

# Perception, Attitude and Correlates of Alcoholism and Epilepsy among Residents of Hawassa City, South Ethiopia, Cross Sectional Study

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## Abstract

**Background:** Fear and misunderstanding of epilepsy and alcoholism might lead to negative attitude, poor health seeking behaviors and social stigma resulting social discrimination. The main aim of this study was to assess perception, attitude and associated factors of alcoholism and epilepsy among residents of Hawassa city, South Ethiopia.

**Methods:** Community based cross sectional study was conducted in September 2014. The study participants were selected by using multistage sampling method and allocated to selected villages proportionally to their estimated number of households. Data was collected by using structured, pre-tested and interviewer administered questionnaire and analysis was by SPSS version 20.

**Results:** 51.08% and 58% of respondents have good perception about epilepsy and depression respectively. Age [AOR=3.97, 95% CI=(1.87-8.40)], income [AOR=2.58, CI=(1.54-4.34)], information from mass media [AOR=1.94, CI=(1.44-2.63)], information from religious institutions [AOR=0.57, CI=(0.40-0.82)] and information from health institutions [AOR=1.73, CI=(1.15-2.2.60)] for epilepsy, age [AOR=6.02, 95%CI=(2.76-13.15)] and income [AOR=2.93, CI=(1.71-5.02)] were significant predictors of perceptions and , perception [AOR=3.32, CI=(2.44-.4.52)] for alcoholism, income[AOR=2.24, CI=(1.23-4.05)], information from health institution [AOR=1.56, CI=(1.07-2.41)] and perception [AOR=1.45, CI=(1.04-.2.01)] for epilepsy and were found to be significant predictors of attitude.

**Conclusion:** Educating people about mental disorders by using mass media and health institutions and working with religious institutions is vital.

**Keywords:** Alcoholism; Epilepsy; Perception; Attitude

## Background

Epilepsy is the most common noninfectious neurologic disease in developing African countries which include Ethiopia [1]. At a conservative estimate, 50 million people worldwide suffer from epilepsy. It has been shown that as much as 80% of persons with epilepsy live in the developing world [2]. There is an annual incidence of 20–70 cases per 100,000 [3] with a point prevalence of 0.4–0.8% [4]. The reported prevalence of active epilepsy in the developing countries is between 5 and 10% per 100 persons [5]. It, however, varies in the general population being the highest in children, plateaus between the ages of 15 and 65 years, and rises again in the elderly. Even with this high prevalence rates, there is yet likelihood that the reported rate is the “tip of the iceberg” as chances of underreporting are high [4,5].

Historically, epilepsy was believed to be a sacred disease that is the result of the invasion of the body by a god. It was thought that only a god could deprive a healthy man of his senses, throw him to the ground, convulse him, and then rapidly restore him to his former self again [6]. Regrettably, this historical legacy has continued to influence public attitude to epilepsy making it a dreaded disease. These beliefs have resulted in patients with epilepsy (PWE) being ostracized, stigmatized, and misunderstood. For instance, in Madagascar, patients with epilepsy are refused burial in the family grave [7]. According to the African belief, other possible etiologies include witchcraft and poisoning. A combination of these traditional beliefs, poverty, lack of medical care, and inability to fulfill their social roles has a negative impact on the lives of people living with epilepsy (PWE) [6].

One aspect of the socio-cultural belief is that many people in Africa believe epilepsy to be contagious and that it can be spread by urine, saliva, flatus, or faeces excreted at all times or during a convulsion [8–10]. This

results in isolation and unwillingness of witnesses to touch and protect the patient from injury during a seizure. Epilepsy is also believed to be transferable from one person to another by various routes. This leads to courtesy stigma where relatives, friends, and companions of persons with epilepsy are stigmatized as well. In view of the foregoing, most patients suffering from epilepsy in African countries prefer anonymity because of the stigma attached to the disease [3].

The socio cultural belief also greatly influences the health seeking behavior and the management thereafter. It is estimated that 80% of the population of a developing country like Ethiopia live in the rural areas and lack access to western type hospitals but rather seek help from traditional healers, churches, and others [11]. Anecdotal reports show that some do not believe that epilepsy can be treated medically.

It was also reported that as many as 9 of 10 people with epilepsy in Africa go untreated [12]. The non-availability of treatment mostly in developing countries may include: Inadequate health delivery systems, lack of trained personnel, lack of essential drugs, and traditional beliefs and practices that often do not consider epilepsy as a treatable condition [13,14]. This treatment gap greatly increases the burden of epilepsy and

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disability. According to World Health Organization [15], the disability caused by epilepsy accounts for about 0.5% of the global burden of the disease measured by disability adjusted life-years. As a result, epilepsy ranks just after psychiatric disorders. The global health care burden of epilepsy is comparable to that of breast or lung cancer.

Substance abuse is an escalating problem in the world, especially among teenagers and young adults. Lifestyle-related illness accounts for half the annual mortality rate in the United States and alcohol and drugs account for half of it (25% of annual deaths) [16], implying great need for health professionals to identify and treat substance-abusing or addicted persons. All substances of abuse (including alcohol) are associated with risky sexual activities [17] and criminal behaviors [18].

Epilepsy was considered as the most serious problem by majority of respondent. This study showed that 76% of respondents preferred modern medicine for the treatment of epilepsy. According to this study more educated people preferred modern medicine more often than those who had low educational levels for treatment of epilepsy [19].

A cross-sectional community survey done on community perception about mental and physical illness in north western Ethiopia revealed that supernatural phenomenon such as sorcerers spells, evil spirit considered as cause for epilepsy. According to this study pray and home care are believed to be important sources of treatment for Epilepsy and modern treatment is believed as important treatments for alcoholism. This study revealed 43% and 33.2% of public and have positive attitude for alcoholism and epilepsy respectively [20].

A survey done in Butajira on attitude towards mental disorders indicate that modern medicine is believed to be important source of treatment for mental disorders by 41% of the participants. According to this study the attitude of the public is negative for disorders which are believed to be chronic and most series such as epilepsy [21].

A number of factors are associated with the community perception and attitude related to epilepsy and alcoholism which are mainly socio demographic including gender, age, religion, income and education [20-22].

Despite the increased burden of alcoholism and epilepsy and unfavorable perception and attitude, except some studies in some parts of Ethiopia, there is very little data available in Ethiopia including the study area. Therefore, this study is aimed at determining the prevalence of perception and attitude of the community about epilepsy and alcoholism and identifying its associated factors in the Hawassa city, southern Ethiopia.

## Methods

### Study setting and design

A community based cross-sectional study was conducted from September, 2014 to October, 2014 in Hawassa city, southern Ethiopia

### Study population

The study population consisted of a sample of adults who were residing in the city during the study period. Those adults who were not long-term residents of the city (less than 6 months) were excluded.

### Sampling procedures

Multistage sampling technique was used to select the study participants. A proportional allocation was employed to obtain the sample size from each kebele. The starting point was randomly selected

and a systematic random sampling method was used to select the study participants.

### Data collection

Data were collected using pretested interviewer administered questionnaire, which contains socio-demographic characteristics (age, education, occupation, marital status and others), questions to assess perception and attitude which are standardized questionnaires prepared by WHO expert group. The structured Questionnaire developed by a WHO task-force and was originally used in the WHO Collaborative Study in India, the Philippines, and Sudan was used to assess attitude [13]. The WHO study design with case vignettes has also been used in a study Butajira to assess attitude about mental disorders [14], on Ethiopian medical students [15] and as part of the national mental health plan in the United Republic of Tanzania [16]. Vignette descriptions of two disorders were read to the participants and followed by questions. The responses were graded on a 3-point scale (0, 1, 2) where 0 indicated not serious 1, somewhat and 2 most serious according to the parameters and the cut point above the mean score are considered as negative attitude and below or equal to mean score considered as having positive attitude. The following were the two disorders presented: epilepsy, and alcoholism.

### Data Processing and analyses

Data were analyzed using SPSS version 20. Description of means, frequencies, proportions and rates of the given data for each variable was calculated. Bivariate analysis was done to see the association of each independent variable with the outcome variable. Those variables having p-value less than 0.2 were entered into the multivariate logistic regression model to identify the effect of each independent variable with the outcome variables.

### Ethical consideration

Ethical clearance was obtained from the Institutional Review Board of the University of Gondar and Amanual Mental Specialized hospital. An official letter was obtained for Southern Nations Nationalities and Peoples Regional Administration Health Office and, Hawassa city Administration Health Office and letters were prepared for the local authority of the selected kebeles. Written informed consent was obtained from each study participant after they were introduced to the purpose of the study and informed about their rights to interrupt the interview at any time. Confidentiality was maintained at all levels of the study.

## Results

### Socio demographic characteristics

A total of 830 participants were included in the study which makes the response rate 98.2%. There were slightly more female respondents 471 (56.7%) than males 359 (43.3%). The mean age of the respondents was 36.2 ( $\pm$  SD=11.93) years. Concerning religion more than half of participant were orthodox Christian 491(59.10%) followed by Muslim 179 (21.5%). The dominant ethnicity was Sidama 399 (48.1) followed by Gamo 99 (11.9%). More than half of participant were married 447(53.9) and about 1/3<sup>rd</sup> of them were single 270 (32.5%). Concerning occupation about 193 (23.2 %) were house wives, 161 (19.4%) private employees, 148 (17.8%) were government employees. About 262 (31.6%) of participants have educational level diploma and above. Regarding income the median monthly family income was 920 and rang 5800 Ethiopian birr (Table 1).

## Source of information about alcoholism and epilepsy

Majority of the respondents were heard about alcoholism and epilepsy. The major sources of information for alcoholism are friends 815 (98.2%) followed by from family 680 (82%) similarly the main source of information for epilepsy are from friends 714 (86%) followed by family 697 (84%).

## Descriptions of cases perceived as alcoholism and epilepsy by respondents

After listening case vignette about one third of the respondents 515 (62%) identified epilepsy as neuropsychiatric disorders but only 125 (15%) of the respondents perceived alcoholism as mental disorders.

## Perceived seriousness of alcoholism and epilepsy

Epilepsy and alcoholism were regarded as the most serious neuropsychiatric disorders by majority of the respondents 564 (68%) and 548 (66%) respectively.

## Perceived prognosis of alcoholism and epilepsy

Epilepsy and alcoholism were seen as very chronic neuropsychiatric

Variable		Frequency	Percent (%)
Sex	Male	359	43.3
	Female	471	56.7
Age in years	≤24	177	21.3
	25-34	192	23.2
	35-44	290	34.9
	>44	171	20.6
Marital status	Single	270	32.5
	Married	447	53.9
	Separated	32	3.9
	Divorce	21	2.5
	Widowed/widower	60	7.2
Religion	Orthodox	491	59.1
	Muslim	179	21.6
	Protestant	120	14.5
	Catholic	30	3.6
	Others	10	1.2
Educational level	No schooling	200	24.1
	Primary	169	20.4
	Secondary	199	23.9
	Higher education	262	31.6
Occupation	Government employee	148	17.8
	Private employee	161	19.4
	House wife	193	23.3
	Merchant	150	18.1
	Unemployed	88	10.6
	Student	50	6
	Others	40	4.8
Ethnicity	Amhara	41	4.9
	Tigre	61	7.3
	Oromo	50	6
	Gurage	81	9.8
	Sidama	399	48.2
	Gammo	99	11.9
	Walayta	99	11.9
Monthly income	Low income	90	10.8
	High income	740	89.2

**Table 1:** Distribution of respondents by their Socio demographic characteristics (n=830) Hawassa city, southern Ethiopia, September 2014.

Characteristics	Casual Perceptions			
	Epilepsy		Alcoholism	
	Good	Poor	Good	Poor
Illness is contagious	51.1	48.9	93	7
Head injury cause illness	51	49	55.5	45.5
Genetic cause illness	51	49	54	46
Physical illness cause illness	51.2	48.8	45	55
Substance misuse cause illness	51.1	48.9	47.5	52.5
Loss of loved one cause illness	51.1	48.9	51.2	48.8
Conflict with family cause illness	51.2	48.8	52.4	47.6
Punishment by God cause illness	51.1	48.9	57.8	42.2
Evil spirit cause illness	51.1	48.9	54.6	45.4
Bewitchment cause illness	51.1	48.9	63.3	36.7
Poverty causes illness	42	58	42	58

**Table 2:** Distribution of respondent's by their etiologic perceptions of mental disorders (n=830), Hawassa city, September 2014.

disorders by 598 (72%) and 515 (62%) of the respondents respectively.

## Perceived etiologies of alcoholism and epilepsy

Regarding etiologic perceptions about two third and about half of the respondents have good perceptions to poverty, infections, use of substance, loss of loved one, conflict with family, heredity, punishment from God and evil spirit are responsible to cause epilepsy. And almost all of the respondents have good perceptions contact with person with alcoholism responsible as cause. About half of respondents for alcoholism have good perceptions regarding loss of loved one and conflicts with the family are responsible causes (Table 2).

## Perceived treatments for alcoholism and epilepsy

Concerning perceived treatments of neuropsychiatric disorders more than half for epilepsy and alcoholism have good perceptions to the importance of modern medicine, psychotherapy and home management to help for person with these disorders.

## Summary of magnitude of perception of public about alcoholism and epilepsy

About half of respondents have good perception about epilepsy 424 (51.08%) but the perception of the respondents to alcoholism is poor 481 (58%).

## Attitude towards alcoholism and epilepsy

The attitude of less than half of participants concerning possibility of impairing work opportunity, marital prospects and living at home is positive alcoholism. For epilepsy more than two third of respondents have positive attitude about its possibility to impair marital prospect and work opportunity but less than half of respondents have positive attitude about its possibility to impair ability to live at home.

## Summary of magnitude attitude of respondents towards alcoholism and epilepsy

The attitude of more than 2/3<sup>rd</sup> of the respondents is negative for epilepsy 581 (71%) and 497 (60%) alcoholism respectively.

## Correlates of perception of participants about epilepsy

Perception about epilepsy was found positively and significantly associated with age of the respondents. Age group 35-44 were found

4 times more likely have good perception than their younger age (age  $\leq 24$ ) [AOR=3.97, 95% CI=(1.87-8.40)]. Respondents who get their epilepsy related information from mass media were found 1.94 times more likely having good perception about epilepsy than respondents who don't get epilepsy related information with odds of [AOR=1.94, CI=(1.44-2.63)]. Respondents who don't get epilepsy related information from religious institutions were found 43% less likely to have good perception compared to their counter parts with Odds ratio of [AOR=0.57, CI=(0.40-0.82)]. Respondents who get epilepsy related information from health institutions were found 1.73 more likely to have good perception compared to their counter parts with Odds ratio of [AOR=1.73, CI=(1.15-2.2.60)]. In additions respondents with high income were found 2.58 times more to have good perceptions as compared to respondents with low income with odds ratio of [AOR=2.58, CI=(1.54-4.34)]. However other factors such as educational level were not found significant predictors of perception about epilepsy (Table 3).

### Correlates of attitude of participants about epilepsy

Attitude about epilepsy was found positively and significantly associated with family monthly income, participants with high family monthly income were found to have 2.24 times more likely to have positive attitude as compared to their counter parts with odds ratio of [AOR= 2.24, CI=(1.23-4.05)]. Respondents who get epilepsy related information from health institutions were found to have 1.56 times more likely to have positive attitude compared to their counter parts with Odds ratio of [AOR=1.56, CI=(1.07-2.41)]. In additions respondents who have good perceptions about epilepsy were found 1.45 times more likely to have positive attitude as compared to respondents with poor perceptions with odds ratio of [AOR= 1.45, CI=(1.04-.2.01)]. However

Variables		Perception on Epilepsy			
		Good	Poor	Crude OR (95%CI)	Adjusted OR (95%CI)
Age	$\leq 24$ (RC)	65	112	1.00	1.00
	25-34	76	116	1.13 (0.74-11.72)	1.31 (0.49-3.51)
	35-44	213	77	4.77 (3.19-.7.12)*	3.97 (1.87-8.40)*
	>44	70	101	1.19 (0.78-1.84)	2.52 (0.98-6.45)
Educational status	No schooling (RC)	82	118	1.00	1.00
	Primary	65	104	0.90 (0.59-1.1.37)	1.01 (0.17-1.09)
	Secondary	81	118	0.99 (0.66-1.47)	1.02 (0.27-1.89)
	Higher education	196	66	4.27 (2.88-6.53)*	1.27 (0.60-2.69)
Monthly income	Low income	31	59	1.00	1.00
	High income	393	347	2.16 (1.36-3.41)*	2.58 (1.54-4.34)*
Source of information					
Mass media	No (RC)	169	219	1.00	1.00
	Yes	255	187	1.77 (1.34-2.33)*	1.94 (1.44-2.63)*
Health institution	No (RC)	55	85	1.00	1.00
	Yes	369	321	1.78 (1.23-2.57)*	1.73 (1.15-2.60)*
Religious institution	No (RC)	345	290	1.00	1.00
	Yes	79	116	0.57 (0.41-0.79)*	0.57 (0.40-0.82)*

Each socio demographic variables adjusted for socio demographic variables, source of information and; each source of information's adjusted for socio demographic variables and source of information.

Key:- \* Significant association RC (1:00): reference category/group

**Table 3:** Binary logistic analysis of respondents selected Socio-demographic characteristics and other factors associated with perception about epilepsy in Hawassa city, southern Ethiopia, September 2014.

Variables		Attitude towards Epilepsy			
		Positive	Negative	Crude OR (95%CI)	Adjusted OR (95%CI)
Age	$\leq 24$ (RC)	48	129	1.00	1.00
	25-34	56	136	1.11 (0.70-1.74)	1.07 (0.39-2.90)
	35-44	101	189	1.44 (0.95-2.16)	1.22 (0.56-2.67)
	>44	44	127	0.93 (0.58-1.50)	0.99 (0.50-2.12)
Educational status	No schooling (RC)	54	146	1.00	1.00
	Primary	45	124	0.98 (0.62-1.56)	1.07 (0.39-3.36)
	Secondary	58	141	1.11 (0.72-.1.72)	1.03 (0.35-2.49)
	Higher education	92	170	1.46 (0.98-2.19)	1.17 (0.26-1.85)
Monthly income	Low income (RC)	15	75	1.00	1.00
	High income	234	506	2.31 (1.31-4.11)*	2.24 (1.23-4.05)*
Source of information					
Mass media	No (RC)	113	275	1.00	1.00
	Yes	136	306	1.08 (0.80-1.46)	1.05 (0.77-1.43)
Health institution	No (RC)	31	109	1.00	1.00
	Yes	218	472	1.62 (1.06-2.50)*	1.56 (1.07-2.41)*
Religious institution	No	184	451	1.00	1.00
	Yes (RC)	65	130	1.23 (0.87-1.73)	1.34 (0.93-1.89)
Perception about epilepsy					
Poor perception (RC)		101	305	1.00	1.00
Good perception		148	276	1.62 (1.20-2.19)*	1.45 (1.04-2.01)*

Each socio demographic variables adjusted for socio demographic variables, source of information and perceptions; each source of information's adjusted for socio demographic variables, source of information and perceptions; perception adjusted for socio demographic variables and source of information's.

Key:- \* Significant association RC (1:00): reference category/group

**Table 4:** Binary logistic analysis of respondents selected Socio-demographic characteristics and other factors associated with attitude about epilepsy (n=830), Hawassa city, southern Ethiopia, September 2014.

other factors such as age, educational level, and getting information from mass media and religious institution were not found significant predictors of attitude about epilepsy (Table 4).

### Correlates of perception of participants about alcoholism

Perception about alcoholism was found positively and significantly associated with age of the respondents. Age group 35-44 were found 6 times more likely have good perception than their younger age (age  $< 24$ ) [AOR=6.02, 95% CI=(2.76-13.15)]. Respondents with high monthly family income were found 2.93 times more to have good perceptions as compared to respondents with low income with odds ratio of [AOR=2.93, CI=(1.71-5.02)]. However other factor such as educational level, source of information's from mass media, health institution and religious institutions were not found significant predictors of perception about alcoholism (Table 5).

### Correlates of attitude of participants about alcoholism

Attitude about alcoholism was found positively and significantly associated with perception to alcoholism, respondents who have good perceptions about epilepsy were found 3.32 times more likely to have



positive attitude as compared to respondents with poor perceptions with odds ratio of [AOR=3.32, CI=(2.44-4.52)]. However other factors such as age, educational level, income and getting information from mass media, health institution and religious institution were not found significant predictors of attitude about alcoholism (Table 6).

## Discussion

This study assessed the magnitude of perception about the two specific mental disorders, attitude towards the disorders and associated factors among residents of Hawassa city, southern Ethiopia.

After listening case vignette person depicted by alcoholism vignette was recognized as suffering from neuropsychiatric disorders only by 15% of the respondents. This is in agreement with other studies done in Ethiopia [20] where only 12% of respondents recognize alcoholism as mental disorder.

Epilepsy was regarded as the most serious neuropsychiatric disorders by majority of the respondents 68% followed by alcoholism by 66%. This result is in harmony With other Studies conducted in Ethiopia [19-24].

Epilepsy and alcoholism were regarded as chronic neuropsychiatric disorders by majority of the respondents 72% and 62 % of the respondents respectively. This is in agreement with Studies conducted in Ethiopia [20,24].

Regarding etiologic perceptions about half of the respondents have good perceptions to poverty, infections, use of substance, loss of loved one, conflict with family, heredity, punishment from God and evil spirit are responsible to cause epilepsy and about half of respondents for alcoholism have good perceptions regarding loss of loved one

Variables		Perception about Alcoholism			
		Good	Poor	Crude OR (95%CI)	Adjusted OR (95%CI)
Age	≤24 (RC)	55	122	1.00	1.00
	5-34	63	129	1.08 (0.70-1.70)	1.16 (0.43-3.15)
	35-44	174	116	3.33 (2.24-4.94)*	6.02 (2.76-13.15)*
	>44	57	114	1.11 (0.71-1.74)	2.05 (0.87-4.83)
Educational status	No Schooling (RC)	70	130	1.00	1.00
	Primary	63	106	1.10 (0.72-1.69)	2.02 (0.74-5.55)
	Secondary	67	132	0.94 (0.62-1.42)	1.07 (0.33-2.34)
	Higher education	149	113	2.45 (1.68-3.58)*	1.03 (0.24-1.14)
Monthly income	Low income	23	67	1.00	1.00
	High income	326	414	2.29 (1.40-3.77)*	2.93 (1.71-5.02)*
Source of Information					
Mass Media	No (RC)	314	429	1.00	1.00
	Yes	35	52	0.92 (0.59-1.45)	0.52 (0.21-1.30)
Health institution	No (RC)	303	424	1.00	1.00
	Yes	46	57	1.13 (0.75-1.71)	2.05 (0.87-4.83)
Religious institution	No (RC)	313	430	1.00	1.00
	Yes	36	51	0.97 (0.62-1.52)	0.67 (0.22-2.05)

Each socio demographic variables adjusted for socio demographic variables, source of information and each source of information's adjusted for socio demographic variables and source of information.

Key:- Significant association RC (1:00): reference category/group

**Table 5:** Binary logistic analysis of respondents selected Socio-demographic characteristics and other factors associated with perception about alcoholism (n=830) Hawassa city, southern Ethiopia, September 2014.

Variables		Attitude on alcoholism			
		Positive	Negative	Crude OR (95%CI)	Adjusted OR (95%CI)
Age	≤24 (RC)	61	116	1.00	1.00
	25-34	59	133	0.84 (0.55-1.31)	1.30 (0.47-3.60)
	35-44	150	140	2.04 (1.39-2.30)*	1.13 (0.54-2.36)
	>44	63	108	1.11 (0.72-1.72)	1.12 (0.43-2.83)
Educational status	No schooling (RC)	73	127	1.00	1.00
	Primary	64	103	1.06 (0.69-1.62)	1.06 (0.39-2.40)
	Secondary	60	139	0.75 (0.50-1.14)	1.11 (0.23-1.68)
	Higher education	136	126	1.88 (1.29-2.74)*	1.37 (0.66-2.83)
Monthly income	Low income (RC)	38	52	1.00	1.00
	High income	295	445	0.91 (0.58-1.41)	1.01 (0.42-1.11)
Source of information					
Mass media	No (RC)	292	445	1.00	1.00
	Yes	41	52	1.20 (0.78-1.86)	1.52 (0.71-3.27)
Health institution	No (RC)	291	436	1.00	1.00
	Yes	42	61	1.03 (0.68-1.57)	1.01 (0.26-1.28)
Religious institution	No	290	439	1.00	1.00
	Yes (RC)	43	58	1.12 (0.74-1.71)	1.35 (0.62-2.95)
Perception about alcoholism					
Poor perception (RC)		199	150	1.00	1.00
Good perception		134	347	3.44 (2.57-4.60)*	3.32 (2.44-4.52)*

Each socio demographic variables adjusted for socio demographic variables, source of information and perceptions; each source of information's adjusted for socio demographic variables, source of information and perceptions; perception adjusted for socio demographic variables and source of information's.

Key:- Significant association RC (1:00): reference category/group

**Table 6:** Binary logistic analysis of respondents selected Socio-demographic characteristics and other factors associated with attitude about alcoholism (n=830), Hawassa city, southern Ethiopia, September 2014.

and conflict with the family are responsible causes. This result is in agreement with systematic review study [22] which revealed a multi factorial cause for mental disorders and also in line with studies done Bahirdar, Ethiopia [20].

Concerning perceived treatments of mental disorders more than half for epilepsy and alcoholism have good perceptions to the importance of modern medicine, psychotherapy and home management to help for person with these disorders. These results are in harmony with other studies conducted in Ethiopia [20,25].

In general about half of respondents have good perception about epilepsy 51.08% but less than half of the respondents have good perception about alcoholism 42%. This result cannot compare with other studies because of no study identified which tried to assess magnitude perception to specific mental disorders.

Age is found to be a significant factor that associates with perception of alcoholism and epilepsy. Respondents with age group 35-44 were found 3.97 fold for epilepsy and 6.02 fold for alcoholism more likely to have good perception as compared to age less than or equal to 24. This could be due to exposure to scientific information/ knowledge with

age. This result cannot compare with other studies because of no study identified which tried to assess perception to specific mental disorders as well as consider age as variable.

Income showed significant association with perception alcoholism and epilepsy. Respondents higher income were found 2.58 fold for epilepsy and 2.93 fold for alcoholism more likely to have good perception as compared respondents with low income. This result cannot compare with other studies because of no study identified which tried to assess perception to specific alcoholism and epilepsy as well as consider income as variable.

Respondents who get mental health information from mass media were found 1.94 fold for epilepsy more likely to have good perception than respondents who doesn't get information from mass media. It could be due to increased inclusion of mental health issues in mass media which involves mental health professionals. Respondents who get mental health information from religious institutions were found have 43% fold for epilepsy less likely to have good perception than respondents who doesn't get information from religious institutions. Source of information from health institution was found to be significantly associated with only epilepsy.

Respondents who get mental health information from health institution were found 1.73 fold more likely to have good perception than respondents who doesn't get information from health institutions. The possible reason for same source of information not associated to all mental disorders might be due to the difference in the main idea or content of the message transmitted through that source. The other possible reason may be due to the person involved in the transmission of the information. This result cannot compare with other studies because of no study identified which tried to consider source of information as variable for each specific mental disorders.

The attitude of less than half of participants concerning possibility of impairing work opportunity, marital prospects and living at home is positive alcoholism. For epilepsy more than two third of respondents have positive attitude about its possibility to impair marital prospect and work opportunity but less than half of respondents have positive attitude about its possibility to impair ability to live at home. This result is in harmony with the studies conducted Ethiopia [19,20].

The attitude of more than two third of the respondents is negative for epilepsy 581 (71%) and 497 (60%) alcoholism respectively. This may be due to these disorders have observable overt manifestations or bizarre behavior [26]. The other possible explanation might be these disorders are considered as very serious and chronic. This result is in line with other studies conducted in Ethiopia [20].

Income showed significant association with attitude about epilepsy. Respondent's higher income was found 2.24 fold for epilepsy more likely to have positive attitude as compared to respondents with low income [27]. This result is in line with study conducted in Bahirdar, Ethiopia [20].

The result of this study revealed that source of information was significantly associated with attitude of epilepsy. Respondents who get mental health information from health institutions were found 1.56 fold for epilepsy more likely to have positive attitude than respondents who doesn't get information from health institutions. The possible reason for same source of information not associated to all mental disorders might be due to the difference in the main idea or content of the message transmitted through that source. The other possible reason may be due to the person involved in the transmission of the

information. This result cannot compare with other studies because of no study identified which tried to consider source of information as variable for each specific mental disorders.

Perception was found to be significant predictor for attitude respondents about neuropsychiatric disorders. Respondents who have good perceptions were found 1.45 fold for epilepsy and 3.32 fold for alcoholism more likely to have positive attitude as compared to respondents who have poor perceptions [25]. This result cannot compare with other studies because of no study identified which tried to consider perceptions as variable for each specific mental disorder.

This study was conducted at the community level and considered variables other than socio demographic variables as independent variable and perception and attitude to specific neuropsychiatric disorders from the same person in addition assessed perception and attitude to specific neuropsychiatric disorders rather than assessing for general mental disorders. Limitations include the cross sectional nature of the study and unable to differentiate culture bound syndromes/symptoms.

## Conclusions

In conclusion, the study showed that the magnitude perception and attitude of the public towards neuropsychiatric disorders vary from disorder to disorder or differs in relation to specific disorders. In general the perception of public is fairly good about epilepsy but perception of public about alcoholism poor. Broadly speaking the attitude of public to disorders which perceived as serious and chronic such as epilepsy and alcoholism is negative which is indicated by negative attitude towards patient in relation to marriage, work opportunity and ability to live at home during the period of the illness. As this study shows the most important factors that were found to be significant predictors of perception of neuropsychiatric disorders are age, income information from mass media information from religious institutions and information from health institutions for epilepsy and age and income for alcoholism.

Furthermore, perception for alcoholism, income, and information from health institution and perception for epilepsy were found to be significant predictors of attitude.

Information education communication (IEC) programs is vital to the community and further research which include cultural factors or culture specific syndromes should be conducted to strengthen and broaden these findings.

## Competing interests

The authors declare that they have no competing interests.

## Authors' Contributions

GA conceived the study and was involved in the study design, reviewed the article, analysis, report writing and drafted the manuscript; MA, BD, HM and MA were involved in the study design, analysis and drafted the manuscript. All authors contributed to writing the draft of the manuscript, and have approved the final text.

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