

ADDIS ABABA UNIVERSITY
COLLEGE OF HEALTH SCIENCES
SCHOOL OF NURSING AND MIDWIFERY
POST GRADUATE PROGRAM

**ADHERENCE TO ANTI-SEIZURE MEDICATIONS AND
ASSOCIATED FACTORS AMONG CHILDREN WITH
EPILEPSY AT SELECTED PUBLIC HOSPITALS IN ADDIS
ABABA, ETHIOPIA, 2024. A CROSS-SECTIONAL STUDY**

BY: YOHANNES ADAMU (BSC)

**A THESIS SUBMITTED TO SCHOOL OF GRADUATE STUDIES
OF ADDIS ABABA UNIVERSITY COLLEGE OF HEALTH
SCIENCES, SCHOOL OF NURSING AND MIDWIFERY,
DEPARTMENT OF NURSING IN PARTIAL FULFILMENT OF
THE REQUIREMENTS FOR THE DEGREE OF MASTERS OF
SCIENCE IN PEDIATRICS AND CHILD HEALTH NURSING.**

MAY, 2024

ADDIS ABABA, ETHIOPIA

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**A THESIS SUBMITTED TO SCHOOL OF GRADUATE STUDIES OF
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MAY, 2024

ADDIS ABABA, ETHIOPIA

APPROVAL SHEET
ADDIS ABABA UNIVERSITY

COLLEGE OF HEALTH SCIENCE SCHOOL OF NURSING AND MIDWIFERY

I, the undersigned MSc pediatric and child health nursing student hereby declares that, for the purpose of this examination, I have presented my original work on the topic adherence to anti-seizure medications and associated factors among children with epilepsy at selected public hospitals in AA, Ethiopia for the examination.

Submitted by:

Yohannes Adamu Signature: _____ Date: _____

this thesis work has been submitted for examination with my approval as an advisor.

Examiner _____

Signature _____ Date _____

Approved by:

1. Principal advisor

Mrs. Fikrtemariam Abebe, Signature: _____ Date: _____

2. Co-Advisor

Mr. Abdisa Boka, Signature: _____ Date: _____

STATEMENT OF DECLARATION

I certify that the work in this thesis is entirely original by signing my name below. I have prepared, collected, analyzed, and finished this thesis in accordance with the ethical guidelines for scholarship. Every academic source that the thesis contains has been acknowledged with a citation. I certify that every source I utilized for this paper was credited and referenced. This thesis has been prepared with great care to prevent plagiarism. This thesis is submitted in partial fulfillment of the degree of master in pediatric and child health nursing to AAU. I would like to declare that this thesis has not been submitted to any other institution anywhere for the award of any academic degree, diploma or certificate.

Principal investigator: Yohannes Adamu, Signature: _____ Date: _____

Advisors: 1. Mrs. Fikrtemariam Abebe, Signature _____ Date _____

2. Mr. Abdissa Boka, Signature _____ Date _____

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ACRONYM AND ABBREVIATIONS

AA	Addis Ababa
AAU	Addis Ababa University
AOR	Adjusted Odds Ratio
ASM	Anti-seizure Medication
EEG	Electroencephalogram
IRB	Institutional Review Board
JMC	Jimma Medical Center
MMAS	Morisky Medication Adherence Scale
RRR	Relative Risk Ratio
SPH	Saint Peter Hospital
SPHMMC	Saint Paul Hospital Millenium Medical College
SPSS	Statistical Package for Social Sciences
TASH	Tikur Anbessa Specialized Hospital
ZMH	Zewditu Memorial Hospital

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ABSTRACT

Background: Epilepsy is a disorder of the brain characterized by an enduring predisposition to generate seizures, unprovoked by any immediate central nervous system insult, and by the neurobiologic, cognitive, psychological, and social consequences of seizure recurrences. It significantly impacts children's health and wellbeing. Anti-seizure medications Adherence (ASMs) is crucial for optimal control of seizure and improved quality of life, but non-adherence remains a critical challenge.

Objectives: To assess the adherence to anti-seizure medications and the associated factors among children with epilepsy at selected public hospitals in Addis Ababa, Ethiopia, 2024.

Methods: A cross-sectional study was conducted on 372 children with epilepsy being followed at selected public hospitals in Addis Ababa, Ethiopia between April 5 & May 5/2024. data were gathered at St. Peter Hospital using a pretested questionnaire. The eight-item Morisky's medication adherence scale was used to measure Medication Adherence. The variables for the multivariable analysis were chosen using bivariate analysis. Variables in the bivariate analysis that had a p-value of less than 0.25 were therefore considered candidates for multivariable analysis. Then, multivariable logistic regression analysis was performed to find the independent determinants of Adherence to ASMs. Variables with a p-value of < 0.05 in multivariable logistic regressions was considered as statistically significant predictors for adherence.

Result: With a 97.1% response rate, 374 study participants participated in this investigation. The mean (SD \pm) child's age of the study participants was 7.94(\pm 4.30) years. More than half of the study participants 215(57.5%) gender were male. Medication side effect (AOR =2.98(95%CI: 1.64, 5.34)), Marital status of a care giver (AOR =0.35(95%CI: 0.12, 0.99)) and having seizure attack in the past 3 months % (AOR =0.53(95%CI: 0.34, 0.84)) were significantly associated with antiseizure medications adherence.

Conclusion & recommendation: The finding of this study showed that the overall prevalence of adherence to anti-seizure medications was 62.3 %. Medications side effect, Marital status of a care giver and seizure attack in the past 3months were significantly associated with antiseizure medications adherence with a p-value of less than 0.05 and confidence interval of 95%.

Keywords: Adherence, Anti-seizure medications, Children, Epilepsy

1.INTRODUCTION

1.1 Background

Epilepsy is a disorder of the brain characterized by an enduring predisposition to generate seizures, unprovoked by any immediate central nervous system insult, and by the neuro-biologic, cognitive, psychological, and social consequences of seizure recurrences (1).

Epilepsy is diagnosed clinically when there is at least one unprovoked epileptic seizure, followed by either a second seizure or sufficient EEG and clinical data to clearly show a persistent propensity to experience recurrences. Epilepsy is considered present when two or more unprovoked seizures take place over a period of time greater than 24 hours (1).

In the first sixteen years of life, 4–10% of children have at least one seizure. The annual prevalence of epilepsy is 0.5-0.1%, with a total lifetime incidence of 3% and over half of the diseases beginning in childhood (1).

The successful management of epilepsy and the attainment of seizure control depend on adherence to anti-seizure medication (ASM). Anti-seizure treatment adherence refers to the extent to which the child complies with medical instructions regarding the use of medications, dietary changes, and follow-up appointments with the attending healthcare provider (2).

Adherence is influenced by various factors, including Socio-demographic factors, Clinical factors, factors related Health Care & patient related factors (3).

There is a significant association between poor adherence to ASMs with higher rates of morbidity and mortality, treatment failure, and increased healthcare costs (4,5). Unfortunately, evidence shows that there is less than ideal medication adherence among epileptics (6). A complete understanding of the problem's scope is necessary to develop an intervention and policy response that can promote increasing ASM adherence (4).

1.2 Statement of the problem

Epilepsy incidence in children varies from 3.2-5.5/1,000 in developed countries and 3.6-44/1,000 in underdeveloped countries. The incidence of epilepsy in children ranges from 41-187/100,000, with reports of a higher incidence coming from developing countries. The incidence is consistently reported to be highest in the first year of life and declines to adult levels by the end of the first decade (7). A multicenter prospective cohort study in Scotland reported an incidence of epilepsy presenting in the first 3 years of life at 239 per 100,000 live births (8).

According to a systematic analysis of the condition, 4.4 millions in sub-Saharan Africa are estimated to have active epilepsy; in children aged from 0 to 9 and 10 to 19, respectively, active epilepsy prevalence is 5.09/1000 and 5.98/1000 (3). According to a community-based study conducted in Ethiopia, there is an incidence of 64 cases per 100,000 people per year, with children aged 0 to 9 having the highest incidence.

Children's lives are significantly and profoundly impacted by epilepsy. Beyond physical health concerns, children with epilepsy often struggle with emotional, cognitive, and social development (9). It may affect the child's prospects of completing school, landing a decent job, and getting married. Additionally, it may postpone the emergence of independence, which may complicate social relationships and cognitive processes (10). Moreover, epilepsy may lead to increased healthcare costs, a detrimental financial impact on families, and increased parental stress. They may also encounter social exclusion and stigmatization, which can result in emotional discomfort and loneliness (9).

Over two of every five epileptics in Ethiopia were found to not take their antiseizure medicine as prescribed. It has been discovered that antiseizure drug non-adherence is significantly influenced by comorbidities, length of therapy, medication payment, and perceived stigma (11). The lack of understanding of the factors associated with low adherence to anti-seizure medication in children with epilepsy in Ethiopia is a critical study issue (9).

From 25% to 75% of children with epilepsy do not take their ASMs as prescribed, despite notable progress in pediatric therapy and a growing emphasis on adherence in pediatric chronic disorders (9). Previous community-based studies conducted in Ethiopia have predominantly targeted adult patients, with limited attention to children with epilepsy (12).

ASM non-adherence has been linked to a number of unfavorable health effects and has been identified as a factor influencing treatment results in children with epilepsy (13). Research has shown that poor adherence to ASMs is linked to poor seizure control, higher morbidity, prolonged hospitalization time, poor life quality, increased health care expenses, and higher mortality (11)(13). Furthermore, noncompliance with ASMs may raise the risk of unexpected death, emergency room visits, hospital stays, physical trauma, diminished everyday functioning, and higher healthcare and financial costs (14). It also has been increased risk of status epilepticus, and failure to achieve treatment goals (15).

While there is a growing body of literature on adherence to anti-seizure medications in adult patients in Ethiopia, there is a scarcity of data on treatment adherence and associated factors specifically among children with epilepsy in the country, so conducting another research on children is crucial because their physiology and development are distinct from adults so the existing researches on adults not likely capture the unique challenges children face with medication adherence. And their reliance on caregivers, their maturity & understanding affects the adherence. While some studies have identified factors contributing to adherence to anti-seizure medications among children with epilepsy in Ethiopia, they only conducted in single institution.

This study aims to assess the factors affecting the adherence of children who have epilepsy receiving ASMs in AA, Ethiopia, as well as the prevalence of this behavior.

1.3 Significance of the study

The study findings will provide valuable insight into the current status of medication adherence in children who have epilepsy in AA, Ethiopia. Additionally, this study will identify factors significantly associated with adherence. Understanding these factors is crucial for developing targeted interventions to improve medication adherence and ultimately enhance seizure control in this vulnerable population.

Limited research exists on adherence specifically among children with epilepsy in Ethiopia, despite the country's high epilepsy prevalence. This study will provide valuable insights into the factors influencing adherence in this context, such as sociodemographic, clinical, health care related and other factors. By highlighting the factors, the study will contribute to the body of knowledge on epilepsy management.

Improved adherence can result in decreased seizure frequency and severity, improving quality of life and minimizing complications like cognitive decline. Optimizing seizure control through improved adherence can also lower healthcare costs associated with frequent hospitalizations and emergency room visits. A deeper understanding of adherence challenges can guide the development of interventions and healthcare approaches tailored to children.

The study findings can offer vital information that can increase caregivers' awareness about the importance of medication adherence and the factors that affect it & it helps to empower caregivers to support their children more successfully. It also has the potential to enhance patient care practices for health professionals. Healthcare professionals can provide more effective patient education by using the study's evidence-based insights into the factors to medication adherence.

The findings of this study can also be used by health organizations to improve the frameworks for their service delivery. Understanding the factors influencing medication compliance can help with the creation of targeted projects and programs that assist families and children with epilepsy.

2. LITERATURE REVIEW

2.1 Introduction

A meta-analysis of the prevalence of medication adherence among children with epilepsy revealed pooled adherence rates of 58 % assessed by objective methods and subjective methods (16). The cross-sectional study conducted on 120 children with epilepsy in Iran, during 2019 and 2020 found that the overall frequency of adherence to ASMs among children was reported to be about 41.7% (17). A cross-sectional study involving 399 children in western China found that 21.3% of children with epilepsy showed good adherence (18).

In a cross-sectional study, which included 122 children assessment of adherence to antiepileptic drugs was done by self-report and assay of serum drug levels of the antiepileptic drugs, & adherence to ASMs by self-report was 79.5% and 22.1% by drug levels (19). A study in northern India showed that 29.5% of study participants were adherent to antiseizure medications (20). another study in Sudan showed that 73.2% of the patients have antiseizure medication adherence (21), & a study in Jordan showed that 79.5% (22).

According to the World Health Organization's report on long-term therapy, between 25 and 75 percent of children with epilepsy adhere to anti-seizures (3). A study done in Nigeria found that the adherence prevalence to ASMs was 55.2% (23), in South Africa (45%) in the year 2016 (24), Kenya 36.6% in 2014 & 79.5% in Uganda in 2014 (19).

The study conducted in southern Ethiopia, assessed at how well epileptic children adhere to their ASMs. The study found that adherence to ASMs 65% of children being adherent to their medication. A study conducted in South Western Ethiopia found that 54.1% of caregivers adhered to anti-seizure medications.

2.2 Factors affecting Adherence to anti-seizure medications

2.2.1 Socio-demographic factors

Children's adherence to ASMs is influenced by a complex web of sociodemographic characteristics, including caregiver circumstances, income, parental education, and family support (12). According to the study in Western China patient's age, epilepsy type, total income of household, and source of medication had association with adherence (16). Educated parents in Iran appear to increase adherence (17), while in Uganda, caregiver occupation seem to impede it (19).

Marital status play a role, with study at JMC reporting better adherence in children from married families (25), This study determined the caregivers' marital status, i.e., whether or not being married was associated to adherence. A study done in Southern Ethiopia finds 1-2years old Children & having a family size of 5 or less was more adherent but low income was a barrier (12). Place of residence was associated with adherence (16).

2.2.2 Health Care related factors

A report by WHO showed that accessibility and distance from healthcare facilities can have an impact on adherence as they may make it difficult to get follow-up appointments and refill medicine due to limited transportation alternatives or geographic remoteness (3). During follow-up visits, parents/caregivers who received proper healthcare & information adhered to their ASMs more than six times than not received caregivers (25). A study in Malaysia showed that having an average or below-average perceived access to pharmacy services is a significant contributing factor of adherence (5). Availability of prescribed medications was also significantly associated with ASMs adherence (26). And a study done in western China found that source of medication had association with adherence (18). A study in Kenya also acknowledged that a financial problem is the most important reason for non- adherence (27).

2.2.3 Clinical factors

A study conducted in Iran showed that type of seizure have an impact on the rate of medication adherence; a significant difference was detected between the highest and lowest rates of adherence for focal impaired seizures (57.1%) and atonic seizures (11.1%) (17). A study done in Jordan showed that medication side effects are significantly associated with adherence (22). A study done in south Ethiopia reported controlled seizure status has an impact on children' compliance with

anti-seizure drugs, patients with excellent adherence to ASMs were 2.5 times more likely to develop controlled seizures than those with poor adherence (25). A study carried out in southern Ethiopia showed that experiencing a seizure attack in the past 3 months, experiencing side effects from antiepileptic medications, having seizures within the last three months, and having epilepsy for a long time all indicated poor adherence (12). Duration of treatment were associated with adherence to antiepileptic medications (28)(29). Duration of illness, number of ASMs & dosing frequency were also associated with adherence (30)(31).

A study conducted in Iran showed that the presence of underlying perinatal morbidities in the child predicted non-adherence with ASMs (17). Another study done in Nigeria showed that lack of improvement is also the main reason for non- adherence (23). These two factors were not assessed in the previous studies which are done in Ethiopia among children, so this study also aims to analyze the association these factors with ASM adherence.

2.2.4 Other factors

A study conducted in Saudi Arabia showed that stigmatization & cultural belief that the main cause of seizure may be due to evil spirit have association with ASM adherence (32). A study conducted in south Ethiopia showed that the most common reason for non-adherence was forgetfulness (12). A study carried out in southwestern Ethiopia reported that the knowledge of caregivers about epilepsy was found to be significantly associated to their adherence to anti-seizure medications (25)(17). A systematic review and meta-analysis of anti-epileptic medication non-adherence showed that substance use had also statistically significant association with anti-seizure medication poor adherence (33).

Conceptual Framework

This conceptual framework is adapted from different literatures (13, 21, 24 & 25) showing that adherence to antiseizure medication is influenced by different factors like Sociodemographic factors, Clinical factors, Health Care related factors & other factors.

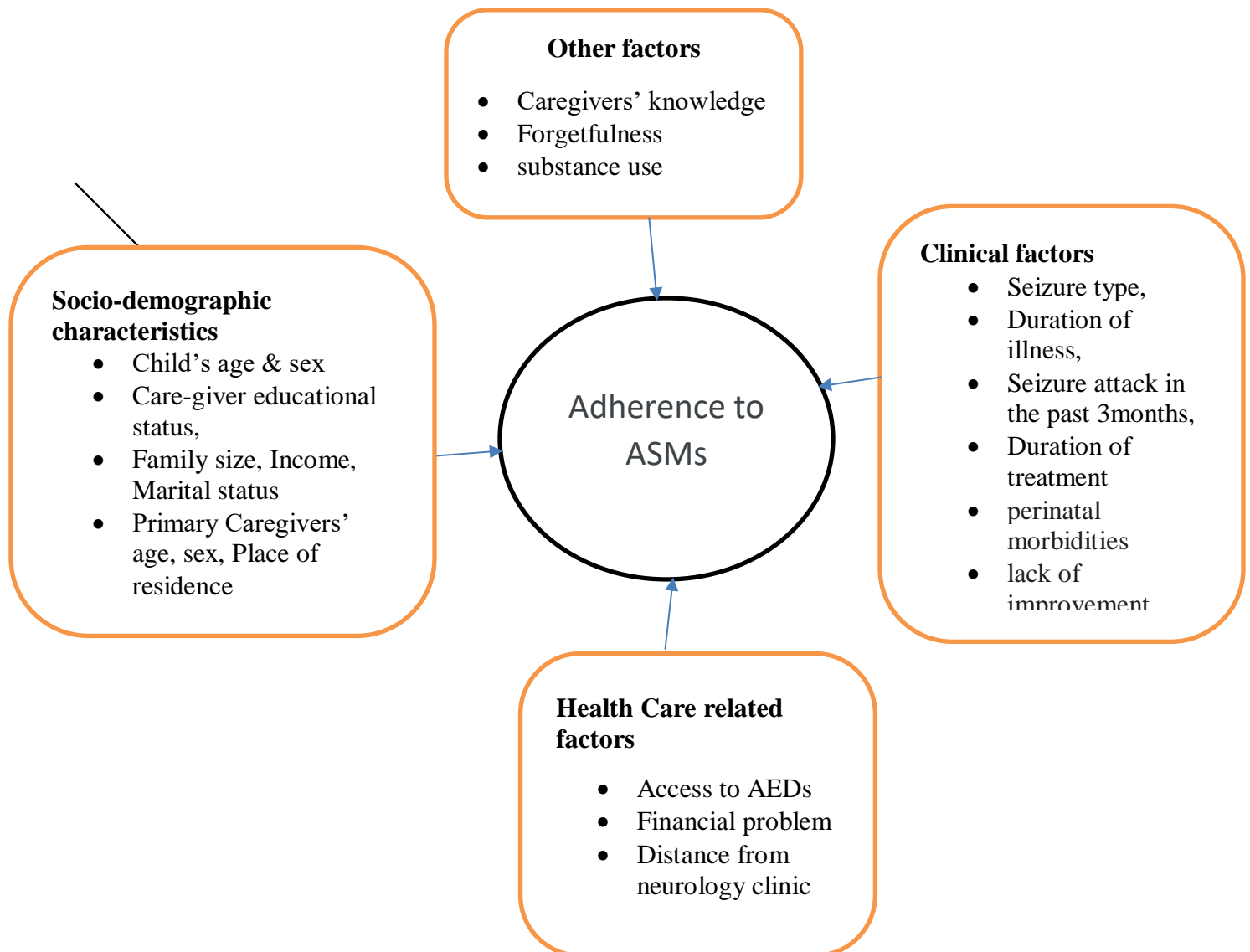


Figure 1: conceptual framework on adherence to ASMs and associated factors among children with epilepsy at selected public hospitals in aa, Ethiopia.

3. OBJECTIVES OF THE STUDY

3.1 General objective

- To assess the adherence to anti-seizure medications among children with epilepsy and the associated factors among children with epilepsy at selected public hospitals in AA, Ethiopia, 2024.

3.2 Specific objectives

- To determine the prevalence of adherence to anti-seizure medications among children with epilepsy in selected public hospitals in AA, Ethiopia, 2024.
- To assess the factors associated with adherence to ASMs among children with epilepsy at selected public hospitals in AA, Ethiopia, 2024.

4. METHODS AND MATERIALS

4.1. Study area and Period

The research was carried out in Addis Ababa, Ethiopia's capital and home to the African Union Charter. Addis Ababa's 2024 population is now estimated at 5,703,628 (34). Totally there are fourteen hospitals in the city out of these six of them controlled under federal government, six of them governed by Addis Ababa city health bureau, one owned by police force and one owned by defense army. This investigation was conducted in four randomly selected public hospitals in Addis Ababa. These are Zewditu Memorial Hospital, Menelik Hospital, St. Paul's Hospital Millennium Medical College, and Tikur Anbessa Specialized Hospital. The information about study areas was collected from the health professionals and information department of each hospital.

Tikur anbesa specialized hospital is a leading specialized hospital in Addis Ababa, Ethiopia, established in 1964. As the largest referral hospital in the country, it provides specialized clinical services and serves as a main teaching hospital for both preclinical and clinical training of most disciplines in the School of Medicine of Addis Ababa University. It has a dedicated team of neurologists, nurses, and other health professionals, as well as specialized facilities for the diagnosis, treatment, and management of a wide range of neurological conditions, including epilepsy. About fifteen to twenty children are typically assessed on every follow-up day of the pediatric neurology follow-up clinic, which runs every work day. A nurse, two interns, two or three pediatric residents, and one or two pediatric neurologists monitor patients at the clinic on a daily follow-up basis. At every appointment, patients undergo evaluations for growth and development, side effects of ASMs, adhering to therapy, seizure control, and receiving education relevant to their disease.

SPHMMC is a public hospital and medical teaching college, located at Gulele sub city. About fifteen to twenty children are typically assessed on every follow-up day of the pediatric neurology follow-up clinic, which runs three days per week. A nurse, two interns, three to four pediatric residents, and one or two pediatric neurologists monitor patients at the clinic on a daily follow-up basis. At every appointment, patients undergo evaluations for growth and development, side effects of ASMs, adhering to therapy, seizure control, and receiving education relevant to their disease.

Menelik II National Referral Hospital, established in 1957. Renowned for its dedicated neurology department, the hospital boasts experienced neurologists skilled in diagnosing and treating various forms of epilepsy through medications, electroencephalograms (EEGs), and advanced neuroimaging techniques. About fifteen to twenty children are typically assessed on every follow-up day of the pediatric neurology follow-up clinic, which runs once a week. A nurse, a resident, and a pediatric neurologist monitor patients at the clinic on a daily follow-up basis.

ZMH boasts a comprehensive epilepsy program specializing in diagnosing and treating children with this neurological condition. About fifteen to twenty children are typically assessed on every follow-up day of the pediatric neurology follow-up clinic, which runs once a week. A nurse, a general practitioner, and a pediatric neurologists monitor patients at the clinic on a daily follow-up basis.

4.2. Study design

Institution based cross sectional study was conducted.

4.3. Population

4.3.1 Source population

All children with epilepsy who are in follow up at selected hospitals in AA, Ethiopia, during data collection period.

4.3.2 Study Population

Children with epilepsy who are in follow-up at selected hospitals in AA, Ethiopia during data collection period, who fulfils the inclusion criteria.

4.4. Eligibility Criteria

4.4.1. Inclusion Criteria

Children aged below 18 years with a diagnosis of epilepsy, who have been on anti-seizure medications for at least 3 months, who have the ability to take medications as prescribed by their healthcare provider, whose parents or caregivers provide consent for the child's participation in the study.

4.4.2. Exclusion Criteria

Children whose primary caregivers are unable to provide information on medication adherence.

4.5. Sampling Methods

4.5.1 Sample size determination

The sample size was calculated using a single population proportion formula in Epi-info version 7 based proportion of adherence taken from study conducted in southern Ethiopia, the prevalence was 65% (12), by using 95% CI and 5% degree of precision was taken. Accordingly, the calculated sample size was 350.

$$n = \frac{(z_{\alpha/2})^2 SD^2}{e^2}$$

$$\frac{(1.96)^2 \times 0.65(0.35)}{(0.05)^2} = 349.49$$

$$n = 350$$

Then considering 10% non-response rate to adjust sample size, $n=350+10\%$ which is $n = 385$.

The final sample size was 385.

By using population allocation formula, sample size was allocated for each hospital proportionally.

$n_i = \frac{N_i \times n_t}{N_t}$, n_i is sample size of specific Hospital and n_t is total sample size.

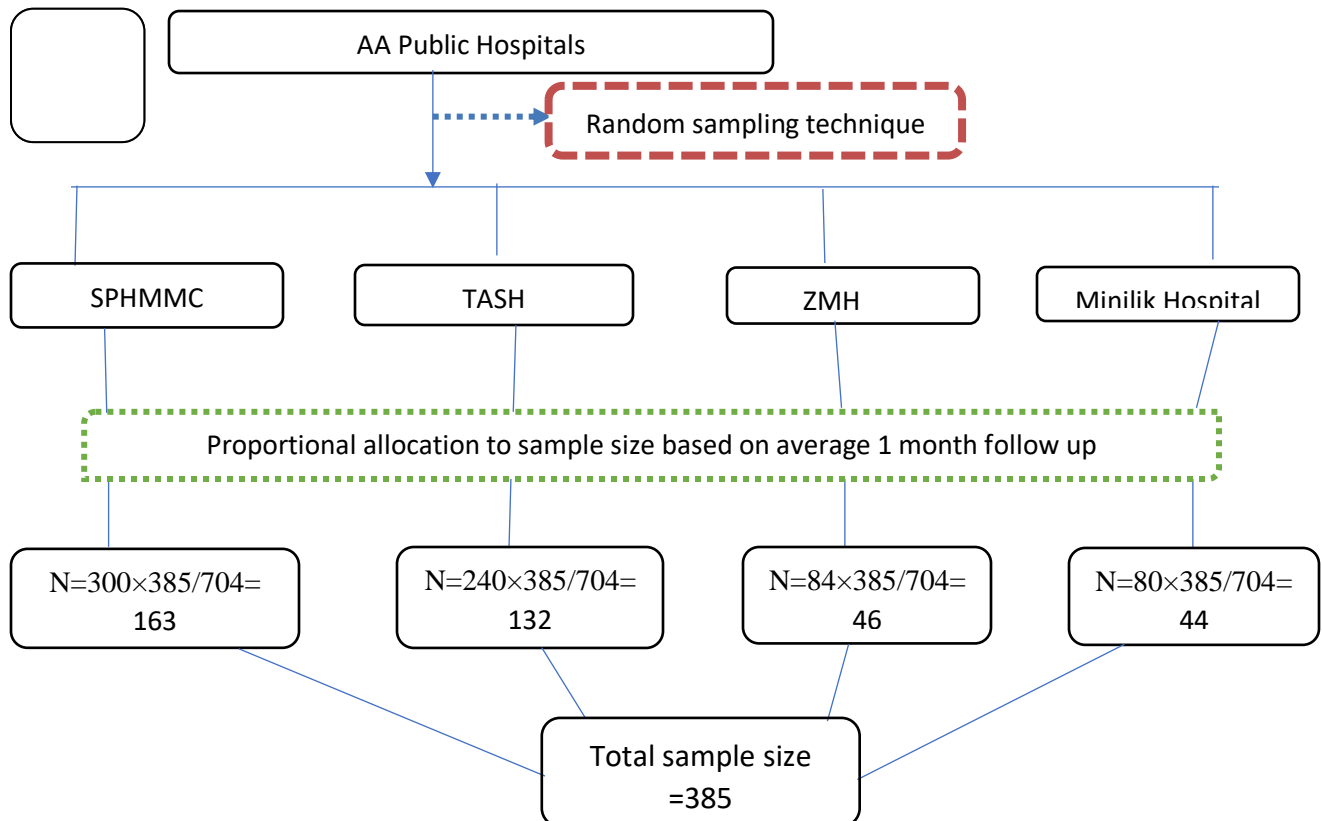


Figure 2: Schematic diagram of sampling procedure Adherence to ASMs and associated factors among Children with epilepsy at selected public hospitals in AA, Ethiopia, 2024

4.5.2. Sampling Techniques and procedure

Sample children was selected from public health Hospitals using probability proportionate to size. There are fourteen hospitals in the city, four hospitals are selected by using simple random sampling technique. These are Tikur Anbessa Specialized Hospital, St' Paul's Hospital Millennium Medical College, Menillik Hospital and Zewditu Specialized Hospital.

Out of these hospitals sample children was selected by using systematic sampling technique. By dividing the study population's number by the calculated sample size, the sampling fraction (k) was determined. Thus, $K=N/n$. Therefore, after the doctor's visit, every K th child care provider was interviewed. Using a lottery method, the first participant was chosen. To avoid recycling data, special markings were used in the chart. All children who were diagnosed with epilepsy and provided with treatment in the outpatient neurologic department was included, whereas Children whose primary caregivers are unable to provide information on medication adherence was excluded.

4.6. Study variables

4.6.1. Dependent Variable

- Adherence to ASMs

4.6.2. Independent variables

- Socio-demographic factors
- Clinical factors
- Health Care related factors
- Caregivers' knowledge, Forgetfulness & Substance use

4.7. Operational Definitions

The eight-item Morisky Medication Adherence Scale (MMAS) is a commonly used tool for measuring adherence to ASMs and has been validated in several population groups (Cronbach's alpha value=0.84)(20)(29). Items 1 through 7 are yes/no questions. A "yes" response earns a score of 0, and a "no" response obtains a score of 1. Five points are awarded for completing item 8. The total score can range from 0 to 8. The replies "never", "once in a while", "sometimes", "usually", and "all the time" are scored 1, 0.75, 0.50, 0.25, and 0 accordingly.

- ✓ Low/non-adherence: - Patients who scored less than six out of eight items on the MMAS.
- ✓ Medium adherence: - Patients who scored 6–7 of 8 items on the MMAS.
- ✓ High adherence: - Patients who scored 8 of 8 items on the MMAS.

Adherence overall: - Dichotomized into adherent and non-adherent categories. Participants in this study were classified as "adherent" if they had medium or high adherence, and "low/non-adherent" if they had poor adherence (24).

The caregiver's knowledge about epilepsy was assessed using a five-item tool consisting of questions about epilepsy. The mean score was taken to classify caretakers as have good knowledge or poor knowledge. Hence, care takers who scored more than or equal to the mean score were considered have good knowledge and those with a score of less than the mean were considered have poor knowledge (12).

4.8. Data Collection tools and procedures

A pretested questionnaire with questions about sociodemographic and epilepsy-related information was used to gather data. Sociodemographic data includes the child's age, sex, and address. Age at diagnosis, type of epilepsy, status of the syndrome, coexisting neurological disorders, antiepileptic medication prescriptions, medication adherence profile, patient access to ASMs, and epilepsy knowledge are all factors related to epilepsy.

Patients' medical records were examined, caregivers were questioned, and trained nurses documented details relevant to the patients' epilepsy on the data collection form during follow-up visits. The Morisky Medication Adherence Scale (MMAS-8), an eight-item measure of medication adherence that has been validated in a variety of population groups, is one of the most popular instruments for measuring medication adherence (24).

4.8.1 Data quality assurance

To enhance the quality of data, two days training was given for data collectors. Language experts will involve because of the questionnaire was converted to Amharic for data collection then back to English for data analysis. The questionnaire was pre-tested on 5% children with Epilepsy

attending in St. Peter Hospital before the main study and appropriate modification was made based on pretest.

4.9. Data analysis

The data were checked for completeness and entered into SPSS version 26 for analysis. Descriptive statistics were performed to summarize the data and explain the study variables. Then the data was presented using a table & pie chart accordingly. To choose the variables for the multivariable analysis, bivariate analysis was done. Therefore, factors in the bivariate analysis with a p-value of less than 0.25 were considered for multivariable analysis. The independent predictors of adherence to ASMs were then found using multivariable logistic regression analysis. In multivariable logistic regressions, variables with a p-value of less than 0.05 were considered statistically significant predictors of adherence.

4.10. Ethical considerations

Ethical clearance was obtained from the IRB of the College of Health Sciences of AAU, Research & Ethics committee of Pediatrics & Child Health department of AAU, Research & Ethics committee of SPHMMC And Addis Ababa health bureau. Informed consent was obtained from all study participants. Individual information was kept confidential by avoiding possible identifiers such as the names of the study participants.

5. RESULT

5.1. Socio demographic characteristics of the Participants

Three hundred seventeen four study participants were included in this study with the response rate of 97.1%. The mean (SD \pm) child's age of the study participants was 7.94(\pm 4.30) years and the mean (SD \pm) caregivers age of the study participants was 37.15(\pm 6.95). More than half of the study participants 215(57.5%) gender were male. Regarding educational status of the child 183(48.9%) were did not join school.

Majority of study participants care giver marital status 278(74.3%) were married. About 346 (92.5%) caregivers' relation to child were biological parents. Most of 153 (40.9%) care givers age group were from 18 years to 35 years of age. Regarding to caregivers' educational level 110(29.4%) had elementary educational level, 107(28.6%) had high school educational level (Table 1).

Table 1: Socio demographic characteristics of adherence to ASMs among children with epilepsy at selected public hospitals in Addis Ababa, Ethiopia, 2024 (N=374)

Variable	Category	Number	Percent
Child's sex	Male	215	57.5
	Female	159	42.5
child age	0-2 years	25	6.7
	3-5 years	106	28.3
	6-8 years	86	23.0
	9-11 years	69	18.4
	12-18 years	88	23.5
Educational status of the child	Did not join school	183	48.9
	Attending school	164	43.9
	Dropped out of school	27	7.2
Family size	1-3	46	12.3
	4-6	290	77.5
	7-10	38	10.2
Care givers age	18-35 years	153	40.9
	36-45 years	175	46.8

Continued...

	46-70 years	46	12.3
Caregivers' sex	Male	85	22.7
	Female	289	77.3
Caregivers' educational level	Can't read or write	41	11.0
	Elementary	110	29.4
	High School	107	28.6
	Diploma	66	17.6
	Degree and above	50	13.4
Caregivers' occupation	Farmer	20	5.3
	Merchant	134	35.8
	Government employee	77	20.6
	NGO employee	14	3.7
	Jobless	112	29.9
	Other	17	4.5
Caregivers' relation to child	Biological parents	346	92.5
	Grand parents	15	4.0
	Volunteers	13	3.5
Marital status of a care giver	Single	25	6.7
	Married	278	74.3
	Divorced	40	10.7
	Widowed	21	5.6
	Separated	10	2.7
Place of residence	Urban	361	96.5
	Rural	13	3.5
History of substance use	Yes	16	4.3
	No	358	95.7
Type of substance used	Alcohol	8	2.1
	Cigarette	3	0.8
	Khat	5	1.3

5.2. Clinical factors

Most of study participants 159 (42.5%) duration of illness were from 6 years to 10 years of duration. From all study participants 304(81.3%) had generalized seizure. One hundred sixty-one (43%) of study participants had seizure attack in the past 3months (Table 2).

From all of study participants: 35(9.4%) had comorbid disease, 65(17.4%) had medication side effects, 23 (6.1%) were stigmatized because of epilepsy and 67 (17.9%) had not improvement on their treatment. More than half of study participants 250 (66.8%) number of ASMs the was taking were monotherapy and 124(33.2%) were polytherapy (Table 2).

Table 2: Clinical characteristics of adherence to ASMs among children with epilepsy at selected public hospitals in Addis Ababa, Ethiopia, 2024 (N=374)

Variable	Category	Number	Percent
Duration of illness	< 1 year	10	2.7
	2-5 years	60	16.0
	6-10 years	159	42.5
	> 10 years	145	38.8
Duration of treatment	< 1 year	51	13.6
	2-5 years	19	5.1
	6-10 years	164	43.9
	> 10 years	140	37.4
Lack of improvement	Yes	67	17.9
	No	307	82.1
Seizure type	Generalized	304	81.3
	Focal	58	15.5
	Unclassified	12	3.2
Seizure attack in the past 3months	Yes	161	43.0
	No	213	57.0
Number of ASMs the child was taking	Monotherapy	250	66.8
	Polytherapy	124	33.2

Continued...

Drug formulation	Tablets	316	84.5
	Suspension/syrup	17	4.5
	Both tablet and suspension/syrup	41	11.0
Frequency of daily doses	Once	14	3.7
	Twice	322	86.1
	Three times	38	10.2
Medication Side effect	Yes	65	17.4
	No	309	82.6
Types of side effects	Behavioural abnormality	5	7.7
	Gum hyperplasia	7	10.8
	Skin rash	8	12.3
	Drowsiness	30	46.1
	Fatigue	10	15.4
	Decreased concentration	5	7.7
Comorbidity	Yes	35	9.4
	No	339	90.6
Type of comorbidity	ADHD	4	1.1
	Autism spectrum disorder	9	2.4
	Cerebral palsy	12	3.2
	Developmental delay	4	1.1
	Down syndrome	1	.3
	Spina bifida	2	.5

5.3. Health service-related factors

Majority of the study participants 305(81.6%) had getting health information, more than three fourth of study participants 294(78.6%) had financial problem and 259(69.3%) of study participants had not get prescribed drugs all the time. From all study participants 223(59.6%) got their antiseizure medications with payment (Table 3).

Almost half of study participants 186(49.7%) had three months of appointment duration and 155(41.4%) were 10-20 kilo meters distance from the hospital. Regarding to the knowledge of the study participants 193 (51.6%) had good knowledge and 181(48.4%) had poor knowledge about antiseizure medications (Table 3).

Table 3: Health service-related factors of adherence to ASMs among children with epilepsy at selected public hospitals in Addis Ababa, Ethiopia, 2024 (N=374)

Variable	Category	Number	Percent
Getting health information	Yes	305	81.6
	No	69	18.4
Financial problem	Yes	294	78.6
	No	80	21.4
Availability of prescribed drugs all the time	Yes	115	30.7
	No	259	69.3
Source of ASMs	With payment	223	59.6
	Free	151	40.4
Distance from the hospital	< 10 km	93	24.9
	10-20 km	155	41.4
	>20 km	126	33.7
Frequency of appointments	1 week	8	2.1
	2 weeks	6	1.6
	1 month	122	32.6
	2 months	39	10.4
	3 months	186	49.7
	6 months	13	3.5
Knowledge	Poor	181	48.4
	Good	193	51.6

5.4. Adherence of ASMs among children with epilepsy

Two hundred thirty-three (62.3 %) of the study participants were adherent and one hundred forty-one (37.7%) of the study participants were not adherent for antiseizure medications (Fig 3).

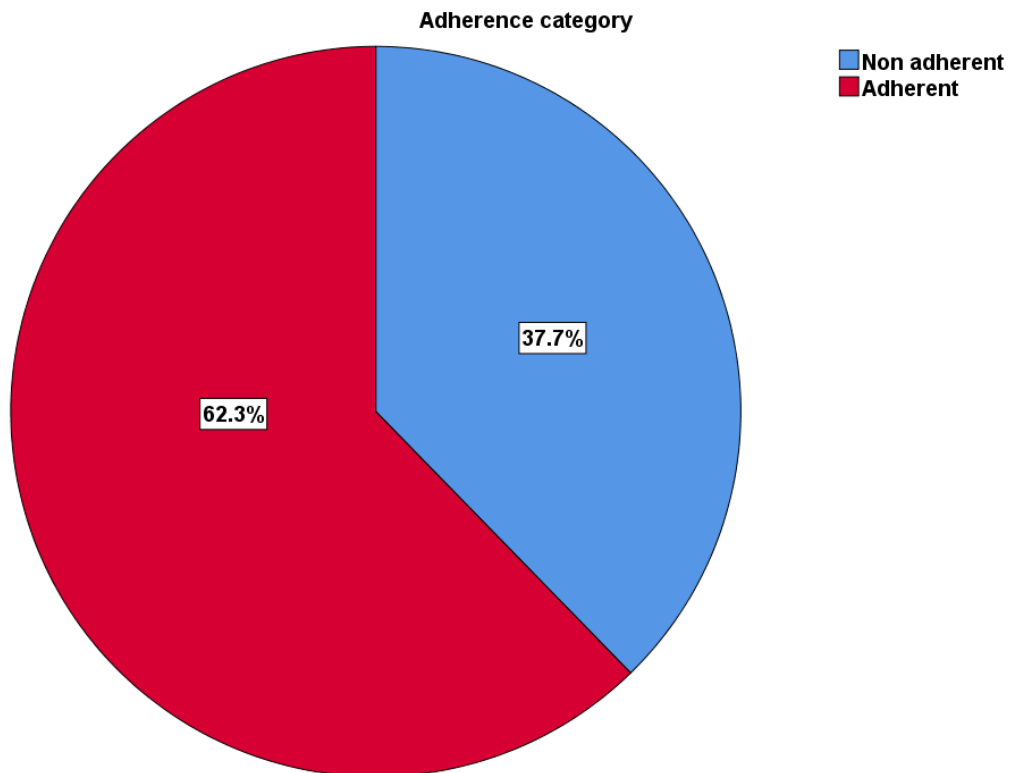


Figure 3: Adherence to ASMs among children with epilepsy at selected public hospitals in Addis Ababa, Ethiopia, 2024

5.5. Factors associated with adherence to ASMs

In binary logistic regression showed that caregivers' relation to child, financial problem, availability of prescribed drugs all the time, seizure attack in the past 3 months, number of ASMs the child was taking, medication side effect, marital status of a caregiver and duration of treatment were significantly associated with antiseizure medications adherence at p value less than 0.25. In addition, those variables significantly associated with antiseizure medications adherence were candidates for multivariable logistic regression analysis with a p-value of less than 0.25 (Table 4).

According to a multivariable logistic regression model, medication side effect, marital status of a caregiver and seizure attack in the past 3months were significantly associated with antiseizure medications adherence with a 95% confidence interval and a p-value less than 0.05 (Table 4).

Medication side effect (AOR =2.98(95%CI: 1.64, 5.34)), Marital status of a care giver (AOR =4.84(95%CI: 1.12, 20.87)) and having seizure attack in the past 3 months (AOR =0.53(95%CI: 0.34, 0.84)) were significantly associated with ASMs adherence (Table 4).

Table 4: Multiple logistic regression factors associated with adherence to anti-seizure medications among children with epilepsy at selected public hospitals in Addis Ababa, Ethiopia, 2024 (N=374)

Variable	ASMs Adherence status		COR (95%CI)	AOR (95%CI)	P – value
	Adherent	Non-Adherent			
Caregivers relation to a child					
Biological parents	220	126	2.04(0.67,6.20)	1.86(0.57,6.09)	0.31
Grand parents	7	8	1.02(0.23,4.53)	0.84(0.17,4.15)	0.83
Volunteers	6	7	1	1	
Financial problem					
Yes	183	111	1	1	
No	50	30	1.39(0.85,2.26)	0.57(0.32,1.01)	0.06

Continued...

Availability of prescribed medications all the time					
Yes	81	34	1.68(1.05,2.69)	1.42(0.86,2.32)	0.16
No	152	107	1	1	
Seizure attack in the past 3 months					
Yes	85	76	0.49(0.32,0.75)	0.53(0.34,0.84)	0.007*
No	148	65	1	1	
Number of ASMs the child was taking					
Monotherapy	86	164	0.66(0.42,1.02)	0.85(0.52,1.39)	0.52
Polytherapy	55	69	1	1	
Medication side effect					
No	210	99	3.87(2.21,6.79)	2.98(1.64,5.34)	0.001*
Yes	23	42	1	1	
Marital status of a care giver					
Single	9	16	1.31(0.27,6.37)	1.25(0.24,6.63)	0.79
Continued...					
Married	188	90	4.87(1.23,19.29)	4.84(1.12,20.87)	0.034*
Divorced	26	14	4.33(0.97,19.43)	3.57(0.73,17.42)	0.12
Widowed	7	14	1.17(0.23,5.95)	1.10(0.19,6.15)	0.91
Separated	3	7	1	1	
Duration of treatment					
< 1 year	37	14	1	1	
2-5 years	11	8	0.52(0.17,1.56)	1.61(0.76,3.39)	0.21
6-10 years	87	53	0.62(0.31,1.26)	0.76(0.28,2.06)	0.59
> 10 years	98	66	0.56(0.28,1.12)	0.97(0.59,1.61)	0.91

***Factors associated with adherence to ASMs at P< 0.05**

6. DISCUSSION

ASM adherence reduces the risk of relapses, reduces the frequency of seizures, lowers healthcare costs, increases therapeutic benefits, and improves patient outcomes (25). This study assessed the prevalence of ASMs adherence and the associated factors in children with epilepsy at selected public hospitals in AA, Ethiopia, 2024. The finding of this study showed that the overall prevalence of adherence to anti-seizure medications was two hundred thirty-three (62.3%). The finding is nearly similar to study done in West China 62.3% & in Kenya (62.5%) study participants were adherent to antiseizure medications (16). This might be because of use of similar scale (MMAS-8) for assessing adherence in these studies and of similar sociodemographic status of the study population.

In contrast to this it was higher than study done in Nigeria showed that 55.2 %, in Iran 41.7% & in northern India 29.5% study participants were adherent to antiseizure medications (23) (17) (20). And a study done in Southwest Ethiopia indicates that the overall ASM adherence was 54.1% (24). In contrast, this study was lower than Study done in Uganda indicates that adherence to antiepileptic medications was 79.5% (19). In addition a study conducted in Sudan showed that 73.2% of the patients antiseizure medication adherence (21), & a study in Jordan showed that 79.5% (22). Furthermore, a study done in southern Ethiopia revealed that 65% of the study subjects were adherent to their medication (13). This difference could come from the variations in the study area, study design, geographical location and as well as time gap might have contributed to the difference.

Adherence to ASMs was influenced by many factors. The current study identified medication side effect, marital status of a caregiver and seizure attack in the past 3months were found to be significantly associated with ASMs adherence with a p-value of less than 0.05.

In this study, medication side effect was significantly associated with antiseizure medications adherence. Children who had not medication side effect were almost 3 times (AOR =2.98(95%CI: 1.64, 5.34)) more likely to be adherent for antiseizure medications as compared to children who had medication side effect. This is similar with a study done in Jordan showed that medication side effects [1.72(95% CI: 1.31, 2.26)] (22) & with systematic review study done in Ethiopia showed that [1.84(95% CI: 1.43, 2.38)] had statistically significant association with ASM adherence (33).

And another study done in Dessie Referral Hospital, North East Ethiopia revealed adverse effect experiences since last visit (RRR = 3.938, 95% CI, (1.065–14.565) was associated with anti-epileptic medication adherence (35). This could be due to discomfort from the side effects, fear of future side effects, or difficulty communicating how they feel, all leading to skipping or stopping medication entirely.

Having seizure attack in the past 3 months was significantly associated with antiseizure medications adherence. Children who had seizure attack in the past 3 months were 47 % (AOR = 0.53(95%CI: 0.34, 0.84)) decrease to be adherent for antiseizure medications as compared to children who had not seizure attack in the past 3 months. This is similar with a study done in southern Ethiopia showed that presence of seizure attack in the past 3months [AOR = 0.23, 95% (CI: 0.10, 0.55); P = 0.001] predicted poor antiepileptic drug adherence (12). Similar findings were reported from Jordan and India (20) (22). This might be related to caregivers' perception of the treatment and seizure control. Patients may perceive that the treatment is not working if they experience a single seizure attack, and may discontinue the medication or they might take more than the dose prescribed.

Marital status of a care giver was significantly associated with antiseizure medications adherence. children's caregiver who had married were almost 5 (AOR = 4.84(95%CI: 1.12, 20.87)) times more likely to be adherent for antiseizure medications as compared to children's caregiver who had separated marital status. This is similar with study done in Southwest, Ethiopia indicates that marital status of the caregivers; i.e. being married caregiver/parent was associated with the adherence [AOR = 7.46 (95%CI = 1.46,38.20)] (24). This might be because of having a supportive partner for managing medication schedules, better access to healthcare resources within a two-income household, or a more stable family environment that prioritizes the child's health.

7. STRENGTH & LIMITATION OF THE STUDY

7.1 Strength of the study

The study focuses on children who have epilepsy, that has not received as much research attention as adults. And it looks into a number of variables, including sociodemographic, clinical, and healthcare-related variables, that impact adherence to anti-seizure medications.

Because the eight-item Morisky Medication Adherence Scale has been extensively validated and is a frequently used tool in adherence research, using it to measure adherence increases the reliability of the results.

7.2 Limitation of the study

The potential for bias due to the reliance on self-reported data for measuring adherence, as participants may overreport due to social desirability or recall bias; additional measuring methods should be used to measure the adherence like serum ASM concentration. The study is also limited to specific hospitals in Addis Ababa that are public; different regions of Ethiopia may have different factors affecting adherence due to differences in healthcare systems, culture, and economy; and the relatively short data collection period (one month) may have missed seasonal variations and long-term adherence patterns. & children in the community who might not have received modern treatment were not included.

8. CONCLUSION AND RECOMMENDATION

8.1. Conclusion

This study assessed the prevalence of adherence to ASMs and the associated factors among children with epilepsy at selected public hospitals in AA, Ethiopia, 2024. The finding of this study showed that the overall prevalence of adherence to anti-seizure medications was two hundred thirty-three (62.3 %). Medications side effect, marital status of a caregiver and seizure attack in the past 3months were significantly associated with antiseizure medications adherence with a p-value of less than 0.05 and 95% confidence interval.

8.2. Recommendation

For Health Care Providers:

Health care providers should prioritize offering comprehensive health education and medication-related counselling to caregivers. This education should cover the importance of adherence, proper medication administration, and potential side effects. Strengthening the practice of regular follow-up appointments is crucial as it provides ongoing support and monitoring of medication adherence. Providers should also incorporate antiepileptic medication adherence screening tools into patient treatment protocols to identify adherence issues early and address them promptly. Additionally, proactive management of ASM side effects through regular monitoring can help prevent non-adherence due to adverse effects, ensuring better overall patient outcomes.

For Policy Makers and Program Planners:

Policy makers and program planners should develop policies and programs that provide additional support to families, particularly single caregivers, through counselling, support groups, and resources to manage the challenges associated with caring for children with epilepsy. Ensuring the availability and affordability of anti-seizure medications is essential to reduce financial barriers that can affect adherence. These initiatives can create a more supportive environment for families managing epilepsy, ultimately improving adherence rates.

For Studied Institutes:

Institutes should develop and implement targeted intervention programs based on the identified factors. Providing training for health professionals on the importance of medication adherence and effective communication strategies to support patients and caregivers is essential. Such training can equip healthcare providers with the skills needed to address adherence issues effectively and improve patient outcomes.

For Researchers:

Researchers should use this study as a baseline for further research on adherence to anti-seizure medications among children. Conducting additional triangulated studies will help confirm these findings and explore adherence factors in different regions and settings. Implementing longitudinal studies is also important to observe long-term adherence patterns and seasonal variations in adherence behaviour. These research efforts can provide deeper insights into the factors influencing medication adherence and inform the development of more effective interventions.

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10. ANNEX

Annex A. Participant Information Sheet/ Consent form for the Study

RESEARCH Title: Adherence to anti-seizure medications and associated factors among children with epilepsy at selected hospitals in AA, Ethiopia.

Researcher: YOHANNES ADAMU

Dear Respondent:

I am a Master 's student (ID number: GSR 2384/15) at Addis Ababa University, College of Health Sciences, School of Nursing Department of Pediatric and child Health

I kindly request you to participate in a study that is aimed at assessing Adherence to anti-seizure medications and associated factors among children with epilepsy. The participation in this study is voluntary; you can also withdraw at any time from the study if you feel uncomfortable. Refusal to participate will not affect your work or care you shall seek at any of the health facilities in any way. Confidentiality will be ensured by not using your name or address on the questionnaire and final thesis report. There are no risks involved in participating in this study. The study has no immediate benefits to the respondents, but will have benefits later in improving the adherence to anti-seizure medications among children and thereby help to reduce the burden of child morbidity and mortality. I welcome any question if you have any about the study and your participation. Should you have any questions about the research or any related matters, please contact the researcher at +251925976759.

Email: yohannesada@gmail.com

Annex B. Consent sheet

I, the under signed, understand the nature of the study, benefits, my right to voluntary participation, confidentiality and withdrawal from the study without any victimization. I have had the opportunity to ask questions and answered to my satisfaction. I hereby freely consent to take part in this study. Signature of the participant _____ Date _____

Supervisor Name _____ signature _____

Date ____/____/____ E.C.

Name of interviewer Date ____/____/____ E.C. signature _____

Your participation will be greatly appreciated. Yours Faithfully,

Annex C. Questionnaire

PART 1: Socio-demographic characteristics of caregivers and children on ASMs.

All questionnaires are completed anonymously. We would appreciate if you answer all the questions and answer as honestly as possible. Please circle on the number you select the best answer in the question. Kindly make only one selection unless otherwise instructed.

Ser.no	Variables	Response	Remark
1	Child's sex	1. Male 2. Female	
2	Child's age		
3	Educational status of the child (if >4yrs of age)	1. Did not join school 2. Attending school 3. Dropped out of school	
4	Family size		
5	Primary Caregivers' age		
6	Primary Caregivers' sex	1. Male 2. Female	
7	Caregivers' educational level	1. Can't read or write 2. Elementary 3. High School 4. Diploma 5. Degree and above	
8	Caregivers' occupation	1. Farmer 2. Merchant 3. Government employee 4. NGO employee 5. Jobless 6. Other	
9	Caregivers' relation to child	1. Biological parents 2. Grand parents 3. Volunteers	

		4. Others	
10	Average monthly income of the family		
11	Marital status of a care giver	1. Single 2. Married 3. Divorced 4. Widowed 5. Separated	
12	Place of residence	1. Urban 2. Rural	

PART 2: Health Care related factors

Ser.no	Variables	Response	Remark
1	Distance from the Hospital in k.m	_____	
2	Frequency of appointments	1. Weekly 2. Every 2 weeks 3. Monthly 4. Every 2 months 5. Every 3 months	
3	Source of ASMs	1. With payment 2. Free	
4	Financial problem	1. Yes 2. No	
5	Availability of prescribed drugs all the time	1. Yes 2. No	

PART 3: Clinical factors

Ser.no	Variables	Response	Remark
1	Seizure type	1. Generalized 2. Focal 3. Unclassified	

2	Duration of illness	_____	
3	Seizure attack in the past 3months	1. Yes 2. No	
4	Duration of treatment	_____	
5	Number of ASMs the child was taking	1. Monotherapy 2. Polytherapy	
6	Drug formulation	1. Tablets 2. Suspension/syrup 3. Both tablet and suspension/syrup	
7	Frequency of daily doses	1. Once 2. Twice 3. Three times	
8	Medication Side effect	1. Yes 2. No	
9	Type of side effect	_____	
10	Comorbidity	1. Yes 2. No	
11	(If Q9 yes), Type of comorbidity	_____	
12	Type of Drug	_____	
13	Lack of improvement	1. Yes 2. No	
14	Perinatal morbidities	1. Positive 2. Negative	
15	Getting health information	1. Yes 2. No	

PART 4: Substance use status & Others

Ser.no	Variables	Response	Remark
1	History of substance use	1. Yes	

		2. No	
2	If yes, Type of substance used	1. Khat 2. Cigarette 3. Alcohol 4. Other	
3	Stigmatized because of epilepsy	1. Yes 2. No	
4	Do you believe that seizure comes by devil?	1. Yes 2. No	

PART 5: ASM adherence

Ser.no	Variables	Response	Remark
1	Do you sometimes forget to give medicine?	1. Yes 2. No	
2	Within the last 2weeks, were there any days you did not take your medicine?	1. Yes 2. No	
3	Has the child ever stopped taking medicine without telling the doctor because he/she felt worse when he/she took it?	1. Yes 2. No	
4	When traveling or leaving home, do you sometimes forget medicine at home?	1. Yes 2. No	
5	Did the child miss taking any of his/her medicines yesterday?	1. Yes 2. No	
6	Does the child sometimes stop taking his/her medicine when improved?	1. Yes 2. No	
7	Do you ever feel hassled about sticking to the treatment plan due to the inconvenience of taking drugs?	1. Yes 2. No	

8	How often do you have difficulty remembering giving your child his/her medicine?	<ol style="list-style-type: none"> 1. Never/rarely 2. Once in a while 3. Sometimes 4. Usually 5. All the time 	
---	--	--	--

Part 6: General Knowledge

Ser.no	Variables	Response	Remark
1	What is the main symptom of a seizure?	<ol style="list-style-type: none"> 1. Fever 2. Loss of consciousness & muscle jerking or abnormal movement of part of a body 3. Difficulty breathing 4. Headache 	
2	How is epilepsy diagnosed?	<ol style="list-style-type: none"> 1. Blood test 2. History (SEMIOLGY) or Electroencephalogram (EEG) 3. X-ray 4. Physical examination 	
3	Can epilepsy be cured?	<ol style="list-style-type: none"> 1. Yes, completely with medication. 2. No, but it can be controlled with medication and other treatments. 3. Only through surgery. 4. It depends on the specific type of epilepsy. 	
4	What is the impact of well-managed epilepsy on daily life?	<ol style="list-style-type: none"> 1. People with epilepsy cannot live normal lives. 2. People with epilepsy may experience limitations in most activities. 	

		<ol style="list-style-type: none"> 3. Most people with epilepsy can live normal, healthy lives with proper treatment and support. 4. There is no significant difference in daily life compared to others. 	
5	<p>What is one way to support someone experiencing a seizure?</p>	<ol style="list-style-type: none"> 1. Restrain them to prevent movement. 2. Offer food or drink. 3. Clear the area of hazards and stay calm. 4. Call emergency services immediately without observing the seizure. 	

Thank you for your attention!

አባሪ

አባሪ I. ለጥናቱ የተሳተፈ መረጃ የስምምነት ቅጽ

የጥናት ርዕስ: ፀረ-የሚጥል መድሐኒቶችን አወሳሰድ እና ተያያዥ ምክንያቶች በአክሲዮን ኢትዮጵያ በተመረጡ ሆስፒታሎች የሚጥል በሽታ ያለባቸው ህጻናት።

ተመራማሪ: ዮሃንስ አዳሙ

ውድ ተጠሪ:-

እኔ በአዲስ አበባ ዩኒቨርሲቲ፣ ጤና ሳይንስ ኮሌጅ፣ የነርቪንግ ትምህርት ቤት የሕፃናት እና የሕፃናት ጤና ትምህርት የማስተርስ ተማሪ ነኝ። (መታወቂያ ቁጥር: GSR 2384/15)

የሚጥል በሽታ ያለባቸው ህጻናት የፀረ-የሚጥል መድሃኒቶችን አወሳሰድ እና ተያያዥ ምክንያቶችን ለመገምገም የታለመ ጥናት ላይ እንዲሳተፉ በአክብሮት እጠይቃለሁ። በዚህ ጥናት ውስጥ ያለው ተሳትፎ በፈቃደኝነት ነው; ምሽት የማይሰማዎት ከሆነ በማንኛውም ጊዜ ከጥናቱ መውጣት ይችላሉ። ለመሳተፍ ፈቃደኛ አለመሆን በምንም መልኩ በማንኛውም የጤና ተቋማት ሊፈልጉት የሚገባውን ስራ ወይም እንክብካቤ አይጎዳውም ። ሚስጥራዊነት የሚረጋገጠው በመጠይቁ እና በመጨረሻው የጥናት ዘገባ ላይ ስምዎን ወይም አድራሻዎን ባለመጠቀም ነው። በዚህ ጥናት ውስጥ ለመሳተፍ ምንም አይነት አደጋዎች የሉም። ጥናቱ ለምላሾች አፋጣኝ ጥቅማጥቅሞች የሉትም፣ ነገር ግን በኋላ ላይ ጥቅማጥቅሞች አሉት ፀረ-የሚጥል መድሐኒቶችን በልጆች መካከል ያለውን አወሳሰድ ለማሻሻል እና በዚህም የህጻናትን ህመም እና ሞት ሽክምን ለመቀነስ ይረዳል። ስለ ጥናቱ እና ስለ እርስዎ ተሳትፎ ማንኛውም ጥያቄ ካለዎት እቀበላለሁ። ስለ ጥናቱ ወይም ተያያዥ ጉዳዮች ማንኛውም አይነት ጥያቄ ካለዎት እባክዎን ተመራማሪውን በ +251925976759 ያግኙ።

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አባሪ II. የፍቃድ ወረቀት

እኔ፣ ከስር የፈረምኩት፣ የጥናቱን ምንነት፣ ጥቅማ ጥቅሞች፣ በፍቃደኝነት የመሳተፍ መብቴን ተረድቻለሁ፣ ሚስጥራዊነት እና ምንም አይነት ተጎጂ ሳልሆን ከጥናቱ የመውጣት መብቴን ተረድቻለሁ። ጥያቄዎችን

ለመጠየቅ እድሉን አግኝቻለሁ እናም እርካታን አግኝቻለሁ። በዚህ ጥናት ለመሳተፍ በነጻነት ፈቅጃለሁ።

የተሳተፈው ፊርማ _____ ቀን _____

የተቆጣጣሪ ስም _____ ፊርማ _____

ቀን ____/____/____.

የጠያቂው ስም ቀን ____/____/____. ፊርማ _____

የእርስዎ ተሳትፎ በጣም ይደነቃል፣ ያንተው ታማኝ፣

አባሪ III. መጠይቅ

ክፍል 1: በፀረ-የሚጥል መድሐኒቶች ላይ የተንከባካቢዎች እና ህፃናት ማህበረ-ስነ-ህዝብ ባህሪያት።

ሁሉም መጠይቆች በስም-አልባ የተጠናቀቁ ናቸው። ሁሉንም ጥያቄዎች ከመለሱ እና በተቻለ መጠን

በሐቀኝነት ከመለሱ እናመሰግናለን። እባክዎን በጥያቄው ውስጥ የተሻለውን መልስ ይምረጡ።

የመለያ ቁጥር	ጥያቄዎች	ምላሽ	አስተያየት
1	የልጅዎ ጾታ	1. ወንድ 2. ሴት	
2	የልጅዎ ዕድሜ	_____	
3	የልጅዎ የትምህርት ደረጃ (ዕድሜው > 4 ዓመት ከሆነ)	1. ትምህርት ቤት አልተቀላቀለም 2. ትምህርት ቤት ይከታተላል 3. ትምህርት አቋርጧል	
4	የቤተሰብ ብዛት	_____	
5	የቅርብ ተንከባካቢ ዕድሜ	_____	

6	የቅርብ ተንከባካቢ ጾታ	<ol style="list-style-type: none"> 1. ወንድ 2. ሴት 	
7	የቅርብ ተንከባካቢ የትምህርት ደረጃ	<ol style="list-style-type: none"> 1. ማንበብ እና መጻፍ አይችሉም 2. የመጀመሪያ ደረጃ ት/ቤት 3. ሁለተኛ ደረጃ ት/ቤት 4. ዲፕሎማ 5. ዲግሪ እና ከዚያ በላይ 	
8	የቅርብ ተንከባካቢ ሥራ	<ol style="list-style-type: none"> 1. ገበሬ 2. ነጋዴ 3. የመንግስት ሰራተኛ 4. NGO ሰራተኛ 5. ሥራ አልባ 6. ሌላ 	
9	የቅርብ ተንከባካቢ ክልጁ ጋር ያለው/ላት ግንኙነት	<ol style="list-style-type: none"> 1. በስጋ ወላጅ 2. አያት 3. በጎ ፈቃደኛ 4. ሌሎች 	
10	የቤተሰቡ አማካይ ወርሃዊ ገቢ	_____	
11	የቅርብ ተንከባካቢ የጋብቻ ሁኔታ	<ol style="list-style-type: none"> 1. ያላገባ 2. ያገባ 3. የተፋታ 4. መበለት 	
12	የመኖሪያ አድራሻ	<ol style="list-style-type: none"> 1. ከተማ 2. ገጠር 	

ክፍል 2: ከጤና አጠባበቅ ጋር የተያያዙ ጥያቄዎች

የመለያ ቁጥር	ጥያቄዎች	ምላሽ	አስተያየት
1	ቤትዎ ከሆስፒታሉ ያለው ርቀት በኪ.ሜ	_____	
2	የቀጠሮዎች ድግግሞሽ	<ol style="list-style-type: none"> 1. በየሳምንቱ 2. በየ 2 ሳምንቱ 3. በየወሩ 4. በየ 2 ወሩ 5. በየ 3 ወሩ 	
3	መድኃኒቱን የሚያገኙበት መንገድ	<ol style="list-style-type: none"> 1. በክፍያ 2. ነፃ 	
4	የገንዘብ ችግር አለ?	<ol style="list-style-type: none"> 1. አለ 2. የለም 	
5	የታዘዙ መድሃኒቶች ሁልጊዜ ይገኛሉ?	<ol style="list-style-type: none"> 1. አዎ 2. አይ 	

ክፍል 3: ሕክምና ነክ ምክንያቶች

የመለያ ቁጥር	ጥያቄዎች	ምላሽ	አስተያየት
1	የሚጥል በሽታው አይነት	<ol style="list-style-type: none"> 1. መላው ሰውነትን የሚያንዘፈዝፍና ራስን የሚያስት 2. ፎካል (የተወሰነ የሰውነት ክፍልን የሚያንዘፈዝፍ ሆኖ ራስ መሳት ያለው ወይም የሌለው 3. ያልተመደበ 	

2	የሚጥል በሽታው ምን ያክል ጊዜ ሆነው?	_____	
3	ባለፉት 3 ወራት ውስጥ የሚጥል በሽታ ምልክት አሳይቷል	1. አዎ 2. አይ	
4	ሕክምና ከጀመረ ምን ያክል ጊዜ ሆነው?	_____	
5	ልጅዎ የሚወስዳቸው መድሃኒቶች ብዛት	1. አንድ አይነት መድሃኒት 2. የተለያዩ አይነት መድሃኒቶች	
6	የመድሃኒት አሠራር	1. እንክብሎች 2. ሽሮፕ 3. ሁለቱም (እንክብሎች እና ሽሮፕ)	
7	በቀን ስንቴ መዳኒቶችን ይወስዳል?	1. አንድ ጊዜ 2. ሁለት ጊዜ 3. ሶስት ጊዜ 4. አራት ጊዜ	
8	የሚወስደው መድኃኒት የጎንዮሽ ጉዳት አለው?	1. አዎ 2. አይ	
9	ልጅዎ ተጓዳኝ በሽታ አለው?	3. አዎ 4. አይ	
10	የተጓዳኝ በሽታ አይነት		
11	(ጥያቄ 9 አዎ ከሆነ) የተጓዳኝ በሽታው አይነት	_____	
12	የሚወስደው መድኃኒት ስም	_____	

13	ህክምና ከጀመረ በኋላ ለውጥ የለም?	1. አዎ 2. አይ	
14	በወሊድ ጊዜ ልጅዎ የጤና እክል ነበረው?	1. አዎ 2. አይ	
15	ስለህመሙ፣ ስለሕክምናው ቆይታ እና ስለመድሃኒቱ የጎንዮሽ ጉዳት መረጃ አግኝተዋል?	1 አዎ 2 አይ	

ክፍል 4: የእጽ አጠቃቀም ሁኔታና ሌሎች

የመለያ ቁጥር	ጥያቄዎች	ምላሽ	አስተያየት
1	የአደንዛዥ ዕፅ ተጠቃሚ ነዎት?	1. አዎ 2. አይ	
2	(ጥያቄ 1 አዎ ከሆነ) የሚጠቀሙት የአደንዛዥ ዕፅ አይነት	1. ጫት 2. ሲጋራ 3. አልኮል 4. ሌላ	
3	በሚጥል በሽታ ምክንያት መገለል ደርሶበታል?	1. አዎ 2. አይ	
4	የሚጥል በሽታ በባእድ መንፈስ (በሰይጣን) ምክንያት እንደሚመጣ ያምናሉ	1. አዎ 2. አይ	

ክፍል 5: ፀረ-የሚጥል መድሐኒቶችን አወሳሰድ

የመለያ ቁጥር	ጥያቄዎች	ምላሽ	አስተያየት
1	አንዳንድ ጊዜ መድሃኒት መስጠትን ይረሳሉ?	1. አዎ 2. አይ	
2	ባለፉት ሁለት ሳምንታት ውስጥ መድሃኒቱን ያልሰጡባቸው ቀናት ነበሩ?	1. አዎ 2. አይ	
3	ልጅዎ መድሃኒቱን ሲወስድ በጣም ህመም ስለተሰማው ለሐኪም ሳይነገር መድሃኒት መውሰድ አቁሞ ያውቃል?	3. አዎ 4. አይ	
4	ከቤት ሲወጡ ወይም ጉዞ ሲያደርጉ አንዳንድ ጊዜ በቤት ውስጥ መድሃኒት ይረሳሉ?	1. አዎ 2. አይ	
5	ልጅዎ ትላንትና ሳይወስድ ያመለጠው መድሃኒት ነበር?	1. አዎ 2. አይ	
6	ልጅዎ አንዳንድ ጊዜ ህመሙ ሲሸለው መድሃኒቱን መውሰድ ያቆማል?	1. አዎ 2. አይ	
7	በየቀኑ መድሃኒት መስጠት ለአንዳንድ ሰዎች አሰልጅና አስቸጋሪ ነው፤ እርስዎ ከሕክምና ዕቅዱ ጋር ለመቆየት ተቸግረዉ ያውቃሉ?	1. አዎ 2. አይ	
8	ለልጅዎ መድሃኒቱን ለመስጠት ምን ያህል ጊዜ ለማስታወስ ይቸገራሉ?	1. በጭራሽ አልቸገርም 2. ከስንት አንዴ 3. አንዳንዴ 4. ብዙ ጊዜ 5. ሁልጊዜ	

ክፍል 6: አጠቃላይ እውቀት

የመለያ ቁጥር	ጥያቄዎች	ምላሽ	አስተያየት
1	የሚጥል በሽታ ዋና ምልክት ምንድነው?	<ol style="list-style-type: none"> 1. ትኩሳት 2. ራስ መሳት እና የሰውነት ክፍል መንዘፈዝፍ ወይም የተወሰነ የአካል ክፍል ያልተለመደ እንቅስቃሴ 3. የመተንፈስ ችግር 4. ራስ ምታት 	
2	የሚጥል በሽታ እንዴት ይታወቃል?	<ol style="list-style-type: none"> 1. የደም ምርመራ 2. ስለበሽታው ምልክቶች በቃል በመጠየቅ ወይም በኤሌክትሮኢንሴፋሎግራም (EEG) 3. ኤክስሬይ 4. የአካል ምርመራ 	
3	የሚጥል በሽታ ሊደን ይችላል?	<ol style="list-style-type: none"> 1. አዎ, ሙሉ በሙሉ በመድሃኒት ሊደን ይችላል 2. አይችልም፣ ነገር ግን በመድሃኒት እና በሌሎች ህክምናዎች መቆጣጠር ይቻላል። 3. በቀዶ ጥገና ብቻ ሊደን ይችላል 4. አንድ በሽታው ዓይነት ይወሰናል. 	
4	ህክምና የተደረገለት የሚጥል በሽታ በዕለት ተዕለት ሕይወት ላይ የሚያሳድረው ተጽዕኖ ምንድን ነው?	<ol style="list-style-type: none"> 1. የሚጥል በሽታ ያለባቸው ሰዎች መደበኛ ህይወት መኖር አይችሉም. 2. የሚጥል በሽታ ያለባቸው ሰዎች በአብዛኛው እንቅስቃሴዎች ላይ ውስንነቶች ሊያጋጥማቸው ይችላል. 3. የሚጥል በሽታ ያለባቸው አብዛኛዎቹ ሰዎች ተገቢውን ህክምና እና ድጋፍ 	

		<p>ካገኙ መደበኛ እና ጤናማ ህይወት መኖር ይችላሉ።</p> <p>4. ከሌሎች ጋር ሲነጻጸር በዕለት ተዕለት ሕይወት ውስጥ ምንም ልዩነት የለም.</p>	
5	<p>አንድ ሰው የሚጥል በሽታ ምልክት ሲታይበት ለመርዳት አንዱ መንገድ ምንድነው?</p>	<p>1. እንቅስቃሴን ለመከላከል መገደብ</p> <p>2. ምግብ ወይም መጠጥ መስጠት</p> <p>3. አካባቢውን ከአደጋ ማጽዳት</p> <p>4. የሚጥል በሽታን ሳያዩ ወዲያውኑ ለድንገተኛ አደጋ አገልግሎት መደወል</p>	

ለሰውነት አትኩሮት እናመሰግናለን!