ASSESSMENT OF RISK FACTORS FOR EPILEPSY AND SOCIAL STIGMA OF EPILEPTIC CLIENTS IN ME'ENIT TRIBE, BENCH MAJI ZONE, SNNPRS, ETHIOPIA

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ABSTRACT

Background: Epilepsy is a paroxysmal disorder in which a person has two or more unprovoked seizures. A seizure results from an abnormal electrical discharge and the clinical manifestations vary greatly. Seizure manifestations range from brief sensory experience, to microsecond lapses in concentration, to convulsive status epilepticus.

Objective : To assess risk factors of epilepsy and stigma experienced by patients and relative of people with epilepsy in Me'enit tribe Bench Maji Zone in 2011

Methods and materials: Community based matched case-control study was conducted, in Me'enit tribe from March-April/2011 G.C.A sample of 114 cases and 114 controls, a total of 228 study subject were selected from the source population. Cases were people living with epilepsy or people who have a history of two unprovoked seizure confirmed by experienced medical doctor and Controls were people confirmed not to have epilepsy by a experienced medical doctor. By using standard questionnaires the data about risk factors and social stigma from these confirmed case's and controls were collected by 2 experienced physicians and 2 diploma nurse translators. The historical details and the seizure patterns were obtained through interviews with each case and accompanying relative. Data were edited, recoded and entered in to computer and analyzed using Epi-info version 3.4.3 windows for the matching analysis.

Result: Those risk factors found to be significantly associated with epilepsy by bivariate analysis were entered into multiple logistic regression models with conditional logistic regression method, with probability for entry of the variables fixed at 0.05.In the final multivariate model, family history of epilepsy (OR=12.13, 95%CI 3.26-45.1 P = 0.0002), and a history of febrile seizures (OR=4.21, 95%CI 1.0-16.20 P = 0.03), emerged as strong independent predictors of epilepsy.

Conclusion and Recommendations: In conclusion, this population-based case–control study identified family history of epilepsy, and antecedent history of febrile seizures as strong independent predictors of epilepsy, Pork consumption, outdoor defecation and latrine availability were prevalent in the study area. . The information that adverse fibril seizure increased the risk of epilepsy by four fold suggests that much of the epilepsy in Me'enit community may be preventable by improved maternal, neonatal and child care and it is recommended that MOH at different level and stakeholders should work on it.

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ACRONYMS

AEDs Anti Epileptic Drugs
BCC Behavioral change communication
CSA Central Statistical Agency
EEG Electroencephalogram
FIS Family Interview Schedule
HEW Health Extension worker
IEC Information education communication
ILAE International League against Epilepsy
PWE People with Epilepsy
SSA Sub Sahara Africa

CHAPTER ONE: INTRODUCTION

1.1. Background

Epilepsy is a paroxysmal disorder in which a person has two or more unprovoked seizures. A seizure results from an abnormal electrical discharge and the clinical manifestations vary greatly. The peak incidence is in younger and older people. Childhood febrile convulsions occur in about 5% of the population, and there is a2–5% lifetime prevalence for one or more seizures. Two-thirds of patients go into remission. The minorities are refractory and need reassessment of both the diagnosis and management. (1)

Epilepsy is associated with at least twice the standardized mortality ratio. In the economically disadvantaged world epilepsy is even more common, compounded by far fewer resources to deal with it. (1)

Seizure manifestations range from brief sensory experience, to microsecond lapses in concentration, to convulsive status epilepticus. Aetiology, associated morbidity, natural history and prognosis differ. Some writers prefer 'the epilepsies' to 'epilepsy' to highlight this variability but the term 'epilepsy' does convey important shared features.(1)

Early records of epilepsy from 1000BC suggested it was due to demons, misdeeds, magical or astrological influence. This concept still has an impact on lay views of epilepsy. From Hippocrates (400 BC) others viewed epilepsy as having a natural but unknown cause. Hughlings Jackson viewed epilepsy as the result of abnormal cerebral discharges. (1) This paradigm shift in the 1800s built on Ferrier and Todd's experiments at the time when the first modern treatment for epilepsy (potassium bromide) further stimulated interest in the subject. Since then epileptology has expanded on Jackson's concepts and range of therapies (2)

Many manifestations are seen in different types of epilepsy and are not specific. For example, simple partial and tonic–clonic seizures may occur in one person due to focal epilepsy, such as

due to a tumour. Some epilepsy syndromes have more than one seizure manifestation. For example, juvenile myoclonic epilepsy may manifest as myoclonus, absences and convulsions.

Classification becomes complex because it attempts to categorize: - by onset of the clinical manifestations and EEG features of the seizure: generalized or focal (partial) epilepsy, by cause:idiopathic(primary),cryptogenic and symptomatic epilepsies,by syndrome (incorporating clinical, etiological and EEG and other diagnostic factors) by triggering factors (e.g. reading epilepsy).The International League against Epilepsy (ILAE) classification scheme was agreed in 1981,(3) revised in 1989(4)

The main seizure types are:-

Absence: this is an abrupt loss of awareness, with staring, sometimes with rapid blinking, eyelid flickering and subtle clonus of eyelids, face or limbs. Episodes usually last less than 10 seconds and occur many times daily. Typical absences (petit mal) area form of primary idiopathic epilepsy associated with 3–4 cycles/ second generalized spike and wave activity on electroencephalogram (EEG). Atypical absences are seen in generalized symptomatic or cryptogenic epilepsy and have a poor prognosis. Sudden brief episodes of loss of awareness may occur in complex partial seizures.

Myoclonus: this refers to sudden, irregular, jolt-like movement of the head, neck, trunk, limbs or a combination. If it affects the legs, it may cause a fall (see drop attack below). Myoclonus classically occurs as a generalized seizure. However it can also occur as physiological myoclonus, as part of focal epilepsy, or due to various cortical, brainstem or spinal cord pathologies.

Clonic seizure: rhythmic, symmetrical shaking of limbs, face and neck that can be due to focal or generalized epilepsy.

Tonic seizure: stiffness and extension of limbs and trunk. It can be due to focal or generalized epilepsy. When generalized, there is usually loss of consciousness, often with a fall.

Tonic–clonic seizure (convulsion): a seizure with loss of consciousness and a tonic (stiffening) phase followed by a clonic (rhythmic shaking) phase. During a seizure, which often starts with a cry, there may be lateral tongue biting and incontinence of urine or faeces. There is usually a post-ictal phase of confusion, sometimes with aggression and tiredness. Convulsions may be primarily or secondarily generalized.

Atonic (astatic seizure): a sudden loss of tone, a fall results if the person is standing. 'Drop attacks' (sudden falls withoutvertigo) can also be tonic or myoclonic, or not due to epilepsy.

Simple partial seizure: this is a partial seizure with retained consciousness. It may be a subjective sensory experience (auditory,autonomic, visual, sensory or psychic) or a motor manifestation (myoclonic, clonic, tonic or dystonic). They are brief
(seconds or minutes), unless there is complex partial status (see status epilepticus below).

Complex partial seizure: the hallmark is loss of awareness, sometimes associated with other seizure phenomena (such as hallucinations and automatic movements). These must be distinguished from absences.

Partial seizure evolving into secondarily generalized seizure: a partial seizure may progress to a convulsion. The person may not recall an aura, so it may be indistinguishable from a primary generalized seizure.

Status epilepticus: these are prolonged seizures or repeated seizures without full recovery in between. This can occur with all seizure types. The most dangerous form is convulsive status epilepticus, a medical emergency, defined as convulsions occurring continuously or without full recovery of consciousness between them for more than 30 minutes.

Classification of seizures

Generalized seizures

Tonic–clonic (in any combination), Absence, Typical, Atypical, Absence with special features Myoclonic absence, Eyelid myoclonia, Myoclonic, Myoclonic atonic, Myoclonic tonic,Clonic Tonic,Atonic

Focal seizures

Unknown**,**Epileptic spasms

A seizure that cannot be clearly diagnosed into one of the preceding categories should be considered **unclassified** until further information allows their accurate diagnosis. This is not considered a classification category, however (5).

Stigma research has generally characterized stigma as felt versus enacted. Enacted stigma manifests as discrimination against the stigmatized person imposed by others, whereas felt stigma is the fear of enacted stigma experienced by the stigmatized person. Felt stigma may result in the stigmatized person volitionally limiting their life experiences and opportunities in an effort to avoid enacted stigma. Courtesy stigma is the ''stigma by association'' experienced

by individuals in close social or physical proximity to someone who is stigmatized (6). Courtesy stigmas may have components of felt or enacted stigma. Data from developed countries indicate that today felt stigma may be more limiting for PWE than enacted stigma, but this probably is not true in SSA, where the burden of enacted stigma remains substantial (7).

Despite being a common neurological disorder, epilepsy seems to be the least understood and most feared disorder in most parts of the world which is further complicated in developing countries by its traditional attribution to demonic possession, and the perception that it is transmissible by physical contact. All these misperceptions might explain why epilepsy carries more stigma than other disorders, including mental illnesses. The reports from earlier studies that people with these disorders have been marginalized within their societies, and have had reduced opportunities for education, employment, marriage and social relationships as has been reported in earlier studies in developing countries including Ethiopia (8).

1.2 Statement of the Problem.

Epilepsy is a neurological condition that knows no geographic,social, or racial boundaries, occurring in men and women and affecting people of all ages, though more frequently affecting young people in the first two decades of life and people over the age of 60 (9).

There are over 50 million sufferers in the world today, 85% of whom live in developing countries. At least 50% of cases begin at childhood or adolescence. An estimated 2.4 million new cases occur each year globally (10).

Approximately 4 million persons in the European Union and the United States have epilepsy, and 3% of the general population will have epilepsy at some point in their lives (11).

In some Asian countries, in particular in South-East Asia, the importance of the disease has not been well documented. Studies in Japan, China and Singapore suggest prevalence's between 3.8 and 7.3‰ which are similar to the average global figure [12-14).

In developing countries, 60% to 90% of people with epilepsy receive no treatment due to inadequacies in health care resources and service delivery, and due to social stigma. 70% to 80% of people with epilepsy could lead normal lives if properly treated (10).

More than 10 million peoples in Africa are living with epilepsy (15). High prevalence rates have been reported in Cameroon (58‰), Liberia, (3 and 28‰), Nigeria (37‰) and Ethiopia (43‰). The lowest rates were shown in Northern African countries and in South Africa (21‰).Between the extremes, various average rates (ranging from 10 to 20 per 1000) were shown indifferent places, using different methodology, including WHO or other protocols (16, 17). According to studies on epilepsy in Ethiopia, there are about 400,000 people living with epilepsy. Around 85% are children, of whom just 3% are receiving medical treatment due to inadequacies in health care resources and stigma attached to this disorder (15).

CHAPTER 2: LITERATURE REVIW

2.1. **Prevalence and Risk Factors for Epilepsy**

The great majority of studies of the prevalence of epilepsy have reported rates between 4 and 10 per 1000 (18, 19, 20). Some studies from resource-poor countries have given higher prevalence rates; these studies usually are small-scale studies from isolated geographic areas where unique genetic or environmental factors may apply or else are compounded by methodological problems (18).

Most large-scale studies in resource-poor countries report prevalence rates for active epilepsy of between 6 and 10 per 1000; many of these studies also report higher rates in rural areas. Lifetime prevalence rates are much higher than rates for active epilepsy; this is even the case in resource-poor countries, where there is a huge treatment gap and, indeed, AEDs may not be available (18, 20). This suggests that most people developing epilepsy will either cease to have seizures or die prematurely, probably the former.

Epilepsy is, however, associated with an increased mortality rate, although the impact of mortality on prevalence in resource-poor countries is not known (21, 22).

2.1.2 Risk Factors for Epilepsy

Epilepsy is a symptom complex, and many different conditions are known to be risk factors. These vary with age and geographic location. Congenital, developmental, and genetic conditions are associated with developing epilepsy when young.

Epilepsy associated with head trauma, central nervous system infections, and tumors may occur at any age, although tumors are more likely in the elderly (20). Cerebrovascular disease is, however, the most common risk factor in the elderly (23). Parasitic conditions such as falciparum malaria and neurocysticercosis are associated with epilepsy in endemic areas and are probably the most common preventable cause of epilepsy worldwide (23).A family history of epilepsy seem to increase the influence of other risk factors. The susceptibility to epilepsy

may be partly genetically determined, and this may interact with brain maturation and environmental factors.

These interactions may be responsible for the shortcomings of our understanding of the dynamics of epilepsy in the population (20, 23). For instance, the relative risk of developing epilepsy with different conditions in different populations is not known.

A case-control study conducted in Nigeria emphasized that from the cases of epilepsy Partial seizures predominated in the study in (59.4%) keeping with the pattern observed in recent investigations of epilepsy based on clinical series of cases in Nigeria and in developed countries as well (24**).** The absence of other types of generalized seizures commonly seen in children is due to the fact that most of cases in this study were adults.

Among the risk factors the results shows that febrile convulsion significantly increases the risk of developing epilepsy (OR 11.0, $p < 0.001$) and supports the previously reported association of febrile seizures with subsequent epilepsy in a study based on cases in the Rochester, Minnesota, U.S.A., population(OR7.2, $p < 0.001$) (25).

The results also suggest an increased risk of epilepsy following more than one episode of febrile seizure because most of the cases were in this category and the result give an eleven-fold increased risk of epilepsy following febrile seizures which can be compared with the relative risk shown in studies conducted in U.S.A., India and Tanzania 7.2,8.86,2.4 (25, 26,27).

The seizure type that is associated with febrile convulsions remains controversial the results show in this study subjects who experience febrile seizure are at increased relative risk for both complex partial and generalized tonic-clonic seizure types (24).

Findings by other study**,** also using a case-control approach in a white population, showed a similar association between febrile convulsion and various seizure types. They reported ORs of 15.3 and 12.0 for complex partial and absence seizures, respectively (28). The finding that febrile convulsion increased the risk for the two predominant seizure types analyzed in this study is compatible with the suggested hypothesis that febrile convulsion increases the risk for all kinds of seizures and not just complex partial seizures (29)

The results confirm the established association between antecedent head trauma and epilepsy (OR 13.0,$p<0.001$) and the data shows a negative association between immunization and the development of epilepsy. It is conceivable that the mechanism of protection conferred by

previous immunization was a reduction in the number of controls who might have had a febrile illness that could cause febrile convulsion. This contrasts with the findings in some studies in developed countries where immunization, especially with diphtheria-pertussis-tetanus vaccine, is associated with infantile spasms following encephalopathy, and the use of this vaccine is still controversial (24).

A case-control study conducted in rural Laos shown that a family history of epilepsy or of head trauma were major risk factors. It shows both these factors in 12.9% of cases, 5 fold higher than in the control group (OR 12.8, 4.7) respectively (30). The proportion of those with head injury was similar to that found in a population-based survey of epilepsy in Taiwanese adult patients (30, 31). Head injury is a known etiology of epilepsy in adolescents and adults. It may be caused by a variety of mechanisms, but the probability of epilepsy development, from 1.5 to 17.0 fold, is relating to the gravity of trauma (32).

A positive family history of epilepsy is another classical risk factor for epilepsy. It increased the risk of developing epilepsy by 3 folds in a case-control study of childhood epilepsy in Iran (33).

And Pork meat consumption was significantly less frequently reported in the epilepsy group (OR=0.1, $p<0.01$) (30).

A study conducted in Kenya and Tanzania shows that a history of febrile seizures and a family history of seizures were identified as the most important risk factor (OR 4.91,2.96,2.4,3.5) respectively(27,34). A family history of seizures was an important risk factor identified in these studies, which has been found in earlier studies in Kenya community .This may be related to genetic factors, which predispose individuals in a family to epilepsy, although, environmental factors may also contribute. The finding that a seven and three-fold increased risk of lifetime and active epilepsy, respectively following febrile seizures highlight the importance of infections as a possible cause of epilepsy(34). A history of intrapartum complications was found in 12.1% of patients and 1.8% of controls (odds ratio 7.3, 95% CI 2.5-25.2; $p < 0.002$). Head injury was not a significant risk factor for epilepsy in the study conducted in Tanzania rural community (27).

These results indicate a strongly independent association between four factors and the risk of developing epilepsy.

The occurrence of psychosocial problems related to epilepsy is well recognized and documented and in certain situations these problems are believed to be more troublesome than the seizure disorders themselves.

The study conducted in Butajira show that social stigma is a common experience of people with epilepsy and their relatives, as reported by 81% of the study subjects. This finding is consistent with reports from other studies which show clear evidence of stigma among persons suffering from epilepsy (35).

In a recent European study only about 13.5% of the respondents did not feel stigmatized or scored 0 on the presented stigma scores (36).If it compared with the Butajiras study the ways in which the respondents experience stigma is likely to be different from the European study because of differences in the culture, setting and other factors there are also a number of similarities.

2.2 Significance of the Study

Health care in less developed countries tends to focus on infectious diseases such as malaria, tuberculosis, diarrheal diseases and HIV/AIDS. A study published by WHO in 1996 predicted a massive rise in non-communicable diseases, an 'Epidemiological Transition' that urgently needs to be prepared for(38).The greatest burden of this will be felt by less developed countries, and areas that still suffer significantly from infectious disease face the danger of a 'double epidemic(39)

According to studies on epilepsy in Ethiopia, there are about 400,000 people living with epilepsy. Around 85% are children, of whom just 3% are receiving medical treatment due to inadequacies in health care resources and stigma attached to this disorder (15).

Since there is a burden of epilepsy in Ethiopia, still there is no study about the risk factors of epilepsy. So the number of literature for local context to analyze risk factors for epilepsy is scarce. But there are some literatures abut stigma perceived by patients and families of people living with epilepsy and Attitude of people towards epilepsy which is done in Butajira (35, 37).

The result of two unpublished studies which is conducted in Me'enit trib abut the attitude of peoples towards epilepsy and Social exclusion and epilepsy shows that the community consider these peoples as a guilt and they are punished by God. And so from the wrong belief of the community the person who has epilepsy will be avoided from the family even from the community. From the exclusion study those excluded peoples are not accessible for basic needs, education, income generating activities, health service, housing, employment opportunity. The finding of this study will give pertinent information about risk factors of epilepsy, social stigma of epileptic clients and haw to intervene these problems.

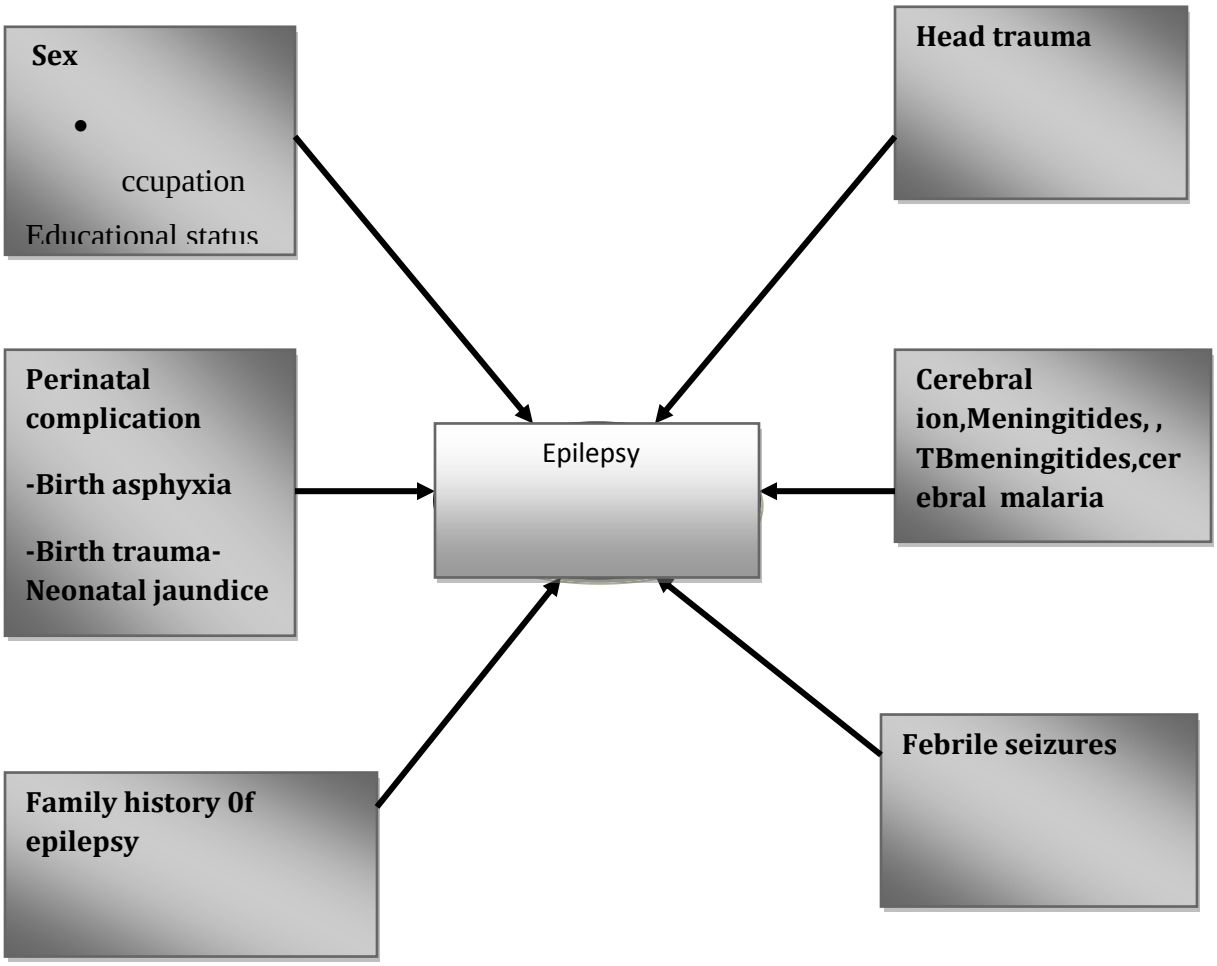

Figure 1: Conceptual Framework of risk factors of epilepsy

CHAPTER 3: OBJECTIVES

3.1General Objecti

- To assess risk factors of epilepsy and stigma experienced by patients and relatives of people with epilepsy in Me'enit tribe Bench Maji Zone in 2011.

3.2. Specific Objectives

- To identify socio-demographic factors associated with epilepsy among Me'enite tribe Bench Maji Zone.
- To identify past medical illnesses and family history associated with epilepsy among Me'enite tribe Bench Maji Zone.
- To examine the level of stigma experienced by patients and relatives among Me'enite tribe Bench Maji Zone.

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CHAPTER 4: METHOD AND MATERIALS

4.1 Study Area and Period

Bench Maji Zone is found in SNNPRS, of Ethiopia. Based on the 2007 Census conducted by the Central Statistical Agency of Ethiopia (CSA), Bench Maji Zone has a total population of 659,046 consisting of 326,622(49.56%) male and 332,424(50.44%) female; urban inhabitant's from the total population are 76,848(11.66%), malea ccount's 39,280(5.96%) and female 37,568(5.70%).Rural inhabitant's are582,198(88.34%) male account's287,342(43.57%)and female accounts 294,856(44.77%). It has a distance of 561km south west from Addis Ababa. Bench Maji Zone has nine weredas and one town administration. There are six tribes living in it. The study will be carried out in Me'enit tribe, one of the six tribes living in two weredas i.e. Me'enit Goldiya and Me'enit Shasha which is located 86km & 118km distance from Mizan teferi which is the main town of Bench Maji zone. Me'enit goldia has a total population of 89,481 consist of 45,587(50.95%) female and 43,894(49.05%) male. Urban inhabitants account for 2,543(2.84%) and rural 86,938(97.16%). Me'enit shasha has a total population of 44,766 out of which 22,549(50.37%) are female and 22,217(49.63%) are male. The sizes of urban and rural population are 2,778(6.2%) and 41,988(93.8) respectively.

Regarding infrastructure the two woredas are not accessible to transportation, postal, electric power, water and telephone services for along time. But road and mobile telephone network installation are on the way of construction. There are 1 high school, 51 first cycles and 12 complete elementary school. There are also 2 health center, and 43 health posts in these woredas. Me'enit communities live as agrarian society at subsistence level and they cultivate land mostly with hand made tools and they produce crops, such as sorghum, maize, teff, and other crops that are known at the local level and rearing of cattle.

4.2 Study design

Community based matched case-control study was conducted, in Me'enit tribe April/2011 G.C.

(Matching variable was age and the type of matching was frequency matching)

4.3. Population

4.3.1 Source Population:

The source population was all Me'enit tribe members living in selected Wereda's of Bench Maji Zone.

4.3.2. Study population.

A sample of 114 cases and 114 frequency age matched (for each adult case one control between ±5 years difference and for each children case between ±2 years difference) controls, a total of 228subjects were selected from the source population and taken as a study population.

Cases: peoples living with epilepsy or peoples who have two unprovoked seizure screened by screening question and confirmed by witness and medical doctor.

Controls: peoples confirmed not to have epilepsy by witness and medical doctor.

4.3.3 Inclusion criteria

Subjects who have at least two unprovoked seizures for the last 5 years (epileptic clients) and should be a member of me'enit trib.

4.3.4 Exclusion criteria

Those subjects who hade: - history of febrile convulsions, history of provoked seizures, history of isolated (single) seizures and a person who was severely ill during the study were excluded.

4.3.5. Sample size and sampling technique

4.3.5.1. Sample size

The sample size was calculated using formula for matching in case-control study. To calculate sample size, the proximate determinants (main exposure variables) such as family history of epilepsy, perinatal insult (complication), head injury, febrile seizure and cerebral infection were considered. Family history was chosen as an independent variable since it gave maximum sample size as compared to other proximate determinants.

By considering that the proportion of peoples who have family history of epilepsy among cases and controls was chosen as main exposure variable, 95% CI, 80% power of the study and case to control ratio of 1:1 to detect an odds ratio of 3.5, which is estimated from a study done in Tanzania (37), number of discordant pairs (22.8) and probability of discordant pair which was assumed to be 0.2. Accordingly, 114 cases and 114 controls with a total sample size of 228 were included for the final study.

$$n = \frac{2d_p}{\pi_p} \quad , \text{ where } \quad dp = \frac{[z\,\alpha/2(\lambda+1) + 2\,z\,\beta\sqrt{\lambda}\,]^2}{(\lambda-1)^2}$$

where

- n = Total number of pairs
- zα/2=Two tailed significance level at 95% confidence interval=1.96
- power (1- β) = 80% which is zβ = 0.84
- d_p = Number of discordant pairs=22.8
- π_p = Assumed probability of discordant pairs = 0.2
- λ = odd ratio=3.5
- m (case to control ratio) =1

4.3.6 Sampling technique.

A survey was conducted in purposively selected three villages from the two wereda's for screening of cases and controls. During the survey code numbers were given for all screened cases and controls. From these screened cases and controls by using their code number as a sampling frame 114 case and 114 frequency age matched (for each adult case one control between ±5 years difference and for each children case between± 2 years difference) controls, a total of 228 subjects were selected using simple random sampling technique.

4.5 Measurements and variables

4.5.1 Instrument

Structured questionnaire, which was pretested for clarity was used. The questionnaire was assessed demographic data such as age, sex, occupation, marital status and educational status; seizure history seizure description and history of treatment. It includes detailed information on adverse events such as febrile convulsions; previous head trauma; family history of epilepsy; cerebral infection; risk factor for cysticercosis; history of drinking alcohol before the onset of epilepsy. And also assessed misperception about stigma components.

4.5.1 Dependent Variables

Having Epilepsy

4.5.2. Independent Variables

- Sex ,Occupation
- Educational status
- Marital status
- Family history
- Drinking alcohol
- Head injury
- Cerebral infection
- Febrile seizure
- Risk factor for cysticercosis
- Miss perception towards the components of stigma.

4.6 Data Collection Procedures

Door-to door screening was performed on the entire population of 3 purposively selected villages in Me'enitshasha and Me'enit goldia districts, using an internationally validated and standardized questionnaire. The screening was performed by 3 trained diploma nurses, 3 HEW translators and two BSc public health professionals (H.O) supervisors. In the 3 villages, 150 suspected cases of epilepsy were identified. All suspected cases identified by the questionnaire were underwent a clinical examination by experienced medical doctor. One hundred twenty five persons with epilepsy were identified. All cases were volunteers to participate in the study but we were selected 114 randomly. Standard questioner for the assessment of risk factors were adopted and translated in to Amharic language and the 'stigma' section of the modified Family Interview Schedule which was developed for use in the World Health Organization (WHO) study on the course and the outcome of schizophrenia were used (41, 42). The data about risk factors and social stigma from these confirmed cases and controls were collected by 2 experienced physicians and 2 diploma nurse translators. The historical details and the seizure patterns were obtained through interviews with each case and accompanying relative.

4.7. Data analysis procedure

Data were edited, coded and entered in to computer, cleaned with SPSS V16 and analyzed using Epi-info version 3.4.3 windows for the matching analysis. The data were presented using descriptive statistics like frequency tables. Confidence interval (95%) odds ratio and p-value were estimated. Discordant pair matching analysis and logistic regression were used to determine the independent effect of explanatory variables on outcome variable. Each independent variable were entered separately together with the outcome variable into bivariate analysis and multiple logistic regressions were applied to assess independent effects of each risk factor by including those factors that showed a significant association at a P value < 0.05 in bivariate analysis.

Depending on the findings obtained after data analysis, the interpretation of data were made by using p-value and odd ratios contrasting with other similar studies conducted in different countries.

4.8. Data quality management

Standard questionnaires were adopted and translated into Amharic. Data collectors and supervisors were trained for three days. On each data collection day all collected data were reviewed by principal investigator for completeness, accuracy, and clarity. Any error, ambiguity, incompleteness, or other wise encountered were addressed on the following day. Data collection instrument was pre-tested on 5% of the sample size at the pilot area, which was not included in to the final study.

4.9. Ethical Consideration

Ethical clearance was initially obtained from Jimma University faculty of Public Health and Medical Science Ethical committee. Further, written permissions were secured from Zonal Health Bureau and wereda (district) Health office. Each study subject and their relatives were informed by data collectors about the study and verbal consent was obtained. Emphasis to ensure confidentiality and respect of the right of the respondents to refuse answering few or all of the questions was made. Free treatment was available to participants found suffering from acute illness at the time of interview.

4.10 Dissemination plan

The result of this study will be disseminated to relevant bodies such as faculty of Public Health and Medical Science of Jimma University, Federal Ministry of Health, SNNP Regional Health Bureau, Bench Maji Zone Administrator office, Bench Maji Zone Health Department, menit goldia and menit shasha wereda Administrator office, menit goldia and menit shasha wereda Health office. Publication will be attempted on scientific Journal

4.11 Operational Definitions

Epilepsy: is defined by recurrent (two or more) epileptic seizures, unprovoked by any immediate cause.

Febrile convulsion: a tonic-clonic convulsive attack occurring before the onset of seizure, associated with fever, but without evidence of intracranial infection.

Head trauma: recorded as present only when associated with loss of consciousness or posttraumatic amnesia, which must be corroborated by a close relative.

Perinatal insult (complication): a history of features suggestive of birth asphyxia, neonatal tetanus, jaundice or sepsis

Stigma: negative psychosocial consequences of the disorder including decreased social and leisure opportunities, low self esteem and feelings of shame and guilt compared with individuals without epilepsy.

CHAPTER 5: RESULT

5.1. Demographic and clinical characteristics

Table 1 summarizes the characteristics of cases and controls. The cases and controls were matched for age with frequency age matching 114 cases and 114 controls were enrolled with response rate of 100%.There were no significant differences between cases and control in gender seventy three (64%) of cases and 67 (58%) of controls were female and 41(36.0%) of cases and forty seven(41%) of controls were male (p=0.5). Compared with controls, cases were less access for education (22(19.3%) vs2 (1.8%) P=0.000) they were less often married (86(75.4%) vs. 66(57.9%) P = 0.0005). Majority of the participants, 65 (57%) of cases and 91 (79.8%) control participants were farmers by occupation and others are students and daily laborers.

Table 1: Comparison of socio demographic characteristic of cases and controls Me'enit community, April2011

		++	+-	- +	- -	COR	95%CI
Sex	Female Male	42	31	25	16	1.24	0.73-2.10
Occupation	Farmer Others	60	4	31	19	0.12	0.04-0.36
Educational status	Illiterate Literate	80	30	2	2	15	3.58-62.8
Marital status	Single Married	23	25	5	61	5.00	1.91-13.06

+ +, factor present in both case and control; + - , factor present in case but absent in control; - +, factor absent in case but present in control; - - , factor absent in both case and control. *Variables which have shown significant association during the bivariet analysis.

Distribution at the onset of unprovoked seizures is shown in Table 2. Males constituted 35.9% of the cases and females 64.04%. Onset of epilepsy was within the first two decades of life in 85.96% of the cases. Generalized seizures were encountered in 91(79.82%) of the patients (Table

3). Within the group, generalized tonic clonic seizures were the commonest type. All patients with partial seizures had the secondary generalized type.

Currently 60(52%) of cases were on treatment, 17(11.8) cases had stopped treatment the rest 37(25.69) didn't start the treatment.

Table 2**:** Age at the onset of unprovoked seizure Me'enit community, April2011.

Age in year	sex		Total	%
	Male %	Female %		
0-9	4(3.5)	10(8.77)	14	12.3
10-19	33(28.94)	51(44.73)	84	73.9
20-29	4(3.5)	11(9.65)	15	13.2
30-39	0(0)	1(0.87)	1	0.9
Total	41(35.96)	73(64.04)	144	100

Table 3: Distribution of seizure types among study cases Me'enit community, April2011**.**

Type	Frequency %
Generalized	91(79.9)
Tonic-clionic	
Partial	
Secondary generalized	23(20.2)
Total	114(100)

5.2 Risk factors

A past history of febrile convulsion was encountered in 58 (25.43%) of the cases as against 8(3.50%) of the controls (Table 4), and the difference is highly significant OR of 7.00(3.33-14.68). A family history of epilepsy was obtained in 67(58.8%) cases as compared with 11(9.6%) of the controls, and the difference is statistically significant OR 15.00(95% CI 5.45-41.27). History of pork consumption (OR 2.8(95% CI 1.55-5.04)), outdoor defecation (OR 23.50(95% CI 5.7-96.74)) and latrine availability (OR 0.20(95% CI 0.11-0.38)) were significantly prevalent with absence or presence of epilepsy. No significant difference was

shown between the cases and the controls with respect to Head trauma alcohol intake and history of cerebral malaria (Table 4).

Table 4:Bivariate analysis result of the distribution of risk factors between controls and cases Me'enit community, April2011.

Exposure status	++ (exposed cases, exposed controls)	+- (exposed cases,none exposed controls)	- +(none-exposed cases exposed controls	_ _(none-exposed cases, none exposed controls	OR	95%CI
Febrile sizure	3	58	8	47	7.00	3.33-14.68
Head trauma	0	1	3	110	0.33	0.03-3.2
Family history	7	60	4	43	15.00	5.45-41.27
History of drinking alcohol	89	9	12	4	0.75	0.31-1.7
History of cerebral malaria	0	5	2	107	2.5	0.48-12.8
eating pork	37	42	15	20	2.8	1.55-5.04
Outdoor defecation	65	47	2	0	23.50	5.7-96.74
Latrine availability	20	13	62	0	0.20	0.11-0.38

+ +, factor present in both case and control; + - , factor present in case but absent in control; - +, factor absent in case but present in control; - - , factor absent in both case and control.* variables which have shown significant association during the bivariet analysis.

5.3 Predictors of epilepsy using multivariate analysis

Those risk factors found to be significantly associated with epilepsy by bivariate analysis were entered into multiple logistic regression models with the conditional logistic regression method, with probability for entry of the variables fixed at <0.05 and that for removal at 0.10. Table 5 summarizes the results for the whole sample. In the final multiple logistic model, family history of epilepsy (OR=12.13, 95%CI 3.26-45), and a history of febrile seizures (OR=4.21, 95%CI 1.0-16.20), emerged as strong independent predictors of epilepsy.

Table 5: Predictors of epilepsy using multivariate analysis Me'enit community, April2011.

Independent variables	Epileptic		
	COR	AOR	95%CI
Family history of epilepsy	15.00	12.13	3.26,45.1
History of febrile sizure	7.00	4.21	1.0,16.20

*variables which shown significant association.

5.4 Perception of stigma:

The data were collected from 114 cases and 114 of their relatives a total of 228 subjects and the distribution of positive responses to stigma items is shown on Table 6. The occurrence of psychosocial problems related to epilepsy is well recognized and documented and in certain situations these problems are believed to be more troublesome than the seizure disorders themselves. The results of this study show that social stigma is a common experience of people with epilepsy and their relatives. About 98% of patients were worried to be avoided and worried people would know about it and Felt the need to hide this fact were the second and the third highest score (97.8%, 93.4%).

Table 6: FIS items presented to patients and care providers and the corresponding response Me'enit community,April2011.

Can you please tell me whether any of the following things have happened – since (you /your----------/name/) developed epilepsy: Not at all (0), Sometimes (1), Often (2), A lot (3).

Items	0	1	2	3	Any positive response
Worried to be treated differently.	180	16	14	0	30(13.1)
Worried people would know about it	5	4	18	201	223(97.8)
Felt the need to hide this fact	15	18	5	190	213(93.4)
Helping other people to understand what it is like to have a family member with psychiatric problem	222	5	1	0	6(2.63)
Worried to be avoided	3	9	21	195	225(98.6)
Explaining to others that -(name)- isn't like their Picture of "crazy" people	204	5	4	15	24(10.52)
Worried that people would blame you for his or her Problems	130	2	12	84	98(42.98)
Worried that a person looking to marry would be reluctant to marry in to your family	31	0	17	180	197(86.4)
Worried about taking him or her out	16	0	11	200	211(92.54)
Felt ashamed or embarrassed about it.	76	0	12	140	152(66.6)
Sought out people who also have afamily member who has had psychiatric problem	80	29	19	100	148(64.9)
Felt guilt or depression because of it.	20	4	34	180	208(91.22)
Felt that somehow it might be your fault	80	15	23	110	148(64.9)

CHAPTER 6: DISCUSSIONS

It should be emphasized that the cases of this study were derived from peoples who were isolated from the community because of the seizure disorder (epilepsy) and living in the selected 3 villages. Most of the cases were interviewed together with care providers and their relatives. The findings provide some information about factors associated with epilepsy in Me'enit community.

The result of this study show that febrile seizure significantly increases the risk of developing epilepsy in four fold OR 4.21, 95%CI 1.0-16.20 and this is consistent with study findings in Kenya (34),Tanzania (27),Nigeria (24**),** Minnesota, U.S.A (25), findings by other study**,** also using a case-control approach in a white population, (28) and south India(29).The finding that documented a four-fold increased risk of epilepsy, following febrile seizures highlight the importance of infections as a possible cause of epilepsy.

Other major finding is strong associations between positive family history of epilepsy in first-degree relatives and risk of developing epilepsy that showed 12 fold increased risk of developing epilepsy in accordance with those from a majority of analytical studies done in Kenya (34), Tanzania (27), rural Laos (30) Iran (33), south India (29), This might be related to genetic factors, which predispose individuals in a family to epilepsy.

Head injury is a known etiology of epilepsy in adolescents and adults. It may be caused by a variety of mechanisms, but the probability of epilepsy development, from 1.5 to 17.0 fold, is related to the gravity of trauma (32). Haw ever studies conducted in Nigeria (24) and rural Laos (30) confirm the established association between antecedent head trauma and epilepsy. This study does not show association between head trauma and epilepsy and this is consistent with another study in Tanzania (27).

Epilepsy associated with head trauma, central nervous system infections, and tumors may occur at any age, although tumors are more likely in the elderly (20).But the reason why it is not significant in our study is head trauma is more common in urban areas than rural and rural, mountainous environment and houses on piles explain the high risk for trauma in children. This

study obtained history from each individual and their relatives so it's difficult to obtain child hood history from adult clients. Poor recall about the events that occurred during child hood.

All the other potential risk factors drinking alcohol and cerebral malaria investigated in other studies were not significantly different between the cases and controls in our study. Any possible association between perinatal factors and epilepsy could not be assessed in this study because only children over 5-years were included in the study, the reason is we couldn't get <5 children who hade epilepsy during in our screening. Poor recall about the events and adult epileptics having accurate information concerning details of events that occurred at the time of their births were difficult.

CHAPTER 7: CONCLUSION AND RECOMMENDATION

In conclusion, this population-based case–control study identified family history of epilepsy, and antecedent history of febrile seizures as strong independent predictors of epilepsy, pork consumption, outdoor defecation and latrine availability were prevalent in the study area. The occurrence of psychosocial problems related to epilepsy is well recognized and documented and in certain situations these problems are believed to be more troublesome than the seizure disorders themselves (35). The results of this study show that social stigma is a common experience of people with epilepsy and their relatives.

Based on this fact.The information that adverse fibril seizure increased the risk of epilepsy by four fold suggests that much of the epilepsy in Me'enit community may be preventable by improved maternal, neonatal and child care and it is recommended that MOH at different level and stakeholders should work on it. It is better to conduct research to assess the prevalence of cystisercosis in Me'enit community. Strengthening IEC and BCC to minimize misperception of peoples towards epilepsy in the studied community by considering local beliefs and traditional practices is also recommended. This study has limitation to assess all possible risk factors for epilepsy and large scale farther study should be conducted.

Strength and limitation of the study

We acknowledge the following limitations of our study. Although we made every attempt to supplement and cross-check the accuracy of information gathered by questionnaire interview with the information provided by caregivers it was very difficult to obtain birth histories, especially from older clients and most of our cases were living with care providers. All of our cases were born outside a medical facility. Due to this fact we could not assesed perinatal insult in this study. We also ascribed to recall bias, which is one of the inherent limitations of case-control study. We reduced recall bias by using a standardized questionnaire and systematic interview, and by obtaining corroborative evidence through interviews of close relatives. And the design that we used was also strength of this study.

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Questionnaire

Annex- I

Jimma University

College Of Public Health And Medical Sciences

Department Of Epidemiology

Screening questionnaire on assessment of epileptic cases in Me'enit tribe, Bench Maji Zone,SNNPR, Ethiopia. [based on 23]

Hello, my name is _____ and I am working as a data collector in this survey. I would like to inform you that I am going to have a short discussion concerning this study. Before we go to our discussion, I will ask you to listen carefully to what I am going to read to you about the purpose and general condition of the study and tell me whether you agree or disagree to participate in this study. As part of this survey we are collecting information on screening of epileptic clients. The purpose of this survey is to identify peoples living in epilepsy and to conduct another survey on risk factors of epilepsy and social stigma of epileptic clients.This enables the concerning and pertinent bodies to develop programs to prevent, treat epilepsy and create awareness about epilepsy among the society. So to do this it needs reliable information. That is why we are now collecting information from peoples with epilepsy. The results will be kept confidential. If a report of the result to be published, only summarized information of the total group will appear.

Do you have any questions?

Are you volunteer to participate in the survey?

Yes_____ continue the interview

No _____ stop the interview and thank the respondent

Name and signature of interviewer _____

Translator---------- Code No----------

History Obtained from: patient ☐ witness/relative ☐

Age_____ Age _____

Sex_____ Sex_____

screening question

Q. No	Questions	Coding Classification	Skip to
	Does the subject have a history of:-		
01	Loss of consciousness and/or loss of bladder control and/or foam at the mouth?	1=Yes 2=No	
02	Absence(s) or sudden lapse(s) of consciousness during a short time?	1=Yes 2=No	
03	Involuntary clonic movements or muscular jerks of arm(s) and/or leg(s) (convulsions) that start suddenly and stop within minutes?	1=Yes 2=No	
04	Does the subject sometimes experience sudden and brief bodily sensations, see or hear things that are not there, or smell strange odors?	1=Yes 2=No	
05	Did someone tell the subject that he/she had epilepsy or that he/she already had epileptic fits?	1=Yes 2=No	

Code Number _____ Date: _____

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Part I. Socio-Demographic Characteristics

Q. No	Questions	Coding Classification
101	Age	
102	Sex	1= Female 2= Male
103	Occupation	1=Farmer 2=daily laborer 3=Government employer 4=Merchant 5= Housewives 6=other (s specify)_____
104	Family ID	
105	Educational status	1=Illiterate 2=Read and write 3=Primary education 4=Secondary education 5=Higher school education 6=College education
106	Marital status	1=Single 2=Married

		3=Divorced 4=widowed
107	Kebele	
108	Gote	
109	Age of the relative	
110	History obtained from	1= client 2= relative 3= witness

Part II. Seizure history

Q. No	Questions	Coding Classification	Skip to
201	**Neonatal seizures** (in first 4 weeks of life)	1=yes	
		2= No	
203	**Age at onset of unprovoked seizures**		

Part III. SEIZURE DESCRIPTION

Q. No	Questions	Coding Classification	Skip to
301	Did he/she have a history of seizures with loss of awareness?	1=yes 2=No	302
301.1	With what frequency did he/she has seizures with loss of awareness and With rigidity or Jerking of all 4 limbs?	1= ≥ 1/day	
		2= ≥ 1/week	
		3=≥ 1/month	
		4= ≥ 1/3 months	
		5= ≥ 1/6 months	
		6= ≥ 1/ year	
301.2	With what feature did he/she has seizures with loss of awareness and With rigidity or Jerking of all 4 limbs?	1= Warning or aura	
		2= Focal onset	
		3= Fall	
		4= Rigidity	
		5= Jerking of limbs	
		6= Tongue biting	
		7= Post-ictal confusionor drowsiness	
		8= Incontinence	
301.3	With what frequency did he/she has seizures with loss of awareness and	1= ≥ 1/day	
		2=≥ 1/week	

	Without rigidity or Jerking of all 4 limbs?	3= =≥ 1/month	
		4== ≥ 1/3 months	
		5== ≥ 1/6 months	
		6= ≥ 1/ year	
301.4	With what feature did he/she has seizures with loss of awareness and Without rigidity or Jerking of all 4 limbs?	1= Warning or aura	
		2= Focal rigidity	
		3= Focal jerking	
		4= Duration < 10 s	
		5= Duration > 10 s	
		6= Post-ictal confusionor drowsiness	
302	Did he/she have a history of Seizures with retained awareness?	1=yes 2=No	
302.1	**With what** frequency?	1= ≥ 1/day	
		2= ≥ 1/week	
		3=≥ 1/month	
		4= ≥ 1/3 months	
		5= ≥ 1/6 months	
		6= ≥ 1/ year	
302.2	With what feature?	1= Isolated aura	
		2= Focal rigidity	

		3= Focal jerking	
		4= Bilateral limb jerk (s)	
		5= Tongue biting	
		6= Incontinence	
303	Clinical classification of the type (s) of seizure	_____	
304	**Complications**		
304.1	Status (Did he/she have a history of Prolonged or recurrent tonic-chronic seizures of > 30 minutes)	1=yes 2=No	
304.2	Do you have Injuries	1=Burn	
		2= Fractures	

Part IV. Treatment

Q. No	**Questions**	**Coding Classification**	**Skip to**
402	What is your Current Treatment?	1= None	403
		2Traditional(Specify)_____ _____	
		3= Medical treatment	
403	What is your Previous Treatment?	1= None	405
		2Traditional(Specify)_____	

		3= Medical treatment	
404	What is your Reason for stopping Previous treatment?	1= Lack of efficacy	
		2= Adverse effects	
		3=others(specify)_____ _____	
405	What is your Reason not starting treatment?	1= Inaccessibility of servise	
		2=Affordability of the drug	
		3=Others (specify)_____	

Part V. Risk Factors

Q. No	Questions	Coding Classification	Skip to
501	Is there any person from your family who has epilepsy?	1=Yes	
		2= No	
502	Did he/she/do you have a history of febrile seizures during (in childhood, after age 6 month and up 6 years, associated with febrile illness not caused by infection of the CNS, without previous neonatal or unprovoked seizure)or before the onset of unprovoked seizure.	1=Yes 2= No	

503	Do you have a history of head injury? (open head injury including surgery, closed head injury with focal neurological deficit, depressed skull fracture, or unconsciousness or post traumatic amnesia of	1= Yes 2=No	
504	Did he/she/do you have Previous history of illness like	1=Cerebral malaria	
		2=Pyogenic meningitis	
		3=TB meningitis	
505	Do you drinking Alcohol and haw?	1=None	
		2=Occasional	
		3=Every day	
506	risk factors for cysticercosis		
506.1	Do you have history of eating pork	1=Yes 2=No	509.3
506.2	If yes? is that undercooked (raw) pork	1=Yes 2=No	
506.3	Do you Use human-faeces for fertilizers ?	1=Yes 2=No	
506.4	Do you have Latrine ?	1=Yes No	
507	Do you have any other medical history of	1=Hypertensio 2=Diabetes 3=Rheumatic heart disease 4=Depression 5=Psychosis	

Part . Physical Examination

Q. No	Questions	Coding Classification	Skip to
601	Height		
602	Weight		
603	Blood pressure		
604	Microcephaly (HC < 2SD) Delayed speech Delayed motor development mental retardation Cerebral Palsy Memory impairment Dysphasia/impaired comprehension Visual impairment Deafness Motor deficit (specif		
604	General Examination (list abnormal findings) _____ _____ _____ _____ _____ _____		

Part VII. 'Stigma' section of the modified Family Interview Schedule (FIS)

Q. No	Questions	Coding Classification	Skip to
	Can you please tell me whether any of the following things have happened – since (you /your--------/name/) developed epilepsy:		
701	Worried to be treated differently	0= Not at all	
		1= Sometimes	
		2= Often	
		3= A lot	
702	Worried people would know out about it	0= Not at all	
		1= Sometimes	
		2= Often	
		3= A lot	
703	Felt the need to hide this fact	0= Not at all	
		1= Sometimes	
		2= Often	
		3= A lot	
704	Helping other people to understand what it is like to have a family member with psychiatric problem	0= Not at all	
		1= Sometimes	
		2= Often	

		3= A lot	
705	Worried to be avoided	0= Not at all	
		1= Sometimes	
		2= Often	
		3= A lot	
706	Explaining to others that -(name)- isn't like their Picture of "crazy" people.	0= Not at all	
		1= Sometimes	
		2= Often	
		3= A lot	
707	Worried that people would blame you for his or her problems.	0= Not at all	
		1= Sometimes	
		2= Often	
		3= A lot	
708	Worried that a person looking to marry would be reluctant to marry in to your family.	0= Not at all	
		1= Sometimes	
		2= Often	
		3= A lot	
709	Worried about taking him or her out	0= Not at all	
		1= Sometimes	

		2= Often	
		3= A lot	
710	Felt ashamed or embarrassed about it	0= Not at all	
		1= Sometimes	
		2= Often	
		3= A lot	
711	Sought out people who also have a family member who has had psychiatric problem	0= Not at all	
		1= Sometimes	
		2= Often	
		3= A lot	
712	Felt guilt or depression because of it	0= Not at all	
		1= Sometimes	
		2= Often	
		3= A lot	
713	Felt that somehow it might be your fault	0= Not at all	
		1= Sometimes	
		2= Often	
		3= A lot	

ክ□ል- 1

ጂማ ዩኒቨርሲቲ

የህብረተሰብ ጤና □ና ሕክምና ሳይንስ ኮሌጅ □ኤፒዲሚኦሎጂ ት/ት ክፍል

በሜ□ኒት ጎሳ ለሚጥል ህመማን መለያ ጥያቄዎች ቤንች ማጂ ዞን ደቡ/ብ/ብ/ሕ/ክ ኢትዮጲያ

ጤናይስጥልኝ ስሜ----------ይባላል በዚሕ ጥናት ላይ የመረጃ ሰብሳቢ ሆኜ ነው የምሰራው። በመጀመሪያ ጥናቱን በተመለከተ ትንሽ ውይይት ስለሚኖረን በጥሞና አዳምጠ/ጪኝ? ስለጥናቱ □ላማ፤ዓ ቅም □ናአጠቃላይ ሁኔ□ በተመለከተ፡-

የጥናቱ ዓላማ ከዚህ ቀጥሎ ለሚንሄደው ለህመሙ የሚያጋልጡ ነገሮች □ና የህማሙማኑ ስለሚደርስባቸው መገለል ለማጥናት □ንዲያመች ሲሆን የእነዚህ ጥናቶች ጥቅም የሚመለከታቸው ክፍሎች ፕሮግራሞችን በመንደፍ ህመሙን መከላከል፤ህሙማኑን ማከም እንዲሁም ሕብረተሱን ስለህመሙ በማስተማር □ውቀቱን በመጨመር የህሙማኑን መገለል ለማስቀረት የሚያስችል ስራ ለመስራት ነው። ይህን ለማድረግ ትክክለኛ መረጃ ከህሙማኑ ማግኘት ያስፈልጋል ስለዚህ □ዘሆ ከህሙማኑ መረጃ እየሰበሰብን ነው። በመረጃው ላይ ስምህ/ሽ አይጻፍም፤አጠቃላይ ሚስጥርህ/ሽ ይጠበቃል፤ጥናቱ □ንኳን ሲታተም በአጠቃላይ ያለው የሁሉመረጃ የተጨመቀ ነው የሚቀርበው እንጂ ያንተ/ቺ ለብቻው አይደለም።

ጥያቄ አለህ/ሽ?

ለመሳተ□ □ቃ□ኛ ነህ/ሽ?

አዎ_____ ቃለመ□ጹቁን ይቀጥሉ

□ለም _____ አመስግነው ይለዩት

የቃለመጠይቅ አድራጊው ስም □ና ፊርማ _____

አስተርጓሚው---------- መለ□ ቁዓ ር----------

□ሪኩ የተወሰደው ክ□ማሚ□ □ ከምስክር/ከቤተሰብ □

ክ□ሜ_____ □□ --------- ክ□ሜ _____ □□ _____

መለያ ጥያቄዎች

ተ.ቁ	መ□ጃቅ	መለ□ □□□ል
	ተጠያቂው የሚቀጥሉት የህመሙ □ሪኮች አሉት/ሏት	
01	□ራሱን ስቶ □ና □ኛውን መቆጣጠር አቅቶት እና ወይም በአፉ አረፋ ደፍቆት □□ቃል?	1= አዎ 2==□ለም
02	ለአጭር ጊዜ □ራሱን ስቶ ወይም ወድቆ ያውቃል?	1= አዎ 2==□ለም
03	በድንገት ተንሰቶ ከራሱ ቁጥጥር ውጭ የ□ጆቹ/□ □ና ወይም የ□ግሮቹ/□ ተብረክረክው ወይም ተንቀጥቅጠው በትንሽ ደቂቃ ውስጥ አቁመው ያውቃሉ?	1= አዎ 2==□ለም
04	አዳንደ በድንገት □ና ግልፅ የሆነ በቦታው የሌለ ነገር መታየት ወይም መስማት □ጁም ል□ ሽታ መሽት ስሜት አለው?	1= አዎ 2==□ለም
05	□ሚ□ል በሽ□ እንዳለብህ/ሽ እንደሚጥልህ የነገረህ/ሽ ሰው አለ?	1= አዎ 2==□ለም

ክፍል 1፡ አጠቃላይ መረጃ.

ተ.ቁ	መ□ጂቅ	መለ□ □□□ል
101	ክ□ሜ	
102	□□	1= ወንድ 2= ሴት
103	ሥራ	1=□በሬ 2=ቀን ሥራ 3=መንግስት ሰራተኛ 4=ንጋሽዬ 5= ቤት □መቤት 6=ሌላ _____
104	□ቤተሰብ መለ□ ቁዓ ር	
105	የትምህርት ደለጃ	1=□ልተማረ 2=ማንበብ □ና መጻፍ ሚችል 3=□መ□መሪያ ደረጃ ት/ት 4=ሁለተኛ ደረጃ ት/ት 5=ከፍተኛ ሁለተኛ ደረጃ ት/ት 6=ኮሌጅ ት/ት

106	ት·ዳር ሁኔ□	1= □ላ□ላ 2=ያገባ/ች 3=□□□/ች 4=በሞት የተለየ /ች
107	ቀበሌ	
108	መንደር	
109	ዕድሜ የቤተሰብ/ተንከባካቢ	
110	□ሪኩ የተወሰደው	1= ከሀመምተኛ□· 2= አብሮት ከሚኖር 3=ከአን ምስክር

□□ል2.□ማንቀጥቀጥ □ሪ□

ተ.ቁ	መ□ጁቅ	መለ□ □□□ል	□ለ□
201	በተወለደ በመጀመሪያዉ አራት ሳምንት አንቀጥቅጦት ነበር	1=አዎ	
		2=□ለም	
		3= □ኔ አላውቅም	
203	ሚዓ ል በሽ□ው ሲጀምረው ስንት አመትህ/ሽ/ቱ ነበር		

□□ል3. የማንቀጥቀጡ መገለጫ

ተ.ቁ	መ□ጂቅ	መለ□ □□□ል	□ለ□
301	ማንቀጥቀጡ ሲጀምረዉ/ሲንቀጠቀጥ/ስትንቀጠቀጥ ራሱን/ራስዋን ይስ□ል/ትስታልች?	1= አዎ 2=□ለም	302
301.1	በምን ያህል ጊዜ ድግግሞሽ □ራሱን ስቶ ሰውንቱ ግርትር ብሎ እጆቹም እግሮቹም ይብረከረናሉ?	1= ≥ 1/ቀን	
		2= ≥ 1/ሳምንት	
		3=≥ 1/□ር	
		4= ≥ 1/3 □ር	
		5= ≥ 1/6 □ር	
		6= ≥ 1/ አመት	
301.2	በምን አይነት ገፅ□ እራሱን ስቶ ሰውንቱ ግርትር ብሎ □ጆቹም እግሮቹም ይብረከረከሉ?	1= ማስጠንቀቂያ ድምፅ አለው(aura)	
		2= የተወሰነ መነሻ (Focal onset)	
		3=ጁ□□ቃል (Fall)	
		4=ሰውነቱ ጁ□□ ተራል(Rigidity)	
		5=ሁለት□□□ና □ግሮቹ ይብረከርንሉ	
		6= ምላሱን ይነክሳል	

		7= ከጥቃቱ በዋላ መረበሽ መንገላጀጅ	
		8= ሽንትና ሰገራውን አይቆጣጠርም	
301.3	በምን ያህል ጊዜ ድግግሞሽ □ራሱን ስቶ ሰውንቱ ግርትር ሳይል እጆቹም እግሮቹም ሳይብረከረኩ ይቆል?	1= ≥ 1/ቀን	
		2= ≥ 1/ሳምንት	
		3=≥ 1/□ር	
		4= ≥ 1/3 □ር	
		5= ≥ 1/6 □ር	
		6= ≥ 1/ አመት	
301.4	በምን አይነት ገፅ□ እራሱን ስቶ ሰውንቱ ግርትር ሳይል እጆቹም እግሮቹም ሳይብረከረኩ ጁቆል?	1 ማስጠንቀቂያ ድምፅ አለው(aura)	
		2= በተወሰነ የሰውነት ክፍል መገትተር	
		3= በተወሰነ የሰውነት ክፍል መብረ□ረ□	
		4= ቆጁ□ < 10 ሰከንድ	
		5= ቆጁ□ > 10 ሰከንድ	
		6= = ከጥቃቱ በዋላ መረበሽ	

		መንገላጀጅ	
302	ራስህን/ሽን ሳትስት/ች ያንቀጠቅጥሀል?	1= አዎ 2=□አዎ	
302.1	በምን ያህል ድግግሞሽ?	1= ≥ 1/ቀን	
		2= ≥ 1/ሳምንት	
		3=≥ 1/□ር	
		4= ≥ 1/3 □ር	
		5= ≥ 1/6 □ር	
		6= ≥ 1/ አመት	
302.2	በምን አይነት ገፅ□?	1= የተለየ ማስጠንቀቂያ ድምፅ አለው	
		2= በተወሰነ የሰውነት ክፍል መገትተር	
		3= = በተወሰነ የሰውነት ክፍል መብረ□ረ□	
		4= የሁለት □ጆች ወይም እግሮች መብረክረክ	
		5= ምላሱን ይነክሳል	
		6= ሽንትና ሰገራውን አይቆጣጠርም	
303	የማንቀጥቀጡ ህክምና ክፍፍል አይነት	_____ _____	

304	**ውስብስብነት (Complications)**		
304.1	**በተደጋጋሚ ከ30 ደቂቃ በላይ የሚቆይ ማንቀጥቀጥ አለው/አላት?**(Status)	1= **አ**ዎ 2=□**ለ**ም	
304.2	**ጉዳት አጋጥሞሐል/ሻል?**	1=***መ***ቃ□**ል**	
		2= **ስ**ብራ**ት**	

□□**ል 4.የ***መ***ት**·□**ስ**□/□□· ***መ***□□**ኒ**ት·

ተ.ቁ	***መ***□**ጁ**ቅ	***መ***ለ□ □□□**ል**	□**ለ**□
402	**አሁን የ**ምት**ወስደ/ጂ**ው **መ**ድ□**ኒ**ት·	1= **ም**ንም **አ**ልወስድም	403
		2ባህላዊ(**ስ**ሙ·ን)_____ _____	
		3= **በ**□**ኪ**ም **የ**ታዘዘ ***መ***ድኃ**ኒ**ት·	
403	**ከዚ**ህ **በ**ፊ**ት የ**ምት**ወስደ/ጂ**ው **መ**ድ□**ኒ**ት·	1= **ም**ንም **አ**ልወስድም	405
		2ባህላዊ(**ስ**ሙ·ን)_____ _____	
		3= **በ**□**ኪ**ም **የ**ታዘዘ ***መ***ድኃ**ኒ**ት·	
404	***መ***□□**ኒ**ቱን **ያ**ቆሙ**በ**ት· ም**ክ**ን**ያ**ት ም**ን**ድ**ነ**ው?	1= **የ***መ***ፈ**ው·ስ **አ**ቅም **የ**ለውም	
		2=**የ**ጎንዮሽ **ጉ**ዳ**ት**·	
		3=**ሌ**ላ**ካ**ለ **ጁ**ፅ**ለ**□·_____ _____	

405	መ□□ኪቱን ያልጀመሩበት ምክንያት ምንድነው?	1= አገልግሎቱ ያልምኖር	
		2=መ□□ኪቱን የመግዛት አቅም □ለመኖር	
		3=ሌላካለ ጁፅለ□·_____ _____	

□□ል 5. ለበሽ□ው የሚያጋልጡ ነገሮች

ተ.ቁ	መ□ጂቅ	መለ□ □□□ል	□ሰ□
501	በቤተሰባችሁ ውስጥ የሚጥል በሽ□ ያለበት ሰው አለ?	1= አዎ	
		2=□ለም	
		3= □ኔ አላውቅም	
502	በልጅነት □ድሜው አተኩሶት አንቀጥቅጦት □□ቃል መለትም ከ6 ወር እስከ 7 ዓመት ዕድሜው ትኩሳት የሚያመጡ በሽታዎች እንደ ወባ ያሉ ይዘውት/ዋት?	1= አዎ 2=□ለም 3= □ኔ አላውቅም	
503	*ጭንቅላትህ ላይ ተመተህ □□ቃልህ □ንደተመ□ህ □ራስህን ስትህ ወይም የጭንቅላትህ አጥንት ተሰብሮ ወይም ጎድጉዶ ነበር?*	1= አዎ 2==□ለም	
504	ከዚህ በፊት □ንዚህ በሽዎች ይዘውህ ያውቃሉ?	1=የጭንቅላት ወባ	
		2=ማጂራት ገትር	
		3=በነቀርሳ ምክንያት የሚመጣ የማጂራት ገትር	
505	መጠጥ ትጠ□ለህ	1=አልጠጣም	
		2=አልፎአልፎ	
		3=ቀን በቀን	

506	ወደ ጭንቅላት የሚያልፍ የአሳማ ኮሶ የሚያጋልጡ		
506.1	የአሳማ ስጋ በልተህ □□ቃለህ?	1= አዎ 2==□አዎ	509.3
506.2	አዎ ካለ በከፊል የበሰለ ወይስ ጥሬ	1= አዎ 2== □አዎ	
506.3	□ስ□ □ዳሪ ለማዳበሪነት ትጠቀማላችሁ/ለህ	1= አዎ 2== □አዎ	
506.4	መጸዳጃ ቤት አላችሁ?	1= አዎ 2== □አዎ	
507	□ንደነዚህ አይነት ህም አለብህ?	1= ደም ግፊት	
		2= ስኳር በሽ□	
		3= □ልብ በሽ□	
		4= ድብርት	
		5= የአዕምሮ ህመም(እብደት)	

□□ል 7. መገለልን በተመለከተ የቤተሰብ ጥያቄ

ተ.ቁ	መ□ጀቅ	መለ□ □□□ል	□ለ□
	□ባኮን የሚከተሉት ነገሮች በ□ርሶ □ጁም በእርሶ(ልጅ፡ወንድም፡እህት)ላይ የሚጥል በሽታ ስላልባቸው ቢከሰት የሚስማሞትን ይንገሩኝ		
701	ተለጁተ/ቶው በመ□ከሞ/ሙ ሀዘን ይስማሞ□ል?	0= □□ም	
		1= አንዳንድ ጊዜ	
		2= ዘወትር	
		3= ብ□ □□	
702	ሰዎች ስለ ህመሙ በማወቃቸው ሀዘን ይስማሀል?	0= □□ም	
		1= አንዳንድ ጊዜ	
		2= ዘወትር	
		3= ብ□ □□	
703	ይህን □ውነታ ለመደበቅ ትሞክራልህ?	0= □□ም	
		1= አንዳንድ ጊዜ	
		2= ዘወትር	
		3= ብ□ □□	
704	ሌሎችን ሰዎች የስነ-□ክምሮ ህመምተኛ በቤ□ቸው መኖር ምን እንደሚመስል እንዲገነዘቡ እረድተሃል?	0= □□ም	
		1= አንዳንድ ጊዜ	
		2= ዘወትር	

		3= ብ□ □□	
705	በመገለሎ/ሉ ያዝናሉ?	0= □□ም	
		1= አንዳንድ ጊዜ	
		2= ዘወትር	
		3= ብ□ □□	
706	□ንደ □ብድ ያለመሆኑን ለሌሎች ትገልጻለህ?	0= □□ም	
		1= አንዳንድ ጊዜ	
		2= ዘወትር	
		3= ብ□ □□	
707	.ሰዎች ስለርሱ ወይም ሰለ□ርስዋ ችግር ስለሚ□ቅሱህ ታዝናለህ?	0= □□ም	
		1= አንዳንድ ጊዜ	
		2= ዘወትር	
		3= ብ□ □□	
708	.ማግባት የሚፈልጉ ሰዎች ካንተ/ቺ ቤተሰብ ለማግባት ፈቃደኛ ባለመሆናቸው ሀዘን ጽሰማህል/ሻል?	0= □□ም	
		1= አንዳንድ ጊዜ	
		2= ዘወትር	
		3= ብ□ □□	
709	□ሱን/□ሳን ይዘህ ወደ ውጭ ወጣ ማለት ትፈራልህ?	0= □□ም	
		1= አንዳንድ ጊዜ	
		2= ዘወትር	
		3= ብ□ □□	

710	ስለ ህመሙ ☐ፍረት ወይም አለመመቸት ጀምሯል/ሻል?	0= ☐☐ም	
		1= አንዳንድ ጊዜ	
		2= ዘወትር	
		3= ብ☐ ☐☐	
711	በቤተሰቡ አባል የስነዓዕምሮ ህመምተኛ ☐ለ☐ ስ☐ ጀ☐☐ል?	0= ☐☐ም	
		1= አንዳንድ ጊዜ	
		2= ዘወትር	
		3= ብ☐ ☐☐	
712	በህመሙ ምክንያት የጥፋተኝነት ስሜት ወይም ድብርት ይሰማዋል	0= ☐☐ም	
		1= አንዳንድ ጊዜ	
		2= ዘወትር	
		3= ብ☐ ☐☐	
713	ያንተ/ቺ ስህተት መስሎ ይሰማሻል?	0= ☐☐ም	
		1= አንዳንድ ጊዜ	
		2= ዘወትር	
		3= ብ☐ ☐☐	

Declaration

I, the undersigned declare that this thesis is my original work , has not been presented for a degree in this or any other university and that all source of material used for the thesis have been fully acknowledged.

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