2. Little concern and interest 3. Uncertain 4. Some concern and interest5. A lot of concern and interest

3.3. Belief about medicines questionnaire (BMQ)

Your views about medicines prescribed to you

I would like to ask you about your personal views about medicines prescribed for your epilepsy.

These are statements other people have made about their epilepsy medication. Please indicate the extent to which you agree or disagree with them by placing "X" in the appropriate box. There are no right or wrong answers. I am interested in your personal views. Please only "X" one box per question.

1. My health at present depends on my epilepsy medicines.

1.Strongly disagree ☐ 2. Dis agree ☐ 3. uncertain ☐ 4. agree ☐ 5. strongly agree ☐

2. Having to take epilepsy medication worries me.

1.Strongly disagree ☐ 2. Dis agree ☐ 3. uncertain ☐ 4. agree ☐ 5. strongly agree ☐

3. My life would be impossible without my epilepsy medication.

1.Strongly disagree ☐ 2. Dis agree ☐ 3. uncertain ☐ 4. agree ☐ 5. strongly agree ☐

4. Without my epilepsy medication I would be very ill.

1.Strongly disagree ☐ 2. Dis agree ☐ 3. uncertain ☐ 4. agree ☐ 5. strongly agree ☐

5. I sometimes worry about the long-term effects of my epilepsy medication.

1.Strongly disagree ☐ 2. Dis agree ☐ 3. uncertain ☐ 4. agree ☐ 5. strongly agree ☐

6. My epilepsy medication is mystery to me.

1.Strongly disagree ☐ 2. Dis agree ☐ 3. uncertain ☐ 4. agree ☐ 5. strongly agree ☐

7. My health in the future will depend on my epilepsy medication

1.Strongly disagree ☐ 2. Dis agree ☐ 3. uncertain ☐ 4. agree ☐ 5. strongly agree ☐

8. My epilepsy medication disrupts my life.

1.Strongly disagree ☐ 2. Dis agree ☐ 3. uncertain ☐ 4. agree ☐ 5. strongly agree ☐

9. I sometimes worry about becoming too dependent on my epilepsy medication.

1.Strongly disagree ☐ 2. Dis agree ☐ 3. uncertain ☐ 4. agree ☐ 5. strongly agree ☐

10. My epilepsy medication protects me from becoming worse.

1.Strongly disagree ☐ 2. Dis agree ☐ 3. uncertain ☐ 4. agree ☐ 5. strongly agree ☐

Part four: -Adherence to medications. Tick (√) on your responses from the given alternatives

No	Morisky Medication Adherence Scale (MMAS-8)		
	Question	Yes	No
1	Do you sometimes forget to take your medication ?		
2	People sometimes miss taking their medications for reasons other than forgetting. Thinking over the past two weeks, were there any days when you did not take your medicine?		
3	When you feel better, do you sometimes stop taking your medication?		
4	Do you ever stop taking antiepileptic drugs when you feel worse without telling your doctor?		
5	Did you take all your medicine yesterday?		
6	When you leave home, do you sometimes forget to take your antiepileptic drugs along		
7	Do you feel antiepileptic treatment is difficult?		
8	How often do you have difficulty remembering to take all your medicine? Never/rarely ❑Once in a while❑ Sometimes ❑ Usually ❑All the time❑		

AMHARIC VERSION INFORMATION SHEET

ተጨማሪ መግለጫ

አባሪ: ለተሳታፊየ መረጃዝርዝር

እኔ እስማኤል አህመድ በጅማዩኒቨርሲቲወስጥየ አዋቂጤና ርሲንግተማሪነኝ. "በጅማዩኒቨርሲ ሜድካል ሴንተር ወስጥበአዋቂዎች የሚጥል በሽታ ታካሚዎችላይየ መድሃኒት አወሳሰድ ግንዛቤምርምራማድረግስለሚ ወምርምር ዓላ ማቃለ -ማጠይቁ 30 ደቂቃይወስዳልበአጋጣሚወይምበእድልምርጫካሄዱንስለማሳዎቅ:
በዚህየ ዳሰሳ ጥናትአካልለመሆንበአጋጣሚዝለትምበእድልየ ተመረጠክለሆነ ለዚህነ ወለ ቃለማጠይቅልናነ ጋግርዎ የ ምንፈልገ ው:

የ ጥናትቅደምተከተሎች-በዚህጥናትለመሳተፍፈቃደኛከሆኑበፈቃደኝነ ትቅጹላይእንዲስማሙእና የ ማስስማማት ቃልዎን እንድሰጡይጠየ ቃሉ. ጥቅማጥቅሞች-
ከምርምሩየ ምንገ ኘነ ወእወቀትመንግስትይህንንችግርለመወጣትእንደሚረዳታምኖበታል. ሚስጠራዊነ ት -
የ ጥናቱወጤቱእና ተዛ ማጅመረጃብቻለዚህ ጥናትዓላ ማጥቅምላ ይይወላሉ.
መረጃወሚስጠራዊእንደሆነ እናረጋግጣለን . ወጤቱን ማጋራት:
በዚህጥናትሜጨረሻላይየ ጥናቱን ወጤቶችንበህትመትወይምበሌላበማንኛወምመንገ ድሪፓርትእንልካለን .
የ መቃወምመብት: በዚህጥናትመሳተፍበሙሉበፈቃደኝነ ትላይየ ተመሰረተነ ው:
ጥያቄማጠየ ቅወይምዋ ሚያ ሳስቡጉዳዮች: ጥናቱንበተመለከተማንኛወምጥያቄ (ዎች) ወይምስጋት (ቶች) ካጋጠሙ ከታችበተጠቀሰወአድራሻመላክይችላሉ:

ዋናተመራማሪወእስማኤል አህመድ

ስልክ: 0916894811

ኢሜይል: usmeahmed2005@gmail.com

ለቃለ-መጠይቅ, ፈቃደኛመሆንንስለመግለጽ

በጅማህክምናማእከልውስጥበአዋቂዎችየሚጥልበሽታታካሚዎችመካከልስለመድሃኒትአወሳሰድቁርኝትምርምራማድረግስለ ሚለውምርምርዓላማዎች, ስጋቶችእናጥቅሞችበቂመረጃአለኝ፡፡.
በጥናቱላይተሳታፊላለመሆንናምንምውጤትሳያስከትልለማቋረጥመብትእንዳለኝምተነግሮኛል.፡፡ጥያቄዎችንለመጠየቅእድል ተሰጥቶኝሁሉምነገርግልፅሆኖልኛል. ከላይበተሰጠውመረጃመሰረትም በጥናቱለመሳተፍተስማምቻለሁ.

በጥናቱለመሳተፍአልስማማሁም

የመረጃስብሳቢውስም _____ ፊርማ ..... ቀን: ~~~~~~~~~~~~

የጅማዩኒቨርሲቲየነርስእናየአዋላጅትምህርትቤት

ልዩመታወቂያ

ክፍልአንድ:ማህበራዊናስነ~ህዝባዊመረጃዎች

መመሪያ፤ከሚከተሉትአማራጮችመካከልአንዱንይምረጡ

ተ.ቁ	መጠይቆች	የተሰጠኮድ	ምርመራ
1	ካርድ ቁጥር		
2	ጾታ	1. ወንድ 2. ሴት	
3	እድሜዎትስንትነዉ?	~~~~~~~~~~~~~~~~ዓመት	
4	መኖሪያቦታ?	1. ከተማ 2. ገጠር	
5	ሃይማኖት	1. ሙሰሊም 2. ኦርቶዶክስ 3. ፕሮቴስታንት 4. ሌሎች	
6	የጋብቻሁኔታዎስ?	1. ያላገባ/ች 3. የፈታ/ች 2. ያገባ/ች 4. የሞተባት/በት	
7	የትምህርትደረጃዎት?	1. ያልተማረ/ች 2. አንደኛደረጃ (1~8) የተማረ/ች 3. ሁለተኛደረጃ (9~12) የተማረ/ች 4. ኮሌጅ/ዩኒቨርስቲያጠናቀቀ/ች	
8	ስራዎትምንድንነዉ?	1.የመንግስትሰራተኛ2 .ገበሬ3. የግልተቀጣሪ 4. የቤትእመቤት 5. የቀንሰራተኛ6. ሌላይግለጹ~~~~~~~~	
9	አማካይየወርገቢዎስንትነው?	~~~~~~~~~~~~~~~~~~~~ ብር	

ክፍልሁለት፡ክሊኒካዊሁኔታዎችእናየሕክምናባህሪያትንበተመለከተ

1. ምርመራ (የምርመራዉሳይነት) _____

2. ምርመራዉሲደረግለትእድሜዎትስንትነበር?ከበሽታዉጋርለምንያህልጊዜቆይተዋል_____ ወራት / አመታት

3. የሚጥልበሽታመድሃኒትከጀመሩምንያህልነው? _____ ወራት /አመት

4. ከመጨረሻህክምናዎበኋላየበሽታዉንምልክትአይተዋል? 1. አዎ 2. አይ _____

5. መልስዎ አዎከሆነ, ለምንያህልጊዜ? (የሚጥልድግግሞሽ) _____

6. አሁንእየወሰዱትያለዉመድሃኒት? _____

7. የመድሃኒቶችምድብ? _____

8. በቀንስንትጊዜመዳህኒቶንይወስዳሉ_____

9. የመድሃኒትመገኛ 1. ነፃ _____ 2. ክፍያ_____

10. ከሚጥልበሽታዉጭሌላበሽታአለበዎት

ክፍልሶስት. የስነ-ልቦናታሳቢዎችንለመመርመርየተዘጋጁመጠይቆች.

3.1. የመገለልስሜት (Jacoby scale stigma (JS)).ከተሰጡትአማራጮችምላሾችላይምልክትያድርጉ (√)

1. አንዳንድሰዎችበእኔላይምችትአይሰማቸውምብየአስባለሁ ☐1, የለም☐ 2. አዎን☐

2. አንዳንድሰዎችእኔንየበታችእንደሆንኩአድረገውእንደሚያሰቡይሰማኛል 1, የለም☐ 2. አዎን☐

3. የተወሰኑሰዎችእኔንሊመርጡኝእንደማይፈልጉይሰማኛል1, የለም☐ 2. አዎን☐

3.2. ማህበራዊድጋፍ (አስሎ 3-ንጥልየማህበራዊድጋፍመለኪያ). ከተሰጡትአማራጮችየመረጡትንምላሽይክበቡ

1.ከጐረቤትዎእርዳታከፈለጉእርዳታማግኘቱምንያህልቀላልነው?

1. በጣምአስቸጋሪ. 2. አስቸጋሪ 3. ሊከሰትየሚችል 4. ቀላል 5. በጣምቀላል

2. ከባድችግሮችካጋጠሙዎትእርስዎንሊረዱየሚቺሉስንትሰዎችናቸዉ?

1. የለም 2.1-2 3. 3-5 4. 5+

3. ሰዎችእርስዎየሚሰሩትነገርምንያህልያሳስባቸዋል?

1. ሰዎችለምሰራውስራምንምትኩረትእናፍለጎትየላቸውም 2. ሰዎችለምሰራውስራትንሽትኩረትእናፍለጎትአላቸው3.እርግጠኛአይደለሁም 4. .ሰዎችለምሰራውስራሰጋትእናፍለጎትአላቸው 5. ሰዎችለምሰራውስራከፍተኛሰጋትእናፍለጎትአላቸው

3.3. ስለመድሃኒትመጠይቅእምነት.

እርስዎስለሚታወቁመድሃኒቶችያለዎትአስተያየትማለትምለሚጥልበሽታዎየተመዘገቡመድሃኒቶችንአስመልክቶስለሚኖርዎ ትየግልአመለካከትዎለመጠየቅእፈልጋለሁ. እባክዎንአግባብባለውሳጥንውስጥ "X" በመጨመርለመስማማትምንያህልእንደሚስማሙወይምእንዳልተስማሙያስረዱ. ትክክለኛወይምየተሳሳቱመልሶችየሉም. የግልአስተያየቶችዎላይፍላጎትአለኝ. እባክዎበአንድጥያቄ «X» አንድሳጥንብቻይጠቀሙ

s.no	**መጠይቆች.**	ሙሉበሙሉአልስማም	አልስማማም	. እርግጠ

1	በአሁኑጊዜጤንነቴበሚጥልመድኃኒቶቸዬይወሰናል.			
2	የሚጥልበሽታመድኃኒትየማወስድከሆነህይወቴአደጋውስጥነውወይማየማቻልነው.			
3	የሚጥልበሽታመድኃኒትባልወስድበጣምታምሜነበር.			
4	ለወደፊቱየጤንነቴሁኔታየሚወሰነውበሚጥልበሽታመድሃኒትላይነው			
5	የሚጥልበሽታዬመድኃኒቴየበሽታወንመባባስይከላከልልኛል.			
6	የሚጥልበሽታመድኃኒትመውሰደያስጨንቀኛል			
7	.አንዳንድጊዜየሚጥልበሽታዬስለሚያስከትለውየረጅምጊዜተፅዕኖእጨነቃለሁ.			
8	የሚጥልበሽታመድኃኒቴለእኔምስጢርነውማለቴለቂቅነገርነው..			
9	የሚጥልበሽታዬመድኃኒቴሕይወቴንይረብሻል.			
10	በሚጥልበሽታዬላይበጣምጥገኛመሆኔአንዳንድጊዜበጣምያስጨንቀገኛል..			

ክፍልአራት :የመድሃኒትቁርኝትንበተመለከተ

መመሪያ፤ከተሰጡትአማራጮችመካከልአንዱንምልክት(√)ያድርጉ፡፡

ተ.ቁ	Morisky Medication Adherence Scale (MMAS-8)	
		አዎ
1	አልፎአልፎመድሃኒትመዉሰድይረሳሉ ?	
2	አንዳንድሰዎችበተለያዩምክንቶችመድሃኒትመዉሰድይረሳሉ፤እርስዎበባለፈዉሁለትሳምንትእርስዎረስተዉያዉቃሉ?	
3	ህመሙሲሻለዎትመድሃኒትመዉሰድያቋርጣሉ?	
4	መድሃኒትእየወሰዱህመሙምንምለዉጥከለሌዉባለሙያሳያማክሩያቋርጣሉ?	
5	ትናንትሁሉንምመድሃኒትወስደዋል?	
6	ለተለያዩጉዳዮችከቤትሲወጡመድኒትሳይዙሄደዉያዉቃሉ	
7	የሚጥልበሽታህከምናአስቸጋሪነዉብለዉያስባሉ ?	
8	ለምንያህልጊዜመድሃኒሳይወስዱየቀሩበትቀንአለ? ❑በፍፁም❑አንድጊዜ❑አልፎአልፎ❑አብዛኛዉንጊዜ❑ሁልጊዜ	

Afaan Oromo version

KUUTAA TOKKOFFA GAAFFILEE WALIGALAA

Gaaffilee arman gaditti dhiyataan bakka duwwa gutti kannen filaanno qaban immoo irrra mari

1. Lakkoofsa kardii kee? _____
2. Sala 1. Dhira 2. Dubara
3. Umriin kee meqaa ? ----------wagggadhan
4. Halaa fuudha fi heruma 1. Kan hinfuudhin / hin heerummin 2. Kan fuudhe / herrumte 3. Wallhiknerra 4.kan jarsii irra du'e / irraa duute
5. Amntaan kee maali? 1 muslimaa 2. Orthodoxi 3. Protestanti 4. Kan biraa (addda basi)
6. Sadarkan barnootaa kee ? 1. Kan hin baratin 2. Sadarkaa tokkkoffaa kan barate /bartte 3. Sadarka lammmafffa kan barate / baratte 4 kollejji fi sana ol kana barate / baratte
7. Gaheen hojii keeti maali ? 1. Hojjata mootuumma 2. Qonnan bula 3. Daldala 4. Hojjata guyyadha (dafqaan bulaa) 5. Barataa 6. Kan biraa (ibsii)
8. Iddoo jireenya kee ? 1 magaala 2. Badiyyaa
9. Gaalin ji'a kee meqaa? ----------birri Ethiopiattin

KUTAA LAMMAFFFAA

Ragalee dhimmi dhibee fi ammaloota dhibee wajjin walqabataan kannen kardii dhukubsata irra guttaman qaban ilaalchise

1. Gosaa gaggabdoo _____
2. Umrii jalqaba dhibeen kun itti bekkame_____ji'ootan / waggan
3. Yeroo dhukkubsatan qorichaa fudhatu egalee _____ji'ootan / waggan
4. Yeroo hordoffi darbee gaggabdoon sii kuffise ture? 1 eyyen 2. Lakkii
5. Yoo deebin gaafffi 4fffa eyyyen ta'e yeroo meqaaf _____
6. Gosaa qorichaa ammma ajajamefi _____
7. Gosaa qorichoota meqaa fudhata _____
8. Guyyatti yeroo meqaa fudhata _____
9. Karaa qorichaa ittin argatuu 1. Biliiisaan fudhachuu 2. Malaqaan bitachuu
10. Dhibee bira gagabdooon alaa----------

KUTAA SADAFFA

3.1

1. Namoonni tokko tokko sababaa dhibee kanan sitti hin gammadann jette yaddaa? Lakki(miti) ☐ Eyyen ☐
2. Namoonni tokko tokko sababaa dhibee ka nattin akka namaa gaditti sii tajaajilaan jette yadda ? Lakki (miti) ☐ Eyyen ☐
3. Namoonni tokko tokko sababaa dhibee kanattin waan sii kophomsuu barbadu sitti fakkata ? Lakki(miti) ☐ **Eyyen** ☐

3.2 YAADA KEE IRRA MARI

1. Olaa kee irraa gargarsa argachuu yeroo barbaddetti hammam siif salphadha 1. Bayyye ulfatadha(rakkisadha) 2. Rakkisadha (ulfaatadha) 3. Hamma tokkoo salphadha 4. Salphadha 5. Baayee salphadha
2. Namoonii atti yeroo rakko hammtudha(jabdudhaa) natti dhiyoodha jette itti abdattu(amanntu) meqaa?

1. hommtu hin jiraan **2**. Namoota 1-2 **3**. Namoota3-5 **4**. Namoota 5+

3. Namoonni waantoota ati hojjjatuf hammam xiyeeffanno qabu?

1. Xiyyeffanno tokkoyyu naaf hin qaban 2. Xiqqatus Hamma tokkoo Xiyyeffanno naaf qabu 3. Hin bekkamuu 4. Hamma tokkoo Xiyyeffanno qabu 5.Baayee xiyyeffanno naaf qabu naaf

KUTAA SADAFFFAA 3.3. gaaffilee ilaalcha barbachisumma fi soda qorichaa waalin waal qabate ilaalchise qabdu irrratti

Lakk.	Gaafilee	haalan itti hin amanuu	itti hin amanuu	Hamma tokko ittin amana	Ittin amanaa	Haalan itti amanaa
1	fayyumman koo yeroo amma kana qorichaan fudhachaa jiru irratti kan hunda'e					
2	qorichaa fudhaa jiruun alatiti jireenyi koo waan danda'amuu mitti					
3	qorichaan fudhaa jirun yeroon dhise baayeen dhukkubsadha					
4	jireenyi koo inni fulduraa qorichaan fuudhacha jiruratti kan hunda'ee					

5	qorichi koo fuudhachun hammachu dhibee korraa naa ittisa					
6	qorichaa koo fudhachuun baayee naa yaddesssa					
7	yeroo tokko tokkoo dhibban yerro dheradha qorichaa fudhachuu wajjin walqabate dhufe yaadoo natti ta'a					
8	qorichi fudhacha jiruu kun naaf dhoksadha(naaf hin galle)					
9	qorichin fudhacha jiru kun jireenya koo naa boresse					
10	yeroo tokkoo tokkoo jireenyi koo qorichaan fudhachaa jiru kanarratti irrkata jedhu dhiphadha					

Kutaa 4ffaa

Gaafilee qorichaa fudhachaa jirtuu waalin waal fudhachuu ilaalchise armaan gaditti ibsaman kana irratti eyeen ykn miti jechuun malllatto (√) kan ka'i

Lakk.	Morisky Medication Adherence Scale (MMAS-8)

	Gaafilee	Eyyen	Lakki
1	yeroo tokko tokkoo qorichaa kee fudhachuu ni irranfatta ?		
2	Yeroo tokko tokkoo namoni qorichaa isaani fudhachhu ni dhisuu sababaa irranfatu alatti. Torbee lameen darbe yaddachuun guyyan qorichaa osoo hin fudhatiin hafte jira ?		
3	Yeroo sitti wayya'e ykn foyyen sitti dhagahame darbe darbee qorichaa kee fudhachuu ni dhistaa?		
4	Yeroo dhukkubni kee sitti hamate qorichaa kee fudhachuu adddan kutte bekta osoo ogeessa kee hin mariisisin ?		
5	Guyyaa kallesssa Qorichaa kee hundaa fudhate jirta ?		
6	yeroo mana baatu darbe darbee qorichaa kee fudhachuu irranfatte beekta?		
7	Qorichaa maramartoodha fudhachuun rakkisadha jette amanta?		
8	Hammam tokkoo rakkisadha yaddatani qorichaa fudhachuun ? ❑ gonkumaa rakisaa miti ❑ darbe darbe ❑ yeroo tokkoo tokkoo ❑ yeroo baayee ❑ yerooma hundaa		